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THE
JOURNAL OF HORTICULTURE,
COTTAGE GARDENER,
AND
HOME FARMER.

A CHRONICLE OF COUNTRY PURSUITS AND COUNTRY LIFE INCLUDING BEE-KEEPING.

CONDUCTED BY
ROBERT HOGG, LL.D., F.L.S.

Established



in 1848.

VOLUME XXXI. THIRD SERIES.
JULY—DECEMBER, 1895.

LONDON:
PUBLISHED FOR THE PROPRIETOR, 171, FLEET STREET.

LONDON :
PRINTED AT THE JOURNAL OF HORTICULTURE OFFICE,
171, FLEET STREET.



TO OUR READERS.

"TIME FLIES FAST" is the motto of a prominent and much respected British horticulturist, and many of his correspondents must have been induced to pause and reflect on the great truth and deep significance conveyed in those three small words.

Time flies fast to those who have passed the meridian of life, and generally to all when it glides pleasantly along; but more slowly, sometimes very slowly, to those who are climbing the hill of hope, and where obstacles beset the way to the seemingly far-distant goal.

It seems but a short time—a short six months ago—when the pages of this Journal approached to 600, reminding us that the last volume was nearing its close, and consequently the time had arrived when it was our duty and our pleasure to convey sincere thanks to all who had aided in its completion.

Again the figures run high, again a volume closes, and with it the close of the year. The time has sped rapidly as between us and our friends—the more quickly because so pleasantly. We again bow acknowledgments to all—to writers for their assiduity and talented aid; to readers of varied tastes for their patience, indulgence, and many gratifying testimonies of appreciation.

Nor would we forget the few who from time to time are impelled to chide us—reluctantly, we perceive; gently, we feel; with the best intentions, we know; and not without reason, we fear. Sufficient zeal has not been displayed in *their* department is the thought that can no longer be suppressed, and, therefore, at last finds utterance; but in terms which tell us that such watchful, thoughtful readers are not less our friends than those who send us words of praise.

Many years ago the founder of a then very small business received from a client an appreciative letter, and replied to it as follows:—"Your letter is very pleasant, very welcome, and very encouraging. I thank you for it, and will do my best to merit your continued approval. May I now ask of you a particular favour—namely, from time to time, in my dealings with you or your friends, to tell me when and wherein I *fail* to give complete satisfaction. That is the greatest kindness you can do for me."

The name of the writer of that letter is one of the most familiar in the annals of horticulture, and the business he founded ranks among the largest in the kingdom. The letter teaches a lesson of the right kind to all who wish to make progress in the world; also to make and keep a host of friends.

We rejoice in a host of friendly clients at home and abroad, and hope not only to keep those we have as long as they can remain, but to add to the number. This we shall do by disseminating the best information that capable workers and entertaining writers can impart; also by giving willing ear to suggestions for enhancing the usefulness and extending the influence of the *Journal of Horticulture*.

Our last words of 1895 shall be embodied in the sincere wish that the festive time on which we are just entering shall be so wisely spent by all as to leave only pleasant thoughts in its train—the precursors of a desire that may then be realised of

"A HAPPY NEW YEAR."

INDEX.

ABERPERGYM, FEATURES OF, 373
 Adiantums, farleyense, successful culture of, 6; cuneatum, 480
 After the wars, 544
 Agapetes buxifolia, 341
 Aglaonema commutatum, 457
 Alpines, protecting, 528
 Alton Towers, memories of, 60
 Amaryllis formosissima, 191
 Amorphophallus, propagating, 214
 Angraecum Sanderianum, 599
 Annals for spring, 184
 Anomabea cruenta, 397, 473
 Anthracite coal, 505
 Anthriscum Scherzerianum, 305
 Anti-blight, about, 433
 Ants, and arsenic, 214; and Orchids, 409
 Aotus villosa, 357
 Aphelandra Roezli, culture of, 143
 Apples, leaves, diseased, 47; scab, 142; the Margaret, 143; Early White Transparent, 159, 173; leaves browned, 263; prices of, 343; at "My Garden," 343; Rosemary Russet, 343; sulphate of iron for trees inclined to canker, 356; St. Edmund's Pippin, 367; a fine, 368; drying Apple rings, 380; Borsdorfer, 385; Blenheim Pippin for market, 402; and their price, 412; Lady Henniker, 426; waxy, 449; Cockle's Pippin, 456; Winter Queening, 496; a large Bramley's Seedling, 483; the price of, 552; American, 552; on the Paradise stock, 600
 Aralias, leptophylla, 189; leaves, fungus infesting, 215; Sieboldi flowering, 402
 Araucaria Cunninghamii, 391
 Arboricultural Society, English, excursion of, 257
 Arnebia cornuta, 29
 Arnold arboretum, the, 390
 Ashford Vineries, Cobham, a visit to, 258
 Asparagus, liquid manure for, 23; diseased, 448, 452; autumn, 540; manure for, 589
 Asters, dying, 95; dead at the collar, 148; ericoides, 390
 Athanasia annua, 281
 Arnicula, about, 395
 Antumn glories, 241
 Azalea indica, raising from cuttings, 71

BABINGTON, DEATH OF PROFESSOR, 105
 Bamboos, hardy, 177
 Barron, Mr. A. F., meeting for testimonial to, 197; at Chiswick, 223; testimonial fund, 249, 273
 Bananas in the Canary Islands, 199
 Bause, Mr. C. F., death of, 413
 Beans, dwarf, 111; manure for, 119; Kidney, for profit, 142; Climbing Canadian Wonder, 198; runner, 350; French, digging in the ham of, 320
 Beech trees diseased, 810

Bees—notes on, 21; taking bees to the Heather, 46; eating fruit, 46; seasonable notes, 46, 70, 118, 141, 190, 262, 309, 334, 355, 425, 472, 520; the honey season, 70; age of bees, 70; the honey yield, 94; queen cells destroyed, 94; re-queening stocks, 94; hives at the Heather, 118, 141; pleasurable bee-keeping, 165; the Heather honey yield, 190; youthful queens—taking honey, 213; the gastronomy of, 230; feeding, 237; experience with bees at the Heather, 285; the season's review, 286; preparing bees for another season, 309; preparing for 1896, 333; chloric dropsical fever, 355; site, 355; the honey yield and distribution, 355; starting bee-keeping, 356; when to commence bee-keeping, 356; Stimulative feeding, 379; races of bees, 379; honey production, 402; flowers for bees, 402; straw hives, 448; the weather, 472; work during winter, 472; the habits of, 495; marketing honey, 496; apary, 520; notes and hints, 539; feeding, 539; handling, 563; wide v. narrow entrance to hives, 588; enemies of, 604; ventilating floors, 604; carbolic acid v. smoke, 604
 Beetles in a vinery, 47
 Begonias, at Chiswick, 154; tuberous-rooted, 172; wintering seedling, 402; storing tuberous-rooted, 411
 Belladonna Lilies, 497
 Bentinckia nicobarica, 180
 Berried plants, 525
 Bilbergia Liboniana, 391
 Book—"Landscape Gardening in Japan," 34
 Botanical Gardens, Birmingham, a visit to, 247
 Botanic (Royal) Society, 479
 Bougainvillea splendens, 199
 Bouquet, a shower, 547
 Broadlands Park, Romsey, a visit to, 248
 Brocksby, a visit to, 151
 Brodiaea Howells, 9
 Browallia elata, 346
 Buddleia Colvillei, 84
 Bunyards, a visit to, 169

CABBAGES, EARLY, 25; SMALL, 225; spring sown, 249
 Calceolaria amplexicaulis, 118
 Calla, a milk white, 480
 Callicarpa purpurea, 369
 Calochorti, 105
 Campaigners, old, 429
 Cardiff Castle, 280, 351
 Carnations, at Chelsea, 55; Souvenir de la Malmaison, 95; at the Crystal Palace, 107; at Hayes Common, 152; and Picotees, 160; rust in, 167; at Burton Joyce, 231; housing, 262; Duchess of Portland, 273; Malmaison, infested with rust fungus, 357; about, 447; Miss Jolliffe diseased, 540; and Picotees, 395; tree, 398; Malmaison leaves, diseased, 403; cutting, rooting, 605

Carrot, blood-fleshed, 520
 Cassia corymbosa, 478
 Caterpillars on fruit trees, 435
 Cattleyas, Gaskelliana, 77; Hardyana, 149; Mrs. F. Hardy, 253; superba alba, 321; notes on, 409; Mantini, 503; watering, 540; labiata antumnalis, 571; buds not expanding, 588
 Celery, growing, 171; storing and cooking, 448; grub, the 455; variegated, 456
 Cheals, a visit to, 385
 Cherries under glass, 332
 Cherry house, the, 539, 587
 Cherry leaves skeletonised, 380
 Chestnut trees, large, 302
 Chilwell, a call at, 561
 Chiswick, notes at, 111; Mr. S. T. Wright's appointment to, 451
 Christmas, flowers for, 568
 Chrysalids, killing in the winter, 430
 Chrysanthemums—seedlings. Japanese incurved in New Zealand: certificated Australian, 6; Edwin Molyneux, 47; of Japan, 84; in America, 84; deterioration of, 84; a French Chrysanthemum Society, 84; culture, 112; shows in Australia, 126; a blue, 126; new varieties in New Zealand, 126; souvenirs, 126; Calvat's new varieties, 156; at the Royal Academy, 156; popular taste in, 156; at Heywood, 174; Golden Wedding, 231; raisers and the Merit Agricole, 231; importing new, 231; National Society's Committee meetings, 226, 532; novelties at the Aquarium early show, 254; early, 254; at Leigh Park, Havant, 254; Emsworth Park, Havant, 254; Havant Nurseries, 254; insects on, 263; October varieties, 276; Windsor show, 276; at Cornstiles, Twyford, 276; Cambridge (New Zealand) a New Zealand audit, 276; National Chrysanthemum Society, 276, 327, 416, 437, 459, 481, 510, 557, 578; at Tedworth, 303; the Tokio nurseries, 303; in the colonies, 303; Battersca Park, 327; Portsmouth, 327; Fareham, 327; syriaging, 327; Trent Park, 328; Mons. R. Bannant, 332; National Chrysanthemum Society—New varieties, 352, 578; prospects, 352; deaf buds of, 352; Aquarium show, 352; shows in 1895, 365, 392, 416; Edith Richardson, 365; some new white varieties, 365; at Downside, 366; at Barford Hill, 366; around Liverpool, 366; Boule d'Or Calvat's variety, 392; Mons. R. Bannant, 392; October varieties, 392; Louise, 392; new early sorts, 392; prospects of the season, 293; round Bolton, 394; in Cheshire, 394; bloom deformed, 403; Lago Maggiore, 416; Emily Silsbury, 416; Duchess of York, 416; English raisers,

CHRYSANthemums—continued.
 418; yellow varieties, 418; specialities in schedules, 418; in the Isle of Wight, 419; at Chelsea, 419; at Ryecroft Nursery, 420; list of shows, 437, 459; Mons. Bannant, 437; Italian, 437; Australian, 437; new incurved, 437; Mons. E. Calvat, 438; Chas. H. Curtis, 438; Duchess of York, 438; Mons. R. Bannant, 438; Pallanza, 437; Hill House, 438; Woodhatch Lodge, 438; Alexandra Park, Hastings, 439; Victoria Park, 440; Battersea Park, 440; Oldfield Nurseries, 440; Edith Tabor, 459; judging at shows, 460; new French varieties, 460; at Earlswood, 461; at Woking, 461; nigrinosum, 459; hairy varieties, 481; some new American varieties, 481; a judging innovation, 481; prolonging the season of, 481; incurved Japanese, 481; at the Royal Gardens, 482; round Perth, 482; Mr. W. J. Godfrey's Chrysanthemum house, 510; Elise Dordan, 510; disqualification at Glasgow, 510; Chrysanthemums to the rescue, 510; at the Botanic Gardens, Glasgow, 512; at Hull, 512; at Dover House, 512; at Finsbury Park, 513; at Southwark Park, 512; N.C.S. secretarial methods, 510, 532; annual dinner, 532; N.C.S. rules and awards of Floral Committee, 532, 557, 573; Mr. W. H. Lees, 533, 558; Mr. C. Harman Payne's collection of coloured engravings, 533; Madame Carnot, 535; select new varieties, 534; a rooting freak, 534; disqualification, Glasgow stringency, 534; judging at Chrysanthemum shows, 534; Pompon Dolly, 535; Major Bonafon, 535, 559, 581; Chrysanthemums at Southwick, Dumfries, 535; after the wars, 544; N.C.S. expenses, 557, 578; select new varieties, Japanese, 557; dates of shows, 559; judging at Sheffield, 559; judging, 559; sporting—Robert Petfield and George Haigh, 559; Société Nationale des Chrysanthémistes, 559; Highgate and District Chrysanthemum Society, 559; Chrysanthemums for decoration, 559; showing the eye, 561; N.C. Society's regulation size of boards for Japanese, 557; Wm. Slo-grove, 578; groups of, 580; small-flowered varieties in the open, 589; Madame Carnot, 581; sporting, 581; Mrs. C. E. Shea, 531; Cambridge (N. Z.) Chrysanthemum Society, 581; the French Society, 581; Harold Wells, 588; the N.C.S. rules and awards of the Floral Committee, 601; disqualification at Glasgow, 601; yellow Bouquet de Dames, 601; after the wars, 601; for exhibition, 605

Chrysanthemum shows—Havant, 420; Kent County (Blackheath), 421; Royal Aquarium, 441, 536; Crystal Palace, 448; Torquay, 442; Ryde (I.W.), 442; St. Neots, 444; Battersea, 444; Brighton, 444; Watford, 445; Bromley, 446; Reading, 445; Dulwich, 436; Hull, 461; Devizes, 461; Hereford, 462; Hanley, 462; Southampton, 463; Sirling, 464; Wolverhampton, 464; Ascot, 464; Coventry, 464; Dublin, 455; Waterloo, 466; Birkenhead, 466; Hornsey, 466; Exeter, 466; Hitchin, 467; Putney, 467; Windsor, 467; Gloucester, 468; Sutton, 468; Kingston, 468; Liverpool, 469; Sevenoaks, 470; Market Harborough, 483; Godalming, 483; Plymouth, 483; Ayr, 483; Leominster, 483; Rugby, 484; Birmingham, 484; Bournemouth, 485; Cardiff, 485; Tunbridge Wells, 485; Bristol, 486; Hull, 486; Barnsley, 488; Lewes, 488; Leighton Buzzard, 488; Droitwich, 489; Weybridge, 489; Melton Mowbray, 489; Wimbledon, 489; Winchester, 490; Edinburgh, 490; Leatherhead, 491; Bradford, 491; Bolton, 491; Eccles, 492; Crewe, 492; Bitley, 492; Twickenham, 492; Leeds, 498; Sheffield, 514; Chester, 514; Woking, 514; Birmingham amateurs', 514; Solihull, 515; Sutton Coldfield, 515; York, 515; Warwick, 516; Norwich, 516; Manchester, 516; South Shields, 535; Alderley Edge, 535; Dunfermline, 537
 Cider making, 365
 Cineraria seedlings dying, 238
 Clirrhoptalm ornatum, 523
 Cissus discolor, 189
 Clematises, montana, 160; indivisa lobata, 190; virginiana, 391
 Clethra alnifolia, 374
 Clitoria ternatea, 139
 Closing thoughts, 594
 Clubbing, liming land to prevent, 449
 Coal, anthracite, 505
 Codonopsis clematidea, 207
 Cologne cristata, 348
 Coffee in the Shire Highlands, 577
 Composts, 75
 Coping for garden wall, 473
 Coreopsis delphinifolia, 480
 Court Hey, Broad Green, 350
 Craig-y-Nos, 108
 Crataegus apifolia, 552
 Crinum Powellii, 230
 Crotons, growing, 424
 Crystal Palace Fruit Show, 313
 Cucumbers, and eelworms, 21; thrrips on, 119; roots diseased, 119; management of, 212; winter, 338; growing, 401, 471; attention to, 518, 603; treatment of, 552; chemical manures for, 565
 Cuphea Llavei, 305
 Currant, a fine, 82; bnd mite 565
 Current notes, 4
 Cycas revoluta seeds germinating, 231

Cyclamens, culture of, 410; grubs on, 473; maggots at base of corm, 521
 Cydonia japonica, preserving fruits of, 141
 Cyphomandra betacea, 470
 Cypripediums, Sedeni, 301; Cyris, 363; Milo var. grandis, 477; Marchioness of Salisbury, 526; calurum, 527

DAFFODILS FOR MARKET, 214
 Darlington Gardeners' Institute, 411
 Damping off, 106
 Deeds of violence, 27
 Dendrobiums, Wardianum, 95, 496; Phalenopsis hololeuca, 149; wintering, 214; the Australian, 336; about, 549; Treacherianum, 571; formosum giganteum, 572
 Dianthus glacialis, 561
 Dicentra canadensis, 421
 Dicksons, a visit to, 364
 Disa grandiflora, 230
 Disqualifying at shows, 129, 153, 185
 Do plants absorb nitrogen? 31
 Dover House, Roehampton, 87
 Doryopteris palmata, 481
 Dracenas, propagating, 564; latifolia, 551

EDGBASTON BOTANIC GARDENS, 538
 Eelworms and their eradication, 73
 Elaeagnus argentea, 105
 Elderberries and Strawberries, 531, 507
 Eleusine coracana, 457
 Examinations (R.H.S.) and results, 14, 60, 78, 110, 152
 Exhibiting problem, an, 572
 Exhibits, disqualifying, 214
 Eucharis, falling, 335; renovating, 410
 Euphorbias, corollata, 227; jacquiniaeflora, 414
 Eyes or no eyes, 31

FACING THE FACT, 3
 Fair Oak Park, 232
 Farm—railway rates, 24; work on the home farm, 24, 48, 72, 96, 120, 144, 168, 192, 216, 239, 264, 288, 312, 336, 358, 382, 404, 428, 450, 474, 498, 522, 542, 563, 590, 606; home farm poultry, 48; soil fertility, 72; lessons by the way, 96; imported farm produce, 124; autumn work, 143, 167; weeds, 192; milk supply, 239; shelter for cattle, 243; a note of warning, 288; cider making, 311; profitable crops, 336; aspects of home farming, 358, 381, 404, 428; feeding cows, 382; grass versus corn, 450; an extraordinary home farm, 474; co-operation in farming, 498; poultry, 498; judicious changes, 522, 563; judicious farming, 541; milk and butter tasting strong, 542; mossy parkland cut for hay, 566; dairy farming, 599; Christmas beef, 606
 Fern fronds and Cytisus growths eaten, 262
 Ferns in the winter, 395
 Ficus leaves spotted, 583
 Figs, at Chiswick, 111; notes on, 140, 212, 285; attention to, 373, 537; cultural notes on, 447; Brown Turkey, in pots, 564
 Findlay, Mrs. Bruce, death of, 506
 Flinger-and-Toe, 455
 Flies and fungi, 7
 Floral facts and fancies, 52, 196, 340, 454, 570
 Florists' flowers, notes on, 395
 Flower garden, the, 45, 189, 236, 355
 Flowers (hardy) notes on, 1, 49, 97, 145, 195, 236, 320, 384, 408, 476, 428; sowing seeds of hardy, 51; cut preservation of, 251
 Flowers in season, 339; for Christmas, 568
 Flowers, plants, fruits in the home and in the life, 501
 Flower shows, swindling at, 574
 Forest growth, succession of, 232
 From the Green Isle to Sunny Kent, 180
 Frost, in Yorkshire, 80; at Wakefield, 152
 Fruit—forcing, 20, 44, 69, 92, 117, 140, 165, 188, 236, 261, 284, 308, 332, 354, 378, 400, 424, 446, 470, 495, 518, 538, 562, 587, 602; hardy, 20, 48, 117, 164, 378, 383, 400, 446, 494, 538, 586;

FRUIT—continued.
 preservation of, 8, 199; summer pruning of fruit trees, 80; farming at Hillfoot Farm, Reading, 219; new process of canning, 250; growing, progress in Germany, 251; hardy, calendar, 260; drying, 286; British, 289; culture, 295; growing at California, 307; Show at the Crystal Palace, 313; new fruits of recent introduction, 317; pruning fruit trees, 318; commercial aspects of hardy fruit growing in Great Britain, 318; nailing versus wiring walls for, 335; supporting trees, 340; liquid manure, 340; fruit and health, 342; can fruit growing pay? 348; fruit at Cardiff Castle, 351; British and its characters, 364; Isle of Wight fruit show, 377; canker in trees, 369; planting trees, 400; fruit growing in Germany, 412; planting, 415; planting wall trees, 433; seedling fruits, 434; transplanting trees, 446; hardy fruit at Woodhatch, 455; mistakes in fruit culture, 475; pruning and nailing wall trees, 495; fruit in relation to health, 500; cutting roots, 537; gumming, 580; winter pruning, 588; imported, 553; drying fruits, 567; caterpillars on trees, 585
 Fruit garden, notes on, 211
 Fuchsias in the flower garden, 219; notes on, 270
 Fumigator, XL All, 142
 Fungus and eelworm in Tomatoes, 605
 Futurity, a peep into, 337

GALTONIA CANDIDANS, 200
 Gardeners' difficulties, 3
 Gardeners' Royal Benevolent Institution anniversary dinner, 11
 Gardening in 1895, 591
 Gardens, little folks, 100
 Genesis of new forms as a result of crossing, the, 88
 Genista capitata, 161
 Gilbert, Mr. R., death of, 506; the late, 529
 Gladstoll, diseased, 334; attention to, 395; Colvilli alba, 343; corms diseased, 370; in 1895, the, 573
 Glass for houses, 520
 Glass structures in winter, Mr. Summers' essay, 5, 28, 54; Mr. G. Hart's essay, 88, 101; Mr. R. Morrow's essay, 125, 159
 Glewston Court, a visit to, 175
 Gloxinias and Caladiums at Messrs. John Peed's, Norwood, 56
 Gongora atro-purpurea, 523
 Gooseberries, standard, 111
 Grapes, growing, modern, 57, 300, 409, 503, 104, 158, 222, 573; scalded, 94; Mrs. Pearson, 190; Duke of Buccleuch, growing, 217, 570; Gros Colman shanking, 311; Gros Colman versus Gros Colmar, 356; keeping, 345; Black Hamburg, shrivelling, 380; shanked, 380; Grape wine, 381; Lady Downe's not colouring, 396, 448, 502, 537; outdoor, 391; Cooper's Black and Gros Maroc, 403, 431, 457, 479, 521, 523, 583
 Greenhouse in Belgravia, erecting a, 540
 Grieve, Mr. Peter, death of, 829
 Griffonia hyacinthina, 370
 Groundsel, African, 427

HEMANTHUS, TREATMENT of, 191
 Hardy flowers, notes, 1, 49; sowing seeds of, 51
 Hartham Park, 114
 Hawfinches, 80, 148
 Head gardeners versus head working gardeners, 408
 Helenium autumnale striatum, 293
 Hemerocallis minor, 129; aurantiacus major, 156
 Herbarium, the oldest, 275
 Heuchera sanguinea from seed, 166
 Horseradish culture, 123
 Horticultural Co. (Limited), proposition for, 51
 Horticultural (Royal) Society's Scientific Committee, 7, 110, 182, 398, 478, 523, 581; examinations, 14, 78, 110, 152; committees, 35, 84, 158, 204, 254, 374, 422, 458, 509, 553; M. Barron's retirement, 121; vegetable show, 255; fruit show, 313; certificates and awards of merit, 378, 422, 459, 509, 556; changes, 543; changes—provincial opinion, 592

How gardeners are made, 63
 Hunemannia fumariaefolia, 507
 Hyacinths, Roman, 173; in beds, 326; in glasses, 548
 Hyde Park, a September evening in, 252
 Hydrangea, blue, 119
 Hypericum Moserianum, 221; adpressum, 508

IN A SCOTTISH MANSE GARDEN, 330
 Indigoferas, 521
 Insects, destroying on fruit trees, 20; fighting, 34; eating green and black fly, 403
 Iris fibriata, 185
 Irish garden, notes from an, 84
 Ixiolirion montanum, 533

JASMINUM NUDIFLORUM, 506
 Judges' duties, 223, 246, 278
 Juuging vegetables at Shrewsbury, 248, 272, 301, 347
 Judgment without law, 326, 337

KELSTON KNOLL, 223
 Kettle and boiler incrustation, 553
 Kitchen garden, the, 45, 94, 140, 287, 333, 385, 379, 425, 518, 563, 603
 Kniphofias, a note on, 527

LACQUER TREE, THE, 10
 Lælio-Cattleya elegans, 173
 Landscape gardening in Japan, 34
 Lankesteria Barteri, 518
 Lapagaria, alba, layering, 71; leaves discoloured, 166; leaves falling, 384
 Lavatera trimestris, 105
 Lavender, 236
 Lawn Gardens, Warwick, the, 243
 Lawn, leaves on a, 380
 Leaves, absorbing ammonia, 23; do they absorb moisture? 43; skeletonising, 381
 Ledum palustre, 20
 Lessons by the way, 169, 291, 385; Dover, 218; Wye, 243
 Lettuces, Williams' Red Prince, 59; forcing in pots, 82; at Chiswick, 111; in winter, 146; growing under glass, 214; root aphids, 310
 Lilliums, failing and preventing, 22; parvum, 113; japonicum Colchesteri, 204; Henryi, 230; lancifolium roseum, 274; planting, 310; Harris and extimium, 406; potting, 473
 Lily of the Valley, 182; failing, 497
 Lincoln Arboretum, addition to, 200
 Lindelofia spectabilis, 235
 Little folks' gardens, 100
 Liverpool notes, 12; Wootton Gardeners' Society, 350; Court Hey, Broad Green, 350; Runner Beans, 350
 Lobelia cardinalis, 230
 Luttrellstown, Clonsilla, 517

MANCHESTER BOTANICAL SOCIETY AND ALLOTMENTS, THE, 295
 Manures, and their application, 126; chemical manure, for Cucumbers and Tomatoes, 565
 Marguerites, 95
 Masters, Mr. Alderman, death of, 9
 Melons, notes on, 45; leaves diseased, 166; gumming, 191; shoots carried at the points, 263; seeds germinating in fruits, 334; black fly on, 334; about, 354, 425, 618
 Men and manners, 7
 Michaelmas Daisy, the, 369
 Micromeria rupestris, 533
 Mignonette for spring, 161
 Mildew remedies, 605
 Miltonia spectabilis, 122; Roezli alba, 173
 Moisture, do leaves absorb, 43, 75, 99
 Monstera deliciosa, 389

Moutbretias, 227; crocosma-flora, 200
 Moths, garden, of evening, 108
 Morden Hall, 434
 Mulching bulb beds, 472
 Mushroom spawn, 84

NAMES OF PLANTS, LATINISING, 23
 Narcissus, telamonius plenus, 279; forced, 286
 Nectarines, Violette Hatve, 47; quartering, 403
 Nephrolepis exaltata plumosa, 533
 Nicotiana affinis, 166
 Nierembergia rivinialis, 311
 Nitrogen, do plants absorb, 31, 50
 Nosteli Priory, 554
 Notes, seasonable, 267
 Nymphæa Laydekeri rosea, 176

OAK TREE, A LARGE, 251
 Odontoglossum Schlieperianum, 126; Wattianum, 149; cordatum, 149; vexillarium, 300
 Oil from flowers, 200
 Old campaigners, 429
 Olla podrida, 160, 230, 304
 Oncidium, notes on, 321; Forbesi, 627
 Onions, bending down the tops of, 47; growing, an object lesson in, 296; show at Banbury, 332; giant, 394; growing on new ground, 449; for exhibition, 545
 Orange blossom industry, 193
 Oranges in pots, 584
 Orchard trees, 293
 Orchids—Mrs. Smith Ryland's, 12; Broomfield collection (sale) 12; Mr. Measures' collection, 12; Odontoglossum Edwardi, 28; Cypripedium barbatum, 28; Oncidium prae-tectum, 28; Laelia purpurata Williamsi, 60; staging, 60; Cattleya Gaskelliana, 77; Saccobulbium, 77; Phalenopsis Ludde-violeacea, 77; ill-treatment of, 108; Miltonia spectabilis, 182; Restrepia elegans, 132; Cattleya Hardyana, 149; Dendrobium hololeuca, 149; Rodriguezia secunda, 149; Lælio-Cattleya elegans, 173; Miltonia Roezli alba, 173; autumn treatment of, 197; Dendrobium thyrsiflorum, 223; notes on Thunias, 228; treatment of, 230; Cattleya aurea var. Mrs. F. Hardy, 252; Laelia praestans, 252; Laelia Perrini, 252; Phalenopsis Schilleriana, 268; Peristeria elata, 286; Vanda Sanderiana, 300; Miltonia vexillaria, 300; Cypripedium Sedeni, 300; Oncidium crispum, 301; Cattleya superba alba, 321; Coelogyne cristata 343; Vanda Sanderiana, 348; cool Orchids in autumn, 348; Cypripedium Cyris, 363; Australian Dendrobiums, 386; Ants and Orchids, 409; notes on Cattleyas, 409; Zygopetalum Gautieri, 409; charcoal for, 449; Cypripedium Milo var. grandis, 477; Dendrobium Wardianum, 496; peat for, 497; Cattleya Mantini, 503; at Edgbaston, 503; notes on Phalenopsis, 503; sowing seeds of, 521; Cypripedium Marchioness of Salisbury, 523; Gongora atropurpurea, 526; Cypripetalum ornatisimum, 526; Pielone lagenaria, 526; Cypripedium calurum, 527; Cattleyas and Dendrobiums, 540; South American, 564; a shower bouquet, 547; in winter, 547; Dendrobium Treacherianum, 571; sowing Orchid seeds, 571; Cattleya labiata autumnalis, 571; Dendrobium formosum giganteum, 572; white flowered, 599
 Osier peeling as manure, 473
 Otiorhynchus tenebrius, 271
 Overcrowding, the evils of, 143

PEONIES AT ALTRINCHAM, 14
 Pansy and Violet Society's show at the Crystal Palace, 44
 Papaver fugax, 32
 Paris green in America, 316
 Park Place, 330
 Parsley, notes on, 249; for winter, 269
 Passiflora, propagating, 540
 Peach growing in Belgium, 259

Peaches, and Nectarines, 92, 165, 284, 303, 332, 378, 424, 470; mildewed, 167; wood from, 427; failures with, 499; outdoor culture, 517, 531, 543, 572, 596; and Nectarines, 518; seasonable notes on, 562
 Pear and Apple trees unsatisfactory, 310; fungus on, 310
 Pears, the Windsor, 190; leaves and bacteria, 215; the Summer Thorn, 221; diseased, 262; cordon, against a south-east wall, 287; Pitmaston Duchess, 414; leaves discoloured, 426; and frost, 457; sleepiness in, 552; room, flies in, 314
 Peas, exhibition, 82; sweet, culture of, 22; late, 225; the garden and its varieties, 550
 Peep into futurity, a, 337
 Pelargoniums petals falling, 238; Zonal and Ivy-leaved for exhibition, 341; twelve good, 402
 Peurhyn Castle, 131
 Peppermint, oil of, 456
 Petunias in pots, 118
 Phalenopsis Ludde-violeacea, 77; Schilleriana, 263; notes on, 508
 Philadelphia, Boule d'Argent, 101
 Phloxes at Chiswick, 111
 Pines, about, 44, 401, 539, 562; notes on, 309
 Pinks, characteristics of, 22; Ernest Ladhams, 345
 Pink Society, National Show at Waverhampton, 64
 Plantains in British Guiana, 346
 Plant houses, 189, 401, 447, 553, 587
 Planting season, the, 333
 Plant notes, 27

PLANTS AND FLOWERS CERTIFICATED BY THE ROYAL HORTICULTURAL SOCIETY—Abies Douglasi glauca pendula, 376. Acacia neo-mexicana, 206. Angreum Eichleriannum, 87. Anthurium Mariae, 159. Apples—Early White Transparent, 159; Rem-borough, 255. Arnebia cornuta, 36.
 Beans—Al Scarlet Runner, 255; Dwarf Kidney Northumberland Prolific, 255. Begonias—carminata, 36; Mr. F. Bostock, 36; Mrs. Heal, 376; Success, 422; Frebell incomparabilis, 559. Brassavola Digbyana, 87. Brassia verrucosa, 360.
 Calanthe Harrisii, 566. Calochortis-luteus concolor, 36; macrocarpus, 36. Campanula Vidalii, 87. Carnations—Mrs. W. Bright, 36; J. Gardiner Muir, 376. Catasetum imperiale, 509. Cattleyas—Eros, 159; Fowleri, 159; Leopoldi, Sander's var., 159; aurea Mrs. F. Hardy, 206; labiata Cooksoniae, 376; labiata cœruleus, 376; labiata Lowiae, 376; Mantini, 376; labiata Thompson's var., 376; aurea Johnsoniana, 422; Bowringiana gigantea, 422; Eurydice, 423; labiata Miss Clara Measures, 459; aurea maritima, 509. Cherry Géant d'Hedelfingen, 159. Chrysanthemums—Chieftain, 159; Elegans, 159; Princess May, 159; Sunshine, 159; Calvat's Boule d'Or, 376; Lago Maggiore, 376; Lady Esther Smith, 376; Phœbus, 376; Prince of Madford, 376; T. B. Haywood, 376; Yellow Gem, 376; Beauty of Teignmouth, 423; Chas. H. Curtis, 423; Dorothy Gibson, 423; Edith Tabor, 423; Miss A. Holden, 423; Miss Florence Lunn, 423; Mons. Chenon de Leche, 423; Mrs. Briscoe Ironside, 423; Mrs. Charles Black, 423; Mrs. E. G. Whittle, 423; Queen of Buffs, 423; Rose Owen, 423; Yellow Source d'Or, 423; Aron, 459; Vicar of Bray, 459; Mrs. K. C. Kingston, 459; Robin Agair, 459; Annie Heard, 459; Clinton Chalfant, 459; Oceana, 459; Bonnie Dundee, 509; Country of Gold, 509; Mrs. Ellen Newbold, 509; Olive Oclea, 509; Surprise, 509; Wm. Slogrove, 509; Stresa, 556. Cirsium Eriophorum, 87. Coelogyne Veitchi, 266. Cypripediums—Massanum superbum, 159; Carnusianum Veitch's var., 255; Alfred Hollington, 376; Allianum superbum, 423; insigne Laura Kimball, 423; Marchioness of Salisbury, 459; Mito var. grandis, 459; Pollettianum Burford var., 459; Macleane 509; platycolor, 509; Ashton, 556.
 Dahlias—Arthur Cheal, 159; Mrs. A. Beck, 159; Beatrice, 206; Dante, 206; Douglas, 206; Fabio, 206; Leonora, 206;

PLANTS CERTIFICATED—
continued.

Mabel Stanton, 206; Purity, 206; Nerissa, 206; Mrs. Gore Langton, 255; Willie Batchelor, 255; Rosebud, 255; Mrs. Wilson Noble, 255; Zoe, 255; Madeline, 255; Ganymede, 255; Claribel, 255; Miss A. Jones, 255; Miss Nightingale, 255. *Davallia tennifolia* Brnkel, 87. *Dendrobium porphyrogastrum*, 87; *speciosissimum*, 87; *Phalenopsis hololeuca*, 159; *Hookerianum*, 206; *Treacherianum*, 556. *Dracena latifolia*, 459. *Gladioli*—*Dunreil de Rhins*, 87; *Don José*, 159; *Duke of Devonshire*, 159; *Eari Cadogan*, 159; *Mrs. Beecher*, 159; *Brantford*, 206; *Dolops*, 206; *Kate Kove*, 206. *Godetia Marchioness of Salisbury*, 36. *Hemerocallis aurantiaca* major, 36. *Lelias*—*monophylla*, 159; *elegans* *Owenia*, 206. *Lælio-Cattleyas*—*D. S. Brown*, 36; *Elstead Gem*, 159; *Charles Darwin*, 206; *Clonia superba*, 255; *Ennomia*, 255; *Parysatis*, 255; *Gottiana rosea*, 376; *Euphrosyne*, 423; *callistoglossa ignescens*, 459; *Cecilia*, 459; *Lady Ingram*, 459; *Othello*, 459; *Semiramis*, 459; *Lady Rothschild*, 556. *Lilium apomum Colchesteri*, 87. *Luddemannia triloba*, 459. *Lycoris aurea*, 423. *Masdevallia macura*, 556. *Melons*—*Eulcure*, 36; *Nugget*, 86; *Middlesex Hero*, 159; *Eari's Favourite*, 255. *Miltonias*—*veixillaria Constance Wigan*, 36; *Cobbiana*, 376. *Montbretia Soleil Couchant*, 159. *Nymphæas*—*Laydekeri rosea*, 87; *marilacea cbromatella*, 87; *odorata rosea*, 87. *Odontoglossums*—*Harryana*, 159; *Wattianum*, 159. *Oncidium tigrinum*, 556. *Pentstemons*—*hybridus grandiflorus*, 87; *Cobaea*, 459. *Phalenopsis Lindde-violeacea*, 87. *Phlox Leonard de Vinci*, 255. *Physalis Francheti*, 376. *Rhododendron Numa*, 459. *Roses*—*Haileyburya*, 36; *Enchantress*, 509. *Scabiosa caucasica alba*, 206. *Sobradia Lindeni*, 376. *Sorbus aucuparia fructulento*, 159. *Strawberry Ronge Amelore*, 159. *Streptocarpus multicolor*, 36. *Sunflower Stoke Park Favourite*, 255. *Sweet Peas*—*Blanche Bnrpee*, 87; *Lady Grisel Hamilton*, 87; *Mars*, 87. *Tigridias*—*grandiflora anrea*, 159; *grandiflora immaculata*, 159. *Tritoma Pitzeri*, 206. *Vandas*—*tricolor*, 36; *cœrulea Fowler's var.*, 159. *Violet Princess of Wales*, 376.

Plants, variegated, 147, 172, 245; water for, 369; and incandescent gaslight, 506; berried, 525. *Piceone lagenaria*, 526. *Pleroma elegans*, 427. Plum or red-legged weevils, the, 271. Pinns, Rivers' Early Favourite, 111; forcing, 562. Poetry and truth, 560, 576, 600. Poinsettias, roots dying, 106, 176, 198. *Polygonum cuspidatum*, 274.

Poppies, 81; raising, 119. *Portraits*—*Mr. G. Summers*, 5; *Mr. John Willis*, 53; *Mr. G. Hart*, 89; *Mr. R. Morrow*, 125; *Mr. Peter Grieve*, 329; *John Gerarde*, 466; *Mr. C. F. Bause*, 413; *Monas. E. Calvat*, 431; *Mr. S. T. Wright*, 453; *Mr. W. H. Lees*, 533. *Potatoes*, 32; dry rot in, 36; section of disease affected with curl and dry or wet rot fungi, 36; storing seed, 59; growing out, 119; handling forming tubers at the joints, 191; culture under glass, 200; at Sulhampstead, 226; examination at Chiswick, 249; and soils, 325; scab, the, 368; in Ireland, 368; exhibition quality in, 369; trials in Surrey, 388; ancient and modern, 405; lecture on, 423; and anti-blight, 433; in Canada, 456; a curious, 493; second crop, 506; *Jeannie Deans*, 507; the tercentenary of, 529; in field, in garden, the, 582; *Potatoes or Potatos*, 605. *Potentilla fruticosa*, 602. *Potting composts*, 75. *Potting*, notes on, 108. *Primula obconica*, insects infesting roots of, 564. *Privet hedge*, forming a, 357. *Prosecution under the Pharmacy Acts*, 577. *Pruning and its effects*, 387; summer, 80. *Prunings*, 231, 399.

QUERCUS COCCINEA, 480

RABONE, MR. T. H., THE LATE, 104. *Race to the North*, 242. *Raspberries*, pruning and mulching, 495. *Raspberry*, a prolific, 9. *Red spider*, preventing, 4. *Restrepia elegans*, 132. *Rhododendrons*, greenhouse, 294. *Rhinbarb seeds*, sowing, 520. *Ripened wood*, 160, 174, 207, 225, 243, 282, 302, 329, 350, 396, 433, 457, 528; "Sceptic's" nutshells, 303; and seeds, 303. *Rodriguesia secunda*, 149. *Rogieras*, culture of, 271. *Root hairs*, 5, 14. *Roses*—A great show, low standards, persistent, large *Maréchal Niels*, 14; *Orange fungus* on, 22; impressions of Gloucester, 30; *Crimson Rambler* at home, 30; remarks on the N.R.S. Crystal Palace Show, 55; *Derby show*, 79; *Hereford show*, 79; observations at the Crystal Palace—the arrangements, a hundred exhibitors, the trophies, garden *Roses*, new *Roses*, new exhibitors, 79; *Roses* and the weather, 80; the "Quarterly" on *Rose culture*, 102; observations at *Derby*, 102; chemical manure for, 142; taking stock, 160; *Roses* in pots, 180; *Muriel Grahame*, 180; leaves, *Orange fungus* on, 238; *Cicopatra*, 247; book on, 247; preparing stocks, 247; *Maman Cochet*, 279; planting *Rose stocks*, 279; *Maréchal Niel*, 310; grafting, 330; for market, 335;

ROSES—continued.

Mr. Mawley's Rose analysis, 359; infested with mildew, 472; for arches, 473; trees in house, transplanting, 496; *National Rose Society's prize* for essay on hybridisation, 479; *Niphotos*, 505; the fox and the *Roses*, 505; *National Rose Society's general meeting*, 549; prizes, 582; *Polyantha* not flowering, 564; the resting season, 582; differences between, 589. *Rubus odoratus*, 132. *Rustic adornments for homes* of taste, 601.

SACCOLABIUMS, ABOUT, 77

St. John's Nurseries, Worcester, 282. *Salads*, 220. *Sarracenia*, about, 83. *Sawbridgeworth*, jottings from, 376. *Saxifraga aplenata*, 527. *Seakale*, growing, 523. *Schizanthuses*, 456. *School gardens*, 8. *Schubertia grandiflora*, 595. *Science and practice*, 73. *Scottish Pansy and Viola Association*, 9, 576. *Seasonable notes*, 267. *Seeds*, thick and thin sowing, 4. *September spiders*, 278. *Snaay corners*, 107. *Shepherd's Kale seed case*, the, 274. *Sherwood, Mr. W.*, presentation to, 593. *Shower bonquet*, a, 547. *Shows*—*Isle of Wight*, Oxford, Gloucester, 15; Windsor, 16; Sutton, 17; Maidstone, 18; Croydon, 18; Lee, 19; Crystal Palace, 38; Diss, 40; Brockham, 41; Norwich, 41; Westminster, 42; Hitchin, 42; Pansy and Violet, 44; Weybridge, 33; Ipswich, 62; Wolverhampton, 62; *National Pink Society* at Wolverhampton, 64; *Tunbridge Wells*, 64; *Farnham*, 64; *Ulverston*, 64; *Hereford and West of England*, 65; *Workshop*, 66; *Woodbridge*, 66; *New Brighton*, 67; *Derby*, 90; *Waterford*, 91; *National Pink (northern section)*, 91; *Crystal Palace Carnation*, 91; *Newcastle-on-Tyne*, 114; *Caterham*, 115; *Prescot*, 115; *Trentham*, 115; *Wellingborough*, 116; *Burton-on-Trent*, 135; *Woking*, 135; *Haywards Heath*, 136; *Midland Carnation and Picotee*, 136; *Southampton*, 137; *Liverpool*, 138; *Carshalton*, 139; *South Park*, 128; *Ashted*, 129; *Harborne Gooseberry*, 129; *Leicester*, 162; *Acocok's Green*, 162; *Taunton*, 163; *Morden*, 154; *Clay Cross*, 154; *Salisbury*, 185; *Cardiff*, 186; *Weston-super-Mare*, 187; *Shrewsbury*, 201; *Kingswood*, 207; *Shirley and Basingstoke*, 203; *Manchester (Lily)* and *Crystal Palace*, 209; *Brighton and Felling*, 210; *Reading*, 211; *Bath*, 233; *Sandy*, 233; *Royal Aquarium*, 234; *Birkenhead and Wirral*, 259; *Crystal Palace Dahlia*, 259; *Edinburgh*, 283; *Wedsbury*, 307; *R.H.S. Fruit at the Crystal Palace*, 313; *Baubry Union*, 332; *Isle of Wight*, 377.

Shrewsbury Floral Fête, 177. *Shrubberries*, 500, 551. *Shrubs*, notes on, 276; massing, 453; pruning, 507; evergreen, flowering, and berry-bearing, 521. *Signs of the times*, 265. *Sketch, a street*, 134. *Small matters of great importance*, 370. *Soil's fertility*, factors of a, 183. *Southern horticulturists*, 10. *Sparken, Work op*, 585. *Spooner & Sons, Messrs.*, a visit to, 574. *Spongioles*, what are they, 10. *Strawberries in pots*, 587. *Stoneleigh Abbey, Peas and Strawberries at*, 55. *Strawberries in Hampshire*, 3; raising for forcing, 4; propagating and management, 20; *Bedford*, 31; in pots, 44, 333, 519, 587; the crop of, 33; root- ing in pots, 53; about 98; seasonable, notes on, 117; leaves spotted, 166; mulching, 494; the Dublin beds of, 477; plants to afford runners for forcing, 142. *Streptocarpuses*, Distinction, 289; hybrid, 367; for bedding, 390. *Sulhampstead, a visit to*, 291. *Summer memories and autumn glories*, 292. *Sundowner Stoke Park Favourite*, 276. *Sunningdale Park*, 306. *Sweeping machine*, 257. *Sweet gum*, 450. *Sweet Williams*, raising, 4. *Swindling at flower shows*, 574, 596. *Symons, Mr. J. G.*, a chat with, 281.

TECOMA RADICANS, 190

Tennis court, freshly sown, management of, 47; dimensions of, 262. *Thermopsis caroliniana*, 107. *The Castlemaus, Twyford*, 134. *The close of the season*, 431. *Those printers*, 479. *Thoughts in season*, 122. *Tigridia pavonia*, 577. *Tida americana*, 369. *Tomatoes*—leaves diseased, 47, 142; diseases on, 63; decaying, 70; diseased or damaged, 71; foster for fungoid disease, 57; diseased, 95; fruit affected with black rot, 142; dark mark in seeds of, 142; cleaning seeds of, 214; in the Canary Islands, 199; affected with black rot, 238; double cordon, 227; large, 226; seeds, cleaning, 275; outdoor, 290; fruits cracking, 334; soil for, 449; the tree, 470; roots and stems diseased, 523; chemical manures for, 565; *Challenger* splitting, 589; *Peronospora* spores in Tomato house, 589. *Trees and shrubs at Altrincham*, 424. *Trees*, growth of, 457. *Tree planting in Central Africa*, 274. *Trentham and Keele Hall*, a trip to, 256. *Trent Park*, 412. *Tuberose culture*, 287. *Tulip, florists'*, the, 124, 244, 263, 323, 372, 432, 504, 584.

UNITED HORTICULTURAL
Benefit and Provident Society's annual dinner, 397

VALLOTAS, PURPUREA, 191, 367; about, 497. *Vegetables*, recipe for preserving, 71; growing, showing and judging, 363, 391; drying, 567; dried—a dirge, 595. *Victoria Park*, 156. *Vines*—routine management of, 21; preparing young for planting, 43, 78; insects on the leaves of, 95; for planting, raising, and preparing, 111, 161, 185, 206, 232, 256; notes on, 117, 354, 308, 537; leaves scorched, 142; leaf yellow blotched, 166; *Gros Gnil-laame* leaf discoloured, 166; leaves blotched, 167; seasonable notes, 188, 400, 445; frozen, 225; thrips on, 403; blood for, 403; root stem destroyed, 411; attention to, 495; removing old and pruning young rods, 440; cleansing of thrips, 541; super-numerary, 569. *Violas*, *Mr. Rowberry's*, 76; note on, 228. *Violets in frames*, 390.

WAKEFIELD, PAXTON SOCIETY, Mr. T. Garnett's expulsion, 246. *Walnut, American*, 497. *Washing soda* as manure, 215. *Wasps*, queen, 8. *Water*, wanted, 9; do plants absorb? 56; and *Water Lilies*, 122; softening hard, 214. *Wavertree playground*, opening of the, 250. *Weather, September*, remarkable, 297. *Weeds*, on lawns, 38; that might be useful, 507. *When the shadows begin to lengthen*, 582. *Willis, Mr. John*, death of, 53. *Windsor Castle*, visit of the *Shahzada*, 58. *Wine, Grape*, 403. *Wireworms*, destroying, 54. *Witley Court*, 47. *Woodlands*, *Streatham*, the, 494. *Wood*, ripened, 174, 329, 350, 396, 433, 457, 528. *Wood, Mr. S. A.*, death of 8. *Wood*, some winter workers in, 546. *Wootton Gardeners' Mutual Improvement Society*, 350. *Working whilst waiting*, 51.

YOUNG HEADS AND OLD
HANDS, 132

ZEPHYRANTHES CARINATA, 160. *Zygopetalum Gaudieri*, 409.

ILLUSTRATIONS.

	PAGE		PAGE		PAGE
Agapetes buxifolia	341	Dendrobium Phalænopsis hololeuca	149	Otiorhynchus tenebricosus	271
Alton Towers, view at	61	„ thyrsiflorum	229	„ „ larva of	271
Angræcum Sanderianum	599	„ Treacherianum	571	„ „ pupa of	271
Anomatheca cruenta	397	Dianthus glacialis	561		
Aotus villosa	357	Dicentra canadensis	421	Phalænopsis Ludde-violacea	77
Apple, Early White Transparent	173	Doryopteris palmata	487	Philadelphus Boule d'Argent	101
„ Borsdörfer	385			Portrait of the late Mr. O. F. Bause	413
Arnebia cornuta	29	Fruit tree roots	537	„ Mons. E. Calvat	431
Athanasia annua	281			„ John Gerarde	407
		Genista capitata	161	„ the late Mr. Peter Grieve	329
Bentickia nicobarica	181	Griffinia hyacinthina	371	„ Mr. G. Hart	89
Bouquet, a shower	547			„ Mr. W. H. Lees	533
Buddleia Colvillei	85	Helenium autumnale striatum	293	„ Mr. R. Morrow	125
		Hemerocallis aurantiacus major	157	„ Mr. G. Summers	5
		Hypericum Moserianum	221	„ the late Mr. J. Wills	53
				„ Mr. S. T. Wright	453
Cattleya aurea Mrs. F. Hardy	253	Iris fimbriata	185	Potato, a curious	493
„ Mantini	503	Ixolirion montanum	583	„ dry rot fungus on	37
„ superba alba	321			„ tissue affected with curl	36
Chrysanthemum, Calvat's Boule d'Or	393	Lælio-Cattleya, Charles Darwin	197	Potentilla fruticosa	602
„ „ Chas. H. Curtis	439	Lankesteria Barteri	518		
„ „ Edith Tabor	463	Ledum palustre	20	Rubus odoratus	133
„ „ Lago Maggiore	417	Lilium japonicum Colchesteri	205		
„ „ Mr. Godfrey's house	511	„ parvum	113	Schubertia grandiflora	595
„ „ Wm. Slogrove	579	Lindelofia spectabilis	235	Shower bouquet, a	547
Clethra alnifolia	375			Streptocarpus Distinction	269
Clitoria ternatea	139	Nierembergia rivalaris	311	Sunflower Stoke Park Favourite	277
Codonopsis clematidea	207	Nostell Priory, view at	555	Sweeping machine, a	257
Cœlogne cristata	349				
Craig-y-Nos, view at	109	Odontoglossum vexillarium	301	Tomato, section of diseased stem of	63
Crystal Palace Fruit Show—Our Artist's choice	325	„ „ Wattianum	149	„ the Tree	470
Cuphea Llavæ	305	Orchids, a beautiful group of	13	Tulip florists', development of bulbs	124, 245
Cyphomandra betacea	470				
Cypripedium Cyris	363			Vine for planting	43
„ Marchioness of Salisbury	527				
„ Milo var. grandis	447				

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No. 784.—VOL. XXXI., THIRD SERIES.



Journal of Horticulture.

THURSDAY, JULY 4, 1895.

HARDY FLOWER NOTES.

THE character of the weather for some time has been unfavourable to the growth of hardy flowers, many suffering considerably from the protracted dry weather. Alpine plants, when grown on well constructed rockwork and supplied with water, have suffered much less than border flowers in our light soil. The stones, besides preventing the sun from extracting the moisture from the earth, form storehouses into which the water is absorbed to be drawn out by the plant as needed. Many of the border flowers have, however, shown by the flagging of their foliage and the yellowing of some of their leaves that they were pining for a supply of the life-giving fluid from the clouds. This has been most noticeable in the case of the Delphiniums, which make strong growth, and can stand a prolonged period of dry weather with little apparent suffering. Pyrethrums have also suffered to some extent, and their flowers have been a little smaller than usual; but on the other hand they have remained a longer time in beauty from there being no rain to injure their petals.

With Pæonies, Delphiniums, and Pyrethrums, in addition to Roses and Lilies, there can be no lack of brightness in the middle of June. Looking at the beautiful blooms of the three flowers referred to one is led to think what a surprise they would be to such a lover of flowers as Parkinson could that worthy and true flower grower reappear in our midst. The Pæonies with their great globed blooms, the Delphiniums with their matchless spires of blue, and the Pyrethrums with their tasselled flowers, would all delight that father of gardening literature, whose quaint descriptions of plants we read with enjoyment.

Here in the border stands the grand variety of the white Peach-leaved Bellflower, which is encumbered with the name of *Campanula persicifolia alba grandiflora*. Encumbered, do we say? Yet if the noble deserve titles, this plant is worthy of even a longer name than the Great-flowered White Peach-leaved Bellflower. It is a grand flower with its fine spikes of bright green laden with splendid, yet chaste, pure white flowers. Very delightful, too, are some of the

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dwarfer Campanulas, and one hesitates awhile to consider ere selecting G. F. Wilson, or one grown here as C. mollis, for more particular mention now. Both are, and will be after this appears, very beautiful; the former covered with a host of its small deep blue flowers, and semi-drooping in habit, and the latter as profusely with blooms of a more purple blue. I have, however, previously said more about G. F. Wilson, and as the one named C. mollis is one over which there is likely to be some difference of opinion regarding its name, I may be pardoned for giving it the preference, with the proviso that in so doing it is not to be assumed that G. F. Wilson is less beautiful. C. mollis partakes much of the appearance of the variety of C. muralis known as Portenschlagiana, but has considerably larger flowers, which are also of a deeper colour. It appears, indeed, to be only an enlarged form of the one known as C. muralis "Bavarian variety," but which is, it is understood, not a native of Bavaria. The form under notice has good-sized leaves which are much softer to the touch than many other Campanulas, hence, one would think, the name mollis. The trial of Campanulas in progress at Chiswick will, I hope, be the means of settling some disputed questions of nomenclature, and C. "mollis" will, in all likelihood, come to be known under another name.

It is to be hoped that the charming border Carnations and Pinks now being raised will not throw still further into the background some of the other hybrid Dianthi, which were even better known a little time ago than at present. It is true that several new hybrids have been raised, but some of the old and proved varieties are but little seen, and are too pretty and too useful to be relegated to obscurity. One is led to make this remark by a plant of Dianthus Fettes Mount, with more than 100 fully expanded flowers on it in addition to a number of buds in various stages. As may be expected it is a good sized plant, being about 2½ feet in diameter and several years old. The blooms are produced in clusters on stems about a foot or a little more in height, and are a pretty pink colour and sweetly scented.

D. Fettes Mount is, one would suppose, of Scottish origin, and does credit to the raiser, whoever he may have been. The individual flowers are fully an inch in diameter and are quite double. As there are few flowers which have not some defect, so one may say that the appearance of this Fettes Mount Pink is marred by the defect that the leaves, especially those on the flower stem, become of a purple colour towards the ends. This gives the plant rather an unhealthy appearance, which is belied by its vigorous and lasting qualities.

A pretty Speedwell at present in bloom here is very rarely seen, but is worthy of being better known. This bears the name of Veronica neglecta, and for my plant I am indebted to the kindness of Mr. W. B. Latham of Birmingham Botanic Gardens. The nomenclature of the Veronicas is notoriously confused, and this plant is not the V. neglecta of the "Dictionary of Gardening," which is said to be synonymous with V. incana. The older works of reference do not give full descriptions of these plants; but V. incana is said to have come from Russia in 1759 and V. neglecta from Siberia in 1797. V. incana has, as is said, the leaves on both sides, as well as the stem "hoary-tomentose;" while the one here, as V. neglecta, has bright green foliage and short racemes of deep but bright blue flowers, from one to four racemes on a stem. It has been exceedingly bright in the border in June.

The so-called rivalry of the Lily and the Rose should now be raging in full force, and the partisans of the respective flowers are, no doubt, ready to defend the flower of their choice against all comers. Those of us who are non-partisans can, however, admire both of these rival queens, and, truth to tell, see no rivalry between them. Both are alike welcome, and if I say little or nothing of the Rose it is because the Journal has several able contributors who can speak with greater enthusiasm and more knowledge of that most charming flower.

In speaking, too, of the Lily it is no desire of mine to treat of it

save in a general way, and to notice now and again a few which may be worthy of mention from some special qualities they may possess. I notice thus one little plant of the Thunbergianum varieties which is in flower at the time of writing, and which attracts some attention from its miniature habit. It generally grows in strong soils to about 9 inches in height, but never attains that height in this light soil, and this year is not more than 6 inches high. This variety is known as Prince of Orange, and is of a pale orange colour, with bright red spots reaching to about half way up the petals. The flowers are of good size, notwithstanding the dwarf habit of the plant, and looking at this Lily growing in a border where it has been for a few years, I am inclined to think that good use might be made of it in the rock garden in a position considerably below the level of the eye, and carpeted with some dwarfer plant. It is easily grown and quite hardy without protection of any kind.

A delightful object on the east side of a rockery running north and south has been a mass of the variety of Saxifraga aizoides, known as aurantiaca. The flowers are green and deep yellow, with a red centre, and the effect of this arrangement of colours is that the plant a yard or two away looks like a little carpet of old gold. It is much prettier than the typical aizoides, and is this year only some 4 inches in height, and covered with its small flowers. It is growing on one of the lower terraces of the rockery, and is thriving much better than the typical form on the other side, where it is more exposed to the sun.

These are only some flowers of the many which the end of June displays. Poppies many, and of nearly all colours save blue; plumed Spiræas, fragrant Pinks, bright Snapdragons, gay Lychnises, tall Bellflowers, and many others make the borders gay; while the rockeries are bright with many a gem. On these a mass of a good form of Gypsophila repens hangs over a ledge, surrounding the rock from view with a lace-like curtain of small white flowers. On the other side of the narrow walk a fine plant of the bright coloured or "splendens" variety of the Basil-leaved Soapwort, planted in a narrow, horizontal crevice, has grown upwards and downwards, covering the stones above and below with a mass of bright pink.

Dangling flowers of the soft, yellow, odorous Sikkim Cowslip hang from self-sown plants along the edge of the same walk, the parent plant throwing up several spikes in a low and moist nook close by. Dwarf Campanulas are masses of colour, with their upright, pendent, or semi-pendent flowers. Bright yellow or grey Stonecrops are here, there, and everywhere, and all around there are many objects of lasting pleasure to those who can see in flowers the beauty they possess, and which may wither and decay, but shall leave with us imperishable and ennobling thoughts. — S. ARNOTT.

FACING THE FACT.

WHEN it is no longer possible to ignore the presence of the disagreeable, then the wisdom of facing it, and, if necessary, fighting it, is obvious. Here is a stubborn, disagreeable, indisputable fact, which no amount of familiarity with will ever breed contempt. Having briefly introduced this subject (page 489) under the heading "How Gardeners are Made," I now propose to attack this incubus—the over-supply of gardeners—which presses so heavily and injuriously on the profession at large. In order to carry it on to this, the second stage, it is necessary to repeat the question previously put, "Is there any hope in the gathering gloom?" with the reply, "I think there is."

In the first place, having neither the moral right nor power to check the constant stream of candidates flooding the area of gardening proper, it behoves us to see what grounds there are, if any, for supposing that fresh channels of absorption will be opened up. British farming, in the face of foreign competition, being at low water mark, without any immediate prospect of a turn in the tide, it must be, and is looked on by many as played out. Not so gardening, in spite of this dark shadow hanging over it. Slowly, but surely, are the foundations being laid of a new order of things on the tottering fabric of farming. It is not easy to foresee or to foretell what results the new crusade of County Council teachings will give, preached, as they are,

by the ablest horticultural missionaries, but that they will be far-reaching may be admitted. Exit plough and reaping hook; enter spade and pruning knife, and, what is more to the purpose, skilled workmen to use them.

No; gardening is not played out, though a host of the players are wearily waiting for their innings. A new game has commenced, and it will be interesting to watch it, for it can hardly fail to absorb many a youth of horticultural tastes who is now treading on the heels of more experienced men in his desire to be a gentleman's gardener. This may be a side issue, but I think it is not assuming too much to suppose that it will materially affect the question in the future, and doubtless there is a great future for this section of gardening, based, as it is, more on commercial than sentimental principles. Here, too, in this subdivision are facts to be faced, the chief of these being spasmodic gluts of garden produce, but, *per contra*, the fact cannot be denied that we—as a nation—are able to eat more than we produce, but a great deal of this is not more than we are able to produce. In proof of this we may note a demand sufficiently powerful to attract supply from the distant parts of the earth, and colonial cousins or intelligent foreigners are not slow to avail themselves of the opportunity. This digression opens up fresh matter somewhat ineligible for present treatment, and some difficulties will have to be faced no doubt, but presumably we still retain British pluck, energy, and perseverance; add to this the sound practical teaching of the new crusade there is at least a liberal measure of hope.

But this skirmishing, which I trust is not devoid of purpose, shall not preclude me from coming to the main point—that sharp point, poison-tipped to many who cry more for present than prospective relief. It is, verily, the fact to be faced. Few will rest content with grumbling at things as they are, for that will never make them as they should be. It is time something was done fairly, sums up the prevailing feeling. Is there no way of coping with this evil, or must it go on—grow on in its cancerous development until a crisis is reached, and its putrescence permeates the whole body corporate of gardening? That Nature is capable of adjusting these things without interference from us may be granted, but the means employed are so violent in some cases, and productive of long and acute suffering in others (as in this), that we would fain attain to the end by less arbitrary measures.

Who will move in the matter? Gardeners in active life see the necessity of doing so; gardeners "out, waiting," feel it—feel it so acutely that from motives of delicacy they will probably be the last to come into action. Those in the boat can pity the man "out" battling with the waves of misfortune, yet that sympathy if often accompanied by the comfortable feeling which safety gives to the spectator. This must not be the case with us, and apart from self—which is not a prominent feature in gardeners—no man can feel secure who is but half way on the journey.

This perennial blight is so generally distributed that the most casual observer must note, and can, doubtless, quote many painful cases, if illustration was needed to add force to the subject. Yet all have not had this experience of being "out," so the impression, to them, is not so clearly defined; even to the man himself—one shifted by some vicissitude of fortune out of a situation he has honourably filled for years—it is at first but vaguely realised. Has he not an irreproachable character; a life's experience; and does he not stand an excellent chance of something good when going? Here I will digress with an example of a good thing going and analyse the excellent chance. It is not imaginary. The vacant situation, £70 per annum and the usual *et ceteras*; 123 applicants for this post—note, one chance in 123. All the applicants are not out certainly, some are trying to better themselves, and one finds in his endeavour to do so that he has grasped at the shadow and lost the substance, for "as you are dissatisfied, we had better part." Here, I am glad to add, this man's "outing" was of short duration. And so these excellent chances come all too slowly, and so they go all too quickly, till eventually our competitor is facing the bitter, bare, miserable fact—he is still waiting.

I do not aimlessly point to these facts, nor wantonly expose a sore that many would rather hide for time to heal. No good purpose would be served in doing so; nor need we turn out his pockets to the public gaze in order to show his prudent or imprudent preparations for the rainy day. For this he may be praised or blamed accordingly; but I do feel and pity the enforced idleness of his mental and physical abilities. It is a time when the most trivial things are brooded over to the extent that if he finds his eminent friend the seedsman omits the usual handshake he feels his cup is filled to overflowing. Out, so many months, each month adding a year to his age; out, perhaps for years. Then, indeed, is his spirit broken on the wheel of misfortune.

In looking at all sides of this subject, and it is worthy of the most comprehensive observation, we may see how harbours of refuge are provided for many in our large nurseries. This tem-

porary provision is good so far as it goes. To a man comparatively youthful and unencumbered by family ties it suits, and he suits; but to the man who has for years occupied a good position as a head gardener this life is, from various reasons, distasteful; nor is he, as a rule, adapted to the work required of him. Here, then, is no balm for the sufferer we feel most for.

So far as I have viewed this matter—and that is, I fear, as far as my vision extends, I see but one way out of the bog, to where the waiting one might find congenial employment and fill up the weary blanks. Here, prior to all other considerations, I place the necessity of a healthy mental occupation, for the want of it brings the heaviest strain. Co-operation is the solution—the only one I see—the one way out of the bog. The formation of a horticultural association, or associations. Were it not for facts, quite as disagreeable in other phases of life, which have been successfully faced beyond the most sanguine expectation, I should hesitate in suggesting what might not unreasonably be construed as of the order of "Utopia, Limited." In any case, should this be the means of bringing forward a more practical scheme, the purpose of this paper will be attained.

At best but a brief outline of my idea can be given, and considering the dimensions of the fact I am endeavouring to face with the importance of it, I will now ask the indulgence of all interested for its postponement to another paper, when I hope to show that a Horticultural Association, Limited, might be unlimited for good, and not clash, to any appreciable extent, with the interests of trade or market growers.—INVICTA.

STRAWBERRIES IN HAMPSHIRE.

FOR many years this county has been famed for its Strawberry production. Not only are the Hampshire Strawberries noted for their earliness, but they are equally noted for their quality. In addition to the immense numbers that are daily dispatched to Covent Garden Market, a very large trade has developed with dealers in provincial towns. Liverpool, Manchester, Birmingham, and Oxford are daily supplied. Quantities go also to Glasgow, Edinburgh, and Belfast. Formerly punnets, packed in Orange boxes, was the sole method of transmitting the fruit. Now these have been supplanted by gallon baskets, oval in shape, with a strong cross handle, generally of cane. From one small station—Swanwick—on the Southampton and Fareham line no less than 7500 of these gallon baskets were sent away after four o'clock in the afternoon of Monday, the 10th inst., while close on 3000 were sent during the earlier part of the day, making a total of 10,000 baskets. A few years since, in the days of punnets and boxes, as many as 60 tons of fruit have been sent away from Botley station in one day.

Taking a radius of 3 miles from Sarisbury Green, there cannot be less than 300 acres under Strawberries alone, and this is only a small centre in the district where they are cultivated. As showing the number of persons employed in the pursuit I cannot find that any one person cultivates more than 20 acres. Of course, there are mixed fruit gardens that consist of 100 acres, but for Strawberries alone 20 acres is the maximum. From 20 acres occupiers range downwards to quarter of an acre—or, in fact, there are "marketers" with less than this amount of land under Strawberries. Although Strawberry growing produces a large return, it does not yield the same profit as it did ten years ago. Still, with experience in culture and knowledge of marketing, money is made in the occupation.

The great aim amongst growers is to be first in the market, as obviously the best price is the result. May 31st appears to be the first date of picking. One grower consigned 54 lbs. fruit, the price obtained being 1s. 9d. per lb. In another instance the fruit was packed in baskets holding 3 quarts each, the returns being 5s. 9d. per basket, June 5th. These gallon baskets vary in size somewhat, the average weight of fruit being 5 lbs. In the first-named instance Noble was the variety sold, in the second a variety called "Garniers." These two, and Sir Joseph Paxton, are almost the only sorts grown. The last named, locally referred to as "Joe," is the "sheet-anchor" of growers. New varieties receive but tardy encouragement. Many of the growers have heard of Royal Sovereign, but very few have ever seen it.

The most successful cultivators aim at early planting. They know that plants properly layered in the beds, lifted with all the roots intact, and planted in August, will give sufficient fruit the first season to pay for the "bedding." Not only is it important to have the roots well established early for the first season's crop, but it increases the second season's yield, which means many pounds extra in the fruit returns.

Open air culture of Strawberries is not the only means of earning a livelihood in this part. There are those who grow

Strawberries under glass. One person of my acquaintance confines his Strawberry growing to forced plants, and with good results, as I happen to know. He does not try to ripen the fruit before the middle of March, his main supply comes in in April, and realises a remunerative price. No difficulty is experienced in selling the first samples at 5s. 6d. per pound, or even more than that. Here, again, Noble is the variety grown. Purchasers of early Strawberries have more regard for appearance than individual flavour of the fruit. Many wrinkles may be picked up in Strawberry forcing from these market men, some which I may refer to on a future occasion.

Since writing the foregoing I am, through the courtesy of the station master at Swanwick, able to give a few more particulars regarding the enormous traffic done at this small station with Strawberries during the past week. On Monday, June 17th, no less than 25,000 baskets were despatched to London only, and from 6000 to 7000 were sent to various parts in addition, giving a total of 32,000 in one day. This enormous number of baskets required eighty-six specially constructed and fitted vans. At one time standing on the platform there were no less than 4700 baskets, in itself a wonderful sight. On Tuesday, 18th, 102 vans were required to despatch the fruit, which is a record. It should be understood, though, that many of them were not specially fitted up, and therefore did not carry so many packages as the day previous. It, however, goes to show the enormous trade done in Strawberries at this small station, and the requirements of the railway company to despatch with such promptness as they do so remarkable a consignment. One train to the north contained no less than thirty-one vans. For six days, commencing on 17th, no less than 77,529 baskets were sent to London only, and at a rough calculation 20,000 were booked northward, making a grand total for six days of nearly 98,000. If we average these baskets as weighing 6 lbs. the enormous weight of 262 tons 10 cwt. is arrived at, or a daily average of 43 tons. Such figures as these may interest Journal readers, and give to the public some idea of the trade done in Strawberries in Hampshire.—E. MOLYNEUX.

SWEET WILLIAMS.

I SAW a few days since a number of rich crimson single Sweet Williams. It is one of the difficulties incidental to Sweet William seed-saving, that if these deep rich-coloured selfs be grown in conjunction with the light-coloured flowers, these latter dominate so much that it is practically impossible to keep the dark selfs true, hence for seed production the importance of having them grown removed from all others. Then it is also one of the peculiarities of this self section, that seldom are the flowers so large or so finely formed as are those of the light flowers. Now and then one or two exhibit very fine form, but as a rule size is invariably less. That defect, if it be so, and I do not say that it is, is very amply compensated by the intensely rich colours found in the selfs, some of which should be mixed with every collection.

The chief fault of many Sweet William strains is formality arising from the somewhat severe floral rules governing their judging, when exhibited, as smooth edged pips, of good size, and having ringed or edged markings, are those chiefly in favour, and that leads to the growing of strains of very formal or uniform style, and shuts out that variety which should always mark any good garden strain. Admittedly, the Sweet William is a florist's flower, and as such very often exhibited at shows for prizes, yet it is even more a charming hardy border flower, and so grown is all the more pleasing, the greater the variety. When I was, some years since, growing Sweet Williams largely for seed production, I concluded that for one person who would grow for show fifty would grow for ordinary garden decoration; therefore were less anxious to have large smooth-edged and similar looking flowers than those that were very varied in markings, were very showy, came in large trusses, and were nevertheless very fine pips.

Many of those having serrated edges seemed to my taste to have quite as much, if not more of beauty, than the smooth-edged flowers had. Very many, too, produced blooms that were beautifully marbled, a most interesting feature as giving variety—distinctly novel. Some were pure selfs, such as white, carmine, or deep red.

Then there was the charming Auricula eyed section, mostly saw edged, having white eyes with a ground of red, crimson, plum, or some dark hue, and the outer margin perhaps of a light shade. These again were very attractive in this popular flower. Far too often now after there has been such fine strains so long in commerce very small flowered inferior forms are found in gardens. Surely those who grow them cannot know of the very much finer strains that can be purchased just as cheaply, and grown with the same ease. It is rather late to sow Sweet William seeds now, yet not too late to get plants strong enough to carry single stems. These should be planted in trebles, and then they give very good effects the first year.

I always preferred to sow seeds early in May, getting good strong seedlings to put out about the end of June; and such plants would in fairly good soil grow into quite big clumps, and the following year carry several fine trusses of bloom. Such plants as these are very attractive objects in a garden, especially if from one of our modern strains.

Sweet Williams will often stand through hard dry weather better than during a wet winter. Their great trouble in the latter case is in an attack of fungus, or black spot. That may be checked by applications of sulphur or of sulphate of copper and lime, but it is not easy to correct. When plants that have once bloomed make numerous new shoots and are left to winter it is a good plan to strew fine potting soil in and about the shoots. The effect is both to furnish protection for the winter and to promote rooting.

Specially fine sorts can in this way be easily propagated, or they will readily root as cuttings; still it is well always to save seeds from the finest and most attractive flowers, and thus promote increase, that is if it be thought desirable to save seeds. Where seeds are not wanted, then so soon as the flowers die off the heads should be cut out, as often the stems will break lower down, and thus give many small trusses from side shoots.

Very easily raised from seeds, sowings being made either broadcast or thinly in shallow, broad drills, there is no reason why plants should not be had in abundance every year. Usually classed with biennials, Sweet Williams are not infrequently perennials in a restricted sense. Still, it is much best to raise from seeds every year, and when that is the case flowered plants can be cleared away as soon as their season's blooming is over, and strong young ones take their places. There seems to be little fear that any new fashion in garden flowers is likely to displace so old a favourite in popular estimation.—A. D.

CURRENT NOTES.

THE Journal of June 20th contains several interesting items, on a few of which I should like to offer some remarks.

"Pomona," writing of red spider on Grape Vines, speaks somewhat disparagingly of sulphur as a destructive agent. Once spider has gained a firm footing there is no better method of dislodging the enemy than by sponging. For some years I was annually annoyed with attacks on a particular part of a vinery. I tried painting the pipes before the time of attack with a solution of sulphur, soot, and soft soap, the latter to cause the sulphur to stick, and the soot to disguise the yellow colour, and for years there has been no appearance of the dreadful little insect. Lime and sulphur, it may be said, is a somewhat risky mixture to apply, and one that cannot be safely recommended. Sulphur itself I have never known to act harmfully on either foliage or fruit.

I cultivate a few Strawberries in pots to come in at the same time as those noted by Mr. Craven on page 535. Instead, however, of placing the runners in their fruiting pots at once I allow them to form good balls in the ground, and then pot them in the usual way. Strawberries require an immense amount of labour when layered in small pots, and that at a time when, in my case at least, there is other very pressing work to do. My plan is to go over the plants from which the runners are to be taken, select the best and add a little suitable manure to the surface of the soil into which the layer is to root. In due course the layers are again looked to and the connection with the old plant severed. The manure causes the little plants to form a densely rooted ball close to the base of the runner, and as watering does not begin until after they are potted in the first week of August, the saving in that one item is not small.

Mr. Iggulden (page 535) touches on a subject of the utmost importance, and one that may be considerably extended and amplified. Our northern climate has everything to do with the fact that crops cannot be taken off the ground so early or so quickly and others got in so soon as in the south, but the labour-saving principle applies notwithstanding. We cannot, for instance, plant Cabbages after Onions, because the latter are not off the ground until the season for planting the first-named is far past. We can, and do, however, put them in after Potatoes, which are later in maturing. The ground is now occupied with Brassica, all the preparation having been met by hoeing and raking over the ground. Then part of our late Pea crop has just been sown, the preparation in this case being the producing of shallow trenches and digging where the Peas were to be sown.

The remarks on thick sowing are exactly to the point, but it is almost incredible that anyone can be found who practises sowing so thickly as Mr. Iggulden indicates. I have to watch that young men do not sow thickly, and have even gone to the extreme of making a zealous young fellow pick up and bag the greater portion of a too thickly sown crop. Cottagers, again, are exceedingly diffident about sowing or planting thinly. I showed an intelligent man the other day the good effects of sowing Peas thinly. He admitted the force of the living facts, but in his case "he was feared it wadna do."

Much saving in labour is effected by keeping work well in hand. A week too late during the summer in transplanting a crop increases the labour to an enormous extent. Small well-rooted plants are easier to handle and invariably grip the soil quicker than larger ones. They can, moreover, be left to themselves if put out in suitable planting weather, and the resulting crop is always better. Then there are methods of work, such, for instance, as hoeing, or tying, or removing material, where, without exaggeration, one man may be managed so as to do the work of two. As a rule I find men have no idea of either saving labour to themselves or of furthering work.

The note (page 540) on watering newly planted trees reminds me that hardly any have required water this season. It has been exceedingly dry, but except in the case of a few large nursery grown specimens I do not recollect ever having had less labour in watering. The reason, I think, must have been the hard and long-continued frost, during which time the tops at least were entirely quiescent, in whatever condition the roots may have been.

"E. D. S." (page 550) is somewhat behind the times in his vegetable physiology. It must be nearly thirty years since Johnson in "How Crops Grow" pointed out that root hairs were, if not absolutely, at least practically, the means of the plant obtaining its sustenance from the soil. Spongioles have a special use in making a way for the feeding roots that follow. The reason why so many pot plants suffer from dryness is that the innumerable root hairs are killed, and in the case of the *Calceolaria* dryness generally proves fatal. It is but fair to say, however, as in the case of Pea fertilisation, that many people are of the same opinion as your correspondent. It is only a few years since a University text book was in use which taught these fallacies.—R. P. BROTHERSTON.

THE PROFITABLE EMPLOYMENT OF GLASS STRUCTURES IN WINTER.

[Silver Medal Essay by Mr. GEORGE SUMMERS, Sandbeck Park, Rotherham.]

"MANY people grow with more or less success Tomatoes, Cucumbers, and other produce for sale in the summer, and they desire to know in what manner the same houses may be the most profitably occupied during the winter and spring months."

With a view of solving the above problem I will give my experience on the subject, and will only state facts, such as have come under my own observation, after a somewhat extensive experience of what to grow with a view to profit, as I consider theory should be entirely left out of the question.

The first thing to consider is the class of house most suited for the purpose. Unfortunately, many growers have not suitable structures for market purposes, and it is really surprising the splendid results that are sometimes obtained by men in the trade, who watch the markets, and know just what is required, but who have most indifferent means at command. The majority of our large market growers have, however, light modern-built structures. The class of house I prefer for Tomatoes in the summer, and general forcing in the winter, is span-roofed, with the ends facing due north and south, 120 feet in length, 18 feet in width, about 12 feet in height, with top and side ventilation, with four rows of 4-inch pipes on each side, which will provide ample heat for the most severe weather. From a house of this description shelves may be slung to the roof for various purposes, the floor of the house being utilised for other crops.

Another useful house, which may be used for Cucumbers or Tomatoes in the summer, and flowering plants in the winter, is similar to the above, but is only 12 feet in width, and 8 feet in height. A house of these dimensions I have found very useful for forcing Lily of the Valley, Tulips, Raspail Pelargoniums, and all dwarf growing plants; whereas the former are more useful for Chrysanthemums, Arums, and other plants that require more room than can be obtained in the smaller houses. They are also very suitable for early forced Strawberries, which are placed on shelves slung from the roof. The houses at present under my charge are all lean-to's facing due south. From these houses are obtained a maximum of light and sun, so necessary for early forcing during the short days of the winter. Shelves are slung from the roof and from the back walls for Strawberries. These houses are all used during the winter for the growth of the different plants mentioned in these notes.

But what to grow in the winter with a view to profit is the query. First on the list I would place Chrysanthemums, a considerable number of which should be grown, according to the convenience for wintering them. The bulk of them should be grown for late flowering during December and January, as much higher prices can then be obtained than would be possible during November. Flowers of good average quality, cut from bush plants, in November only make 2s. 6d., or less, per dozen bunches—twelve blooms in a bunch; but Chrysanthemums can be grown to pay, even at that price, where land is abundant and cheap. Plant out the Chrysanthemums in rows 3 feet apart, which should be done as soon as all danger of frost is past in the spring, stopping the plants two or three times during the summer. They will make rapid growth, and only need attention in keeping the weeds down. Early in October the plants should be lifted and placed on the floor of the Tomato house, making the soil as firm as possible about the roots, settling all in with a good soaking of water. If the operation is carefully carried out the plants will not suffer in the least, and the grower will be rewarded with a great crop of flowers, many more than can be

grown under any other system; consequently if the returns are small for each consignment, they will still pay in the aggregate if the bulk is large.

White varieties are the most useful, and sell better than coloured. Those that I have been most successful with grown on this system are Lady Selborne, Elaine, Madame Lacroix, Madame Louis Leroy, and Stanstead White, which bloom in the order of naming, the flowering season extending from September to the new year. Grow in a temperature not exceeding 40° from fire heat, only keeping sufficient heat to exclude frost, the ventilators being left open night and day, except when actually freezing. On dull showery days a little heat should always be kept in the pipes to dispel moisture. The plants should be watered in the morning, not allowing them to suffer in this respect at any time, or the blooms will be small, and many deformed. Prices for these varieties grown on this system have during the past two years ranged from 2s. 6d. in November to 10s. per dozen bunches at the end of December.

The aim, however, should be, whether in cultivating fruit or flowers for market or home consumption, to endeavour to grow each and all to as great perfection as possible. Some people appear to think anything

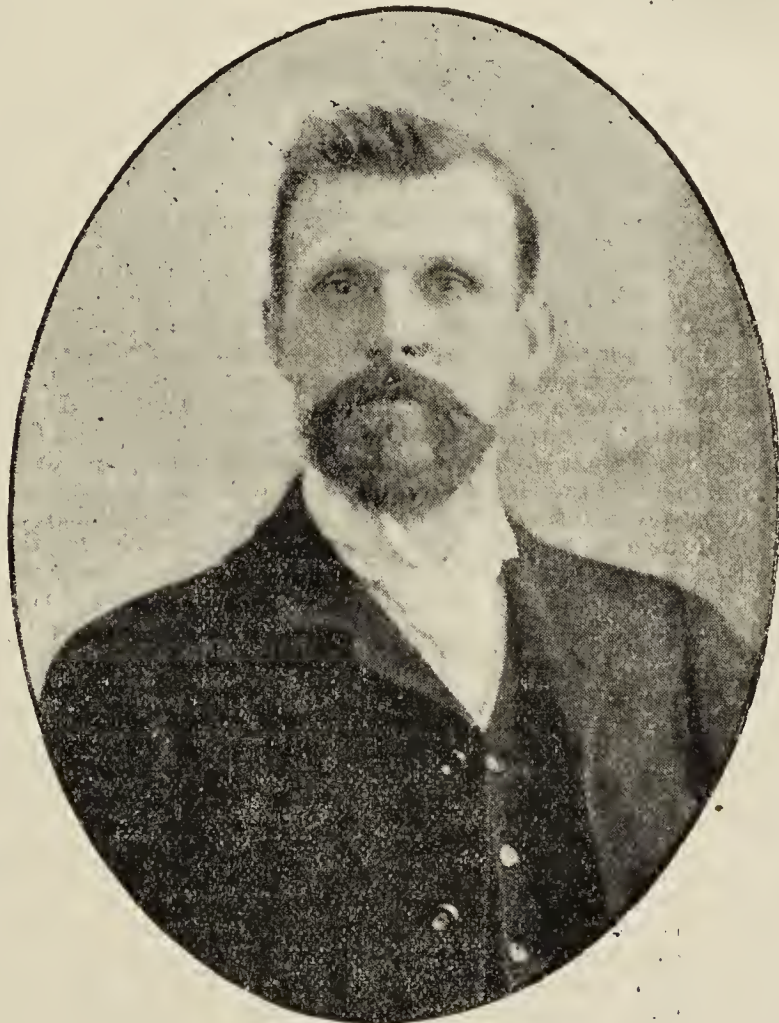


FIG. 1.—MR. GEORGE SUMMERS.

will do for the market, but after a trial they will find to their cost, that it is only the best that will make top prices.

With this object in view I am now working the bulk of my stock of Chrysanthemums on a different system, although it entails more labour. I am, however, satisfied with the result from a financial point of view, as instead of the above prices, 36s. and upwards were obtained for weeks together for the same number of blooms. The cuttings are taken at the usual time, placing two in a thumb pot. As they become well rooted they are placed in larger sizes till they are eventually placed into pots 9 inches in diameter, in which they will remain to flower. The plants are not stopped until they have made about 18 inches of growth, when the point of each plant is taken out. From this break three shoots should be allowed to remain, and by the time they have grown 3 feet in height they will again break naturally. The plants should then be gone over to reduce the shoots to from fifteen to twenty to each pair of plants according to their strength, removing all side shoots, but not interfering with the others till the terminal buds are formed. The small buds surrounding the terminal should be removed, and on the first appearance of frost the plants must be placed in their flowering quarters, or be provided with some temporary covering. By the latter means they may be retarded several weeks, which is a great advantage, for as a rule I have found that the later they are the better prices they make. When placed under glass and the days are bright and warm it is impossible to keep them as late as may often be done in the open air under temporary coverings.

In growing a number of plants on this system I have found it of advantage to partly plunge the pots on any spare piece of land that may be convenient. We usually plunge them on a piece of Strawberry land from which the fruit has been gathered. By adopting this method much less water will be required than if the plants were stood in the open and their pots exposed to the sun. From plants grown on this

system magnificent blooms are obtained which sell readily, and will average 2s. 6d. per dozen blooms. They are really not so much trouble as would appear at first sight, as only one stake is required to each plant, any shoots that require it being attached loosely to the stake with a piece of raffia.

The varieties that I have found most suitable for this system of cultivation are Madame Louis Leroy and Stanstead White, the latter being my favourite, as it is a robust grower, requiring no tying and carrying large blooms of pearly whiteness. Plants of this variety may be had in bloom as late as the middle of January, and I have sometimes sold blooms of this variety at 5s. per dozen. Etoile de Lyon is a good late variety for the same mode of culture, and comes remarkably well from terminal buds. The colour varies from pale pink to nearly white. This is rarely in bloom before January, at which time good flowers of any variety invariably sell well. It is a very strong grower, and with the other two varieties will amply repay the grower any reasonable trouble that may be taken with them. Lady Lawrence is another good late white where it thrives, but after trying to grow it as bushes, both planted out and in pots, also in pots and disbudding them, I have discarded it, as it absolutely refused to flower with me. Good blooms of it will always make top prices in the market. These are also grown in a low temperature, only sufficient heat being given to keep out the frost and dispel damp.

I grow my Chrysanthemums in good loam with a little Mushroom bed refuse, and at the final potting I find it advantageous to leave space for top-dressing the plants when the buds are formed. The ingredients I prefer for this purpose are composed of bonemeal, loam, and burnt soil in equal parts, with a sprinkling of soot added. The plants will show the benefit arising from it within a few days of using it. I have treated Chrysanthemum culture at some length, as I have not found any difficulty in disposing of them in quantity, and my experience is that it is a paying crop if worked on the lines indicated.

ARUM LILIES.—These should be extensively grown. If planted out during the summer months, they ought to be lifted early in September, before they have made much growth, and potted afterwards, placing them out of doors for a month, and finally in a cool house. If allowed to grow slowly in a temperature of 45° to 50°, they will bloom freely at Christmas, when their spathes are much in demand and prices are high.

Another plan of growing Arums, which I consider preferable to the above, instead of planting them out in the spring, is to gradually dry them off in the open air. Should the weather be showery lay the pots on their sides, and the foliage will then die down. As soon as they commence growing again, which they usually do in July, they are shaken out and potted in good loam. Treated thus the plants grow freely and experience no check, as they sometimes do when planted out and left too long before being lifted. Abundance of water must be afforded at all times after being brought into the house, and when the pots are full of roots I have found liquid manure of great assistance, also a little soot occasionally. The after treatment is almost similar to those that were planted out, but the temperature may be increased to from 50° to 55°.

By this means they will bloom freely in December, when prices are high, usually averaging from 6s. to 8s. per dozen spathes. For several weeks this spring the returns were only 1s. per dozen blooms, and I need hardly say they do not pay at that price. The aim should be to have the first good crop of flowers in December, when prices are high. There is usually a good demand for them at Easter, but this year, probably owing to Easter being late and other flowers plentiful, they did not make such good prices as usual, only averaging from 4s. to 6s. per dozen spathes.

(To be continued.)

ADIANTUM FARLEYENSE.

THIS Fern, the noblest of all the Maidenhair section, is not grown as generally as it deserves to be. It may be on account of the supposition that it is difficult to manage at all times, and so it certainly is when once out of order. One of the finest collections of this grand Fern to be met with in this country is at Hatfield Gardens, where it is magnificently grown by Mr. Norman.

Plants of all sizes were, when I last saw them, pictures of health and vigour. They are allowed abundance of growing room, and never staked or tied out, but allowed to hang down at will, completely hiding the pots. My memory lingers over a house full of these plants, arranged so as to slope to the front, the younger fronds showing the delicate tint peculiar to them, toning down with age to a healthy green in the lower fronds, and all well furnished and growing luxuriantly.

I have since followed his mode of culture with unvarying success, and although I have only a dozen good sized plants they are in the best of health. Mr. Norman uses a compost of good fibrous loam and ordinary red sand well washed beforehand. The loam is pulled to pieces by hand, and the fine discarded, the pots being clean and well crocked. The mixture is warmed through over the boilers, and in potting the whole secret is firmness. The next item is watering, which behoves close attention until the pots are full of fibrous roots, neither erring on the wet nor dry side, but endeavouring to maintain a happy medium. Syringing must be regulated by circumstances, it being better to damp amongst them with the sport of a watering-can than to constantly ply the syringe, as the thick dense growth is conducive of damp. By following the above simple instructions, and growing in suitable houses in warmth and shade, one need not have any misgivings as to success.

—GEO. DYKE, *Stubton Hall Gardens.*



SEEDLING CHRYSANTHEMUMS.

MR. PAPWORTH is growing at Riddings Court, Caterham, an unusually large number of seedling Chrysanthemums for a private garden. There is amongst them in growth and leafage much diversity, and a few which flowered last year showed high promise. He told me that a Japanese gentleman who visited his employer, J. Lyon, Esq., promised to send over seed from Japan from varieties dissimilar to what were generally grown here. That would, perhaps, be difficult, but there may be in Japan, all the same, varieties diverse from what we may have, but whether better or otherwise remains to be seen. At any rate, the collection will all bloom well and show true form this season, because all are now from propagated plants. Will a time come presently when growers will raise plants from seed every year, and will not grow named varieties? The possibility is enough to stagger the traders in Chrysanthemums.—D.

CHRYSANTHEMUM PHILADELPHIA.

LONG as I have known the famous flower from the far East there is none, save Mrs. Alpheus Hardy, that has been more loudly praised and more skilfully advertised in America than Mr. Hugh Graham's Philadelphia. It has been freely illustrated in the American gardening press, the finest illustration of it being undoubtedly that which appeared in the "American Florist" for the 10th November last.

Most of us who saw the fine, solid, massive blooms of this variety that were exhibited at the Aquarium show, after their voyage across the Atlantic, will be curious to know how the plant succeeds under English cultivation. Perhaps some of our friends who have obtained plants, and are growing it well, at an early opportunity, give us some indication of what Philadelphia promises to be like.

JAPANESE INCURVED VARIETIES.

These, I gather from the writings of several eminent specialists of late, are not so highly thought of by English growers as the varieties properly designated Japanese. Perhaps the solid, globular blooms of the Japanese incurved Chrysanthemum may suggest rather a distorted form of the more formal but smaller old-fashioned incurved. Be this as it may, there seems to be good ground for assuming that considerable additions may be expected to our lists. Many of the new American seedlings for 1895 may be expected to turn out to be Japanese incurved in form, and if the raiser's descriptions can be relied on size will not be the least of their characteristics.

Many of these new American kinds are reported to be exceedingly dwarf in growth, the average being from 3 feet to 4½ feet in height. This, at any rate, is a desirable quality to those who have grown such old-fashioned sorts as Madame C. Audiguier and Madame Bertier Rendatler.

CHRYSANTHEMUMS IN NEW ZEALAND.

A private correspondent at Wellington, N.Z., writes me that the Chrysanthemum show was held there on April 26th last, and that it was in every way creditable to the colonial growers and exhibitors. It is believed that the show would have been a much greater success but for a severe storm that took place about a fortnight previous to the opening. It seems that the plants are all grown out of doors, with merely a canvas covering to keep off the heavy rains which are prevalent early in April, but this protection was insufficient, and much damage was done to the plants. The quality of the flowers staged, however, was superior to that of former years, and competition was keen.

I learn that cultivation has greatly improved, and that exhibitors are keenly alive to the necessity of securing all the latest and best varieties. Referring to the white Japanese Avalanche, I am told that the growers try hard to get good blooms, but that it is so difficult to manage that the writer has never seen a bloom fit for exhibition. Lady Trevor Lawrence and W. W. Coles are also reported as unsatisfactory varieties.

Among the principal prizetakers the names of Mr. J. J. Kerslake, Mr. J. McLeod, Mr. C. Hill, and Mr. F. Cooper are mentioned, the first-named gentleman securing the N.C.S. silver medal. Seedlings were exhibited by Mr. Bolton and Mr. J. Garland.

CERTIFICATED CHRYSANTHEMUMS IN AUSTRALIA.

Some fourteen or fifteen years ago, when I first took up the cultivation of the Chrysanthemum in a small London back garden, I was then, as now, much interested in the new varieties as they came out year by year. An acquaintance with a few of the English importers and an ability to correspond with the French raisers were in those days all that was necessary to keep oneself fully acquainted with the progress that was then being made. Nowadays a much wider scope is necessary. Those who desire to keep fully acquainted with the work that is being done in Chrysanthemum matters must be prepared to push their inquiries into directions that would at one time have been considered barely within the bounds of possibility, and which perhaps could never have been prosecuted at all except at the sacrifice of every other hobby,

and the slow but gradually widening field of operations not being undertaken all at once.

Of late years seedling raisers in France have increased in numbers, although some of the older and once well-known ones have retired from the work. Growers in Belgium have contributed to the lists, but mainly, if not entirely, with sorts obtained from imported seeds. Italian nurserymen, too, have embarked on the work, but their productions have achieved but little success with us.

The Americans, as everyone knows, have inundated us with their seedlings and novelties which they have imported from Japan. New Zealand a few years since became a fresh field of operations, this fact, as most of us will remember, being principally accentuated by the dispatch of Mr. Garland's seedlings, frozen in ice, for exhibition at one of our N.C.S. shows.

More recently the Chrysanthemum fanciers of Australia have become smitten with the fascinating phase of Chrysanthemum cultivation from seeds, some good ones being reported as having been raised in Victoria, and more recently in New South Wales.

At the Chrysanthemum show of the Horticultural Society at Sydney in April last the Floral Committee held a meeting to examine the novelties, and certificates were awarded in a manner similar to that adopted by such bodies at home. It has occurred to me that it would be useful to place on record the names and descriptions of these Colonial-raised varieties, especially as I believe this is the first occasion of a Colonial Floral Committee making such awards.

They are given in the "Australian Agriculturist" as follows:—

G. H. Kerslake.—A seedling, raised by G. H. Kerslake. Japanese variety; very deep flower, pure white, with long drooping petals. From Etoile de Lyon. First-class certificate.

Oceana.—A Florence Davis seedling, raised by G. Kerslake. Incurved Japanese of large size; colour clear yellow, broad petals. First-class certificate.

Pride of Ellwood.—Raised by G. Kerslake. Japanese reflexed; colour bright amber yellow, long petals.

Mrs. J. H. Horton.—Seedling, raised by J. H. Horton. Japanese incurved, a flower of great size and substance; old gold colour, suffused with salmon, reverse buff, perfectly distinct; broad, loosely incurved petals. First-class certificate.

Minembah.—Seedling raised by S. B. Levick. Japanese variety; long petals; colour deep yellow lined reddish-brown, reverse pale yellow. Seedling from Sunflower. First-class certificate.

Samuel Upton.—Raised by J. Upton. Japanese incurved; deep rosy amaranth, reverse silvery; large flower loosely incurved. First-class certificate.

Mr. James Toohey.—Raised by J. Upton. Japanese incurved; pale lilac, silvery reverse. First-class certificate.

Lady Gormanston.—A seedling raised in Tasmania; colour white, slightly tinged lilac, was also awarded a first-class certificate.

In the list are several imported varieties, and some of the colonial novelties the Committee wished to see again.

The writer, in referring to the Sydney show says that the visitor could not fail to be struck at the disappearance of many old favourites of a few years ago, and the advent of newer, and, in some instances, larger and more telling varieties in the shape of Australian-raised seedlings of great merit. He adds that the more robust constitution of the seedlings will most certainly elbow out of the way the older kinds, and he prophesies that before long classes will be held in which Australian-raised seedlings will predominate.—C. H. P.

MEN AND MANNERS.

IN reply to the note (of interrogation) by "Ignoramus" (page 513) re "Men and Manners," I should like to go deeper into this subject than, I fear, either time or space will allow. Doubtless the highest outward and visible form of respect payable to whom the tribute is due is that which conforms to their wishes, if expressed, on the matter. For instance, the simple modes adopted by the "Society of Friends" is a case in point.

Generally, etiquette is ruled by custom; various nations have different methods of expression, from the profound obeisance of the Oriental to the freer manners of "the West," where, indeed, outward and visible forms are conspicuous by their absence. Custom rules; and presumably when in Rome, or elsewhere, we must do as Rome, or elsewhere, does. Narrowing down from the broader views of the question to the simple query of your correspondent, I cannot agree with the opinion given to him by a lady, nor reconcile it with the manners of her country (France), where polite usages have been studied as a fine art; unless it be that Pierre or Jean there occupy a rung on the social ladder lower than their English brothers of the spade. In my humble opinion the flippant salute in raising the index finger to the headgear was either invented by coachmen and grooms whose hands are full of reins and whips, or by some lazy man who "couldna' be fashed" to perform the operation in its entirety.

Having served a family of high social rank, and being—as I sign myself—an observer of men and manners, I must record that their servants of whatever degree, from the humblest to the highest, used no other form of salutation than bowing—viz., raising the hat. We also had some authority for the procedure, for the nobleman, who was distinguished by his courtesy laid down (unconsciously perhaps) some rules on the matter. Children—our children—and the estate was rather

heavily encumbered in this direction, he always noticed, and should any boy fail to lift his cap he was called back and instructed, by example, in the art of howing; consequently it was a common thing (and I think particularly pleasing) to note mere toddling urchins rendering that homage which was always gracefully acknowledged.

But circumstances alter cases, and if I found that the bow proper was construed into the appearance of taking a liberty, then I should resort to the "touch and go" method, however undignified it appeared (and it does) to me. The subject is perhaps unsuitable for further discussion in the *Journal of Horticulture*, hence I would like to speak now on the unsatisfactory method in vogue of mutilating the word Madam when addressing a lady (not of title). Here we see it corrupted into "Ma'am" (Irish, and least offensive); "Mem," North British; and "Mum," English; with other local intonations. Young gardeners, address a lady (not of title) by the dignified appellation, "Madam," and should you unwittingly err by the omission of a higher title, then you commit no indiscretion, though you should unconsciously be addressing the highest lady in the land.—OBSERVER.

THE salutation of an employer is a subject which many years since engaged my thoughts, and, like your correspondent, I have observed various ways of its performance by gardeners and other servants. The first gardener under whom I served was in the habit of raising his hat, and I, of course, considered that was the proper thing to do; but it soon occurred to me that it was not right for a gardener to salute his mistress in the same manner as a gentleman would. At the same time I was anxious to avoid the well-known movement of grooms and footmen.

I therefore, in the absence of any instruction on this point of etiquette, decided to adopt an intermediate course, which I believed to be free from ostentation on the one hand, and also from the objection indicated above on the other; and if I may judge from the manner in which my salutations have been received, I may conclude they have not been objectionable. I shall not on this occasion describe my mode of procedure, since it is but the outcome of my own ideas, and may not be correct, and your correspondent requires something definite; moreover, we may expect interesting communications from some who are in a better position to know than myself. The subject is an important one to us gardeners, and I trust will be fully treated by someone competent to deal with it.

In addition to the point raised on page 540 I would like to suggest two others—viz., at what stage of development are the children of our employers entitled to be thus recognised? I have thought when miss appears in long clothes, and her hair turned up; but this is a precocious age, and I have fancied that some have expected acknowledgment earlier. I think, however, they should bide their time.

What are we to do about the head steward and lady governess? I have known some who refused to notice the governess. She is, however, frequently as much a lady as the mistress herself, and as such is, I think, entitled to our respect; but will the mistress object to equal honour being paid to the governess as to herself? And if so, how shall we make a difference?—WEST ANGLIA.

ROYAL HORTICULTURAL SOCIETY.

JUNE 25TH.

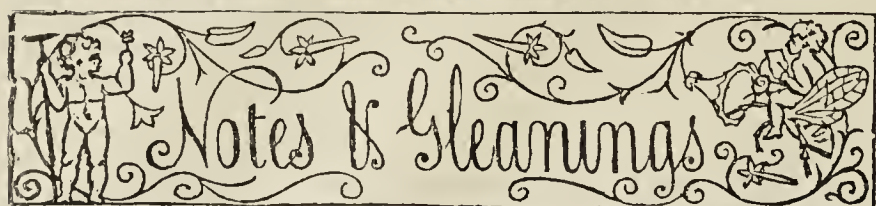
SCIENTIFIC COMMITTEE.—Present: Mr. McLachlan (in the chair); Dr. Bonavia, Prof. Müller, Prof. Church, Mr. Wilson, Mr. Lynch, and Rev. G. Henslow, Hon. Sec.

Primula scotica.—Mr. Wilson exhibited a pot containing some seedling plants, in blossom, of this North British species, which is found in pastures of Orkney, Caithness, and Sutherland. The flowers are homomorphic, not having the stamens and pistils of different lengths as in most other Primulas.

Round-leaved Beech.—Mr. Jackmann exhibited small trees of *Fagus sylvatica*, with the leaves small, entire, and round. As the trees exhibited an erect form, with short branches, it would seem to be the result of some check to growth, the form of the leaf representing a less developed state than that the ordinary type of tree.

Prehistoric Hazel.—Mr. Colinette of Guernsey forwarded some Hazel wood found in peat near the coast of Guernsey, containing flint implements, stone rings, and pottery, presumably neolithic. No Hazel is now known to be indigenous to Guernsey.

Flies Attached by Fungi.—Mr. McLachlan exhibited specimens of *Melanostoma scalare* attached to flowering stems of a Grass, *Glyceria fluitans*. They were received from Mr. Ralph C. Bradley of Sutton Coldfield, who writes as follows:—"Whilst collecting in Blackroot Bog, Sutton, on June 16th, I came across an extraordinary phenomenon. For a space of about a dozen square yards the flowering stems of *Glyceria fluitans* were covered with a large number of dead *Melanostoma scalare*, whose bodies were very much distended by a fungoid growth similar to that seen on the house fly in the autumn. Some stems bore thirty to forty specimens, and fresh victims were constantly being added. I also found two flowering stems of Dock covered with the dead bodies in a similar manner. The flies were to be found only on the flowering part of the stems, and not on any leaves or herbage. Why *M. scalare* should be the only species attracted to the stems and attacked in this manner is very curious, as swarms of other insects were flying about, but did not seem to be tempted to join them in the least." They were forwarded to Kew for investigation.



EVENTS OF THE WEEK—In addition to the Rose shows that will be held during the week, and of which a list is given on page 14, the London Pansy and Violet Society will hold its annual show at the Crystal Palace on Saturday next, July 6th.

— **WEATHER IN LONDON**.—The weather during the past week has been extremely variable, hot sunshine alternating with heavy showers of rain. Instead of this several hours of steady rain are required, and would do a great amount of good.

— **WEATHER IN THE NORTH**.—Thunderstorms and rain with hail have been of nearly daily occurrence for a week preceding the 2nd inst. The thunder has often been alarming, and the rainfall excessive. Much good has resulted to the crops, which were suffering from the long drought. Tuesday morning, though fair, looked far from settled.—B. D., *S. Perthshire*.

— **ROYAL BOTANIC SOCIETY**.—At a meeting of Council of this Society held on Saturday last it was decided to open their gardens in Regent's Park to the public on every Monday in July, August, and September, at an admission fee of 1s.

— **FRUIT PRESERVATION**.—This subject was dealt with in a lecture given by Mr. J. Cheal at the monthly meeting of the Lewes Chrysanthemum Society. Mr. Cheal said the preservation of fruit was a subject that deserved more careful attention than it had yet received, for the culture of fruit had been largely extended of late years, and it was important the whole of the produce should be utilised. In speaking of the preservation of fruit in a natural state, Mr. Cheal urged the importance of careful handling and of avoiding the common mistake of gathering Apples and Pears too soon. He suggested that the place in which Apples are stored should be as cool as possible, and be kept at an even temperature. Pears, on the other hand, require a dry place with warmth.

— **QUEEN WASPS**.—Up to three years ago we used to kill all the queen wasps we could catch, and paid 3d. each for all brought to us. About that time I began to watch them to see what they lived on until the fruit was ripe, and I found their principal food was aphids, grubs, and honeydew; and as long as there is abundance of such food they do not touch fruit. There has often been plenty of ripe Gooseberries, Grapes, and other fruits, but they do not touch them. I have never seen them touch Strawberries, but if they ripened in September, when other food was scarce, I am afraid the temptation would be too strong. We do not find bees eat fruit until the honey season is over, but they are nearly as bad as wasps then. I believe wasps are gardeners' friends until they attack the fruit, and we often have several nests in the garden close to our fruit, but we do not destroy one until they commence feeding on it, when we make short work of them.—ALPHA.

— **DEATH OF MR. S. A. WOODS**.—A sad calamity occurred at Osberton on the 26th ult.—the death, through poisoning, of the well known and much-respected gardener there. Dr. Montague stated at the inquest that the deceased suffered from gout, under the attacks of which he became nervous and depressed. On the morning of his death he was in great trouble about his Grapes, and asked his wife to go and see them, remarking, "I know I shall go mad." Shortly after he took a bottle of "wasp destroyer," and the arsenic it contained caused his death. Mr. Woods ranked amongst the best of British gardeners, and gave great satisfaction to the Foljambe family during a period of eighteen years. Mr. Woods was fifty-one years of age. Mr. J. Mallender writes:—"Mr. Woods leaves a widow and one son to mourn his loss. He was one of the best known gardeners in the North Midlands, and Mrs. Woods has the sympathy of the whole district." Mr. H. V. Machin, J.P., the Chairman of the Worksop Rose and Horticultural Society, also writes:—"Mr. Woods was one of the best members of the Committee of our Society, and was quite one of my 'right hand men.' Hundreds of his horticultural and personal friends deeply mourn his loss, and I am sure that a vote of condolence will be unanimously carried at our next Committee meeting, and that a copy of the resolution, with a letter of sympathy, will be sent to Mrs. Woods."

— **MR. HUGH F. McMILLAN**, of the Royal Gardens, Kew, has been appointed Curator of the Royal Botanic Gardens, Peradeniya, Ceylon.

— **NATIONAL PINK SHOW**.—The sixth annual exhibition of the Northern Section of the National Pink Society will be held on the 20th inst. in the Botanical Gardens, Manchester, in conjunction with the Rose show.

— **WEATHER AT LIVERPOOL**.—We had on Wednesday last a somewhat severe thunderstorm accompanied by heavy rain. Each day since we have had slight showers, but more rain is urgently needed, as the ground is much cracked.—R. P. R.

— **LIGHT RAINFALL IN CAMBRIDGESHIRE**.—Mr. Arthur Bull sends us from Cottenham a tabulated return, from which we gather that the rainfall during the six months just ended only amounts to 6.18 inches. February was the driest month, 0.28 inch; and May the wettest, 1.56 inch.

— **NEWCASTLE-ON-TYNE SUMMER SHOW**.—This show will be held in the Recreation Ground, North Road, on Wednesday, Thursday, and Friday, 24th, 25th, and 26th inst. This year additional prizes are offered for groups, dinner table and fireplace decorations, and also for vegetables. The Council are also prepared to give increased facilities to attractive trade exhibits.

— **NATIONAL AMATEUR GARDENERS' ASSOCIATION**.—At the Memorial Hall, Farringdon Street, E.C., on Tuesday evening last, a conversation was held under the auspices of the above Society. A goodly number of members and friends was present, the chair being taken by Mr. T. Sanders, President of the Society. A capital programme of songs and recitations was provided, and also refreshments. In an adjoining room were staged exhibits, sent by the members, for which points were awarded. Degrees of Fellowship were conferred on several of the members, and the company dispersed after spending a most enjoyable evening.

— **WAKEFIELD PAXTON SOCIETY**.—On Saturday, June 22nd, there was a good attendance of members. Mr. H. S. Goodyear presided, and Mr. Corden was Vice-Chairman. Mr. Pitts, Walton, treated "Bedding Out—North and South," and gave a very interesting dissertation. It was not safe to bed out in Yorkshire until June 1st, and even then great care must be taken to harden the plants and to cover them up at night for some time. He described the most effective plants for ribbon borders and carpet bedding, particularly specifying "Geranium" Henry Jacoby, Calceolarias, Lobelias, Petunias, Asters, Stocks, and Marigolds. In the south—in the London parks, for instance—many sub-tropical plants, such as Palms, Castor Oil, and Tobacco, were successfully grown, which could not be utilised in Yorkshire. Speaking of the recent cold weather, Mr. Pitts asserted that one night that week his thermometer went down to 8° (24° of frost) 4 inches from the ground.

— **SCHOOL GARDENS**.—Whilst the numerous blocks of boys' or school continuation gardens found in Surrey, established by the County Council, places that county literally in the foreground in relation to juvenile horticultural instruction, almost alone to Caterham in that county is due the credit of establishing a series of gardens that are allied to one of the board schools there, and utilised for grant-earning purposes in connection with the subject of cottage gardening as now admitted into the education code. These school gardens adjoin the excellent block of twenty-seven larger continuation gardens provided by the County Council there. When visiting the latter the other day I was surprised to find a small army of sturdy boys busy at work under the supervision of the head teacher of the adjoining schools, and an instructor in gardening, who is engaged for the purpose by the School Board. They were then chiefly engaged in raking and cleaning up, giving, as it were, a finishing touch. There are fourteen blocks of gardens, each block comprising four each of about one-fourth of a rod in extent. All were of exact dimensions; all had crops from seeds, Potatoes, &c., exactly alike; all were alike intensely clean, and bore all the evidence of being, as it were, machine made. By that I mean that the instruction given is essentially mechanical. It is, indeed, a fine example of the spirit of collectivism which shuts out all individuality. I venture to suggest that at least the second year the boys should be allowed to display their knowledge and capacities in cultivating and cropping their plots by giving them free hands. Just now any reward would be impossible where all is so exactly alike. The idea is a good one, but is the method equally so? The schoolboys are in two sections, one half being out on the gardens for two hours on one afternoon in the week, the other another day for two hours, which time counts as school attendance.—A. D.

— LAXTON'S MONARCH STRAWBERRY.—A first-class certificate was granted for this excellent Strawberry at the last meeting of the Royal Horticultural Society, but the notification was accidentally omitted from our report of the proceedings.

— HELENIUM MAGNIFICUM.—This is decidedly one of the best of Heleniums for the rockery, growing but 9 inches high, and producing its shapely deep yellow blossoms on stout footstalks. The centre or disc being almost black enhances the appearance of the flower considerably.—E.

— ELLAM'S CABBAGE.—It appears to me that this fine early Cabbage is likely soon to suffer from a want of selection. I always depend on this variety for the early crop, and find it much superior to any other Cabbage. This year no less than a dozen forms can be picked out of a good sized bed. Some are extremely coarse in growth, much too tall for Ellam's true Cabbage. It will be a pity if this early Cabbage is allowed to deteriorate by want of careful selection on the part of those who are responsible for the purity of the strain. Even although we had so many "rogues" amongst the plants they were singularly free from "bolters."—E. M.

— ENGLISH AND AMERICAN ROSES.—In "Meehans' Monthly" for June we read:—"The great difference in taste between English and American people is in no way better illustrated than in the popularity of various florists' flowers. In the Rose, for instance, the long, oval-shaped is the popular form; a roundish Rose bud would scarcely have sale in America. On the other hand, the large globular, or even somewhat flattened kinds, are popular in England, and what is true of the Rose is true of almost all other flowers that are in use by florists. In Carnations, for instance, the heavy, coarse variety known as Souvenir de la Malmaison is the popular variety in England."

— BRODIAEA HOWELLI.—I am indebted to Mr. W. E. Gumbleton, one of our most observant and accurate admirers of flowers, for a note regarding the typical B. Howelli, mentioned in my notes on B. H. lilacina on page 515. I spoke of B. Howelli as having purplish blue flowers, but I fear my memory must have played me false, as Mr. Gumbleton informs me that the typical variety has greenish white flowers with only a little colouring on the unopened bud, which disappears when the flower expands. As the plate in the "Botanical Magazine," 114, T. 6989, was done from Mr. Gumbleton's flowers, this is authoritative, and must be taken as correct. I am led to ask, however, if there is not a "purplish blue" variety of B. Howelli, or if what I have seen as this species was something else? According to the "Dictionary of Gardening" to which I referred on receiving Mr. Gumbleton's kind note B. Howelli has "purplish blue" flowers, and the catalogue of one of the leading London bulb dealers says it has "umbels of large white flowers, changing to lilac-purple," while the catalogue of the Dutch firm from whom I received the variety "lilacina" speaks of the type as "white and pale blue." Of course this does not affect what I said as to the variety.—S. ARNOTT.

— DEATH OF MR. ALDERMAN MASTERS OF EVESHAM.—It is with regret that we have to record the death of one of the best known and most widely esteemed market gardeners in the Vale of Evesham. The "Evesham Standard" thus refers to the deceased gentleman:—"Mr. Masters was sixty-eight years of age. He was one of the leading gardeners of the Vale of Evesham, and for about forty years of his life was engaged in the staple industry of the town. Upon gardening, as upon other matters, he brought to bear enterprise, intelligence, and energy, which have resulted in much advantage generally to the local industry. In the matter of gardening, all the knowledge which Mr. Masters acquired by his industry and resource he freely gave for the benefit of the public, and he was a frequent contributor upon gardening and other subjects to the local and general press. His opinions upon all matters affecting the gardening industry were widely circulated, and always carried weight. Mr. Masters acted as Secretary a few years ago to the Fruit Pests Committee, a Committee of Investigation which made experiments as to the best methods of destroying fruit pests. To the question of railway rates as unfairly pressing upon the gardening industry Mr. Masters gave characteristic energy, and before the revision of rates he was one of a deputation who laid the views of the gardeners before the President of the Board of Trade. To the local government of his native borough Mr. Masters devoted much of his time and ability. He was elected a Councillor in 1872, and has been an Alderman continuously since 1887. He was elected Mayor three years in succession—1888-89-90—and in that position his uniform courtesy and scrupulous fairness won for him the respect of all."

— DEATH OF DR. W. C. WILLIAMSON, F.R.S.—This distinguished naturalist died, we regret to announce, on the 24th ult., in his seventy-ninth year. Dr. Williamson was elected Professor of Natural History in Owens College, Manchester, in 1851, and subsequently became Professor of Botany in that institution—a position he occupied until 1892. He had the honour of receiving the gold medal of the Royal Society, and the Woollaston gold medal of the Geological Society.

— "WATER WANTED."—Under the above heading, on page 522, the great difference is shown where trenching has been done. We trench all our ground every winter where there is no crop standing. But it generally requires an object lesson to convince men of the value of trenching. We have now two plots which are convincing, and the men are determined to trench their own gardens next winter. One of the plots is Potatoes, and the difference is so great that anyone would think it is another variety, and yet the piece not trenched was Celery. The other plot is Cabbage, just half the crop being on the trenched ground. The ground was trenched in the winter, and planted as soon as the frost had gone. They came in fit for cutting as soon as those planted in the autumn, and they are nearly as large again as the others.—ALPHA.

— INTERESTING RETURNS.—One of those interesting returns, which would repay hours of study, yet which hardly anyone ever looks at, has just been issued by the Board of Agriculture. It is the Blue Book containing the agricultural returns for 1894, showing the acreage and produce of crops, prices of corn, number of live stock, and other statistics for the United Kingdom, British possessions, and foreign countries. From these it appears that the total acreage under all kinds of crops in the United Kingdom, including Isle of Man and Channel Islands, was 47,918,830. Of this 9,365,887 acres were devoted to corn crops (including 1,980,228 growing Wheat), and 4,486,092 acres to green crops, such as Potatoes, Turnips, and Cabbage. For hay 2,776,226 acres were employed, and for Clover and Grasses under rotation 3,086,528 acres.

— A PROLIFIC RASPBERRY.—I saw growing at Riddings Court, Caterham, last week, several plants of a Raspberry that seemed to be of unusual prolificacy. The variety is held to be a seedling product, as it first presented itself remote from other Raspberries near a Gooseberry bush. For three years the suckers were cut down as a nuisance, but it eventually came up so strong that the gardener, Mr. Papworth, lifted and replanted them elsewhere, and he soon found it to be in his chalk soil a wonderful cropper. The canes fruit to the very top and most profusely. The wood is perfectly smooth and spineless, and of a whitish or mealy colour. The fruits large, good colour and flavour. Other and well-known varieties had their canes nearly killed by the hard weather, but this one is quite unharmed. Mr. Papworth, I think, proposes to bring some fruiting canes to London to endeavour to get the variety identified.—D.

— SCOTTISH PANSY AND VIOLA ASSOCIATION.—The second meeting of the above Society was held last week in the Religious Institution Rooms, Glasgow. There was a good attendance of members, and the quality of the exhibits was excellent. List of awards:—First-class certificate (seventy-two points) to Fancy Pansy Mrs. William Steele, certificates of merit to Fancy Pansies Maggie Goodlet and John Mackie, Show Pansy Busby White, Violas Jessie Pretswell and Nellie, all exhibited by John Smellie, Pansy Gardens, Busby; certificates of merit to Fancy Pansies Mrs. R. Stewart, John Jackson No. 15, and Lord Salisbury, all exhibited by Mr. Campbell, nurseryman, Blantyre; first-class certificate to Fancy Pansy Sir John Watson (sixty-five points), certificates of merit to Fancy Pansies A. Struthers and Willie Park, all exhibited by G. M'Pherson, Avondale; first-class certificate to Fancy Pansy Colonel M. R. G. Buchanan (sixty-five points), certificates of merit to Fancy Pansies Alexander Lister and Jessie Gillespie, exhibited by Alexander Lister, nurseryman, Rothesay; certificates of merit to Fancy Pansy Mrs. R. G. Moir, Show Pansies Leviathan, Colonel Stirling, Mrs. D. M'Neil, and Ag. Kay, exhibited by C. Kay, Gargunnoch; certificate of merit to Viola Mrs. Wm. Haig, exhibited by John Duncan, Fife; certificate of merit to Violas Nos. 22 and 18, exhibited by John Forbes, nurseryman, Hawick; certificate of merit to Viola A. J. Rowberry, exhibited by George M'Leod, Chingford, Essex; first-class certificate to Viola Fortunata, exhibited by John Baxter, Broomhouse; certificate of merit to Violas Amy Barr and Garryowen, exhibited by J. D. Stuart, Belfast; certificate of merit to Viola No. 1, exhibited by Captain King, Lennoxton; certificate of merit to Viola No. 236, exhibited by And. Irvine, nurseryman, Tighna-braich.

— KENTISH STRAWBERRIES.—The Kentish Strawberry country is in the full tide of business just now. The undulating wolds about Swanley and Hextable are dotted with picturesque groups of pickers, and the crimson berries peeping from under their sheltering bowers of green leaves fill the air with their fragrance. The dry weather has not been unpropitious to Strawberries, although growers say that a little gentle rain would have made them still more prolific. One grower alone sent away from Swanley a few days ago no fewer than 6000 peck baskets. There is no reason this year why everybody should not enjoy the coolest, most grateful, and most innocent of our English fruits.

— RAINFALL IN SUSSEX.—The total rainfall at Abbots Leigh, Haywards Heath, Sussex, for June was 0.38 inch, being 1.40 inch below the average. The heaviest fall was 0.09 inch on the 14th. Rain fell on eight days. The maximum temperature in the shade was 83° on the 9th and 23rd; minimum, 36° on the 16th; mean maximum, 74.06°; mean minimum, 47.27°; mean temperature, 60.66°, which is 1.35° above the average. Lawns and pastures are quite brown, and lawn-mowing has been at a standstill for several weeks. Roses that have been well watered have been very good. There is a very fine crop of small fruits, especially Strawberries, and Apples are a full crop, but need rain. Vegetable crops show the good effect of deep cultivation.—R. I.

— WEATHER IN SOUTH WALES.—The following is a summary of the weather here for the past month:—Sunshine, 204½ hours; no sunless days. Rainfall, 1.32 inch; maximum 0.49 on the 11th, minimum 0.01 on the 3rd. Rain fell on seven days. The wind was in the N. and N.W. on fifteen days, and in the E. and N.E. on ten days, very strong in the beginning of the month, with very bright sun. Vegetation has suffered greatly by want of rain. A most welcome change took place on the 28th ult., and we have had showers every day since then. Total amount of sunshine for the half year, 808 hours 25 minutes; for the same period, 1894, 602 hours 5 minutes. Total rainfall, 17.46 inches; same period, 1894, 27.83 inches.—W. MABBOTT, *The Gardens, Gwernllwyn House, Dowlais, Glamorgan.*

— THE LACQUER TREE.—This tree, which supplies the famous juice and wax, is indigenous to Japan. It has a nearly bright stem, crowned with spreading branches, and the flowers, of a yellow colour, appear in June. The leaflets measure from 2 to 4 inches in length, and 1½ inch to 2 inches in breadth, and become beautifully red in autumn. When the tree is seven or eight years old, says a contemporary, it begins to bear fruit and yield juice; after the lapse of fifteen years the yield greatly increases, and up to thirty years of age the tree is considered to be in the highest state of activity. Two kinds of juice can be extracted from the tree by different processes. The better of the two processes is collected from the middle of summer to the middle of November in the following manner:—Shallow cuts are made on one side at the bottom of the stem, about an inch apart. The sap, which exudes in drops from between the outer and inner barks, is collected by a well oiled hooked spatula into a bamboo tube. Another series of incisions is made on the other side of the stem about 2 feet higher up than the former ones, and this process of wounding the tree on alternate sides is continued as long as there is room. In the north of Japan the tree is much used for making cabinets and other small articles.

— SPONGIOLES, WHAT ARE THEY?—"E. D. S." will, I trust, not mind being told that talk of "demolishing" a critic, especially so gentle a one as I am, is bad form, and does not savour of the true humility which should always characterise the student. Now I refer to his use of the term spongioles, which he somewhat freely employs, to ask what is a spongiole? Is it not after all a somewhat empirical appellation, and not a scientific one? I regard the term as having been so used because of the earlier belief that the root caps, which are the spongioles of ordinary writers, were really absorbers. Sponge-like are the actual appropriators of plant food. That is of course quite wrong. "E. D. S.'s" illustration of the harm done to plants by the eating or otherwise injuring these root caps by insects shows that it is not possible to injure one portion of roots without all the parts suffering, but it does not show that root caps are food absorbers. Sir J. D. Hooker, in describing root caps or literally soil borers, does not call them spongioles, but root caps, that are so hard literally they force their way through substances that seem quite impervious, always as it were seeking for area in which plant food is to be found, which may be absorbed or taken up by the root hairs. Not always intuitively wise are such roots, however, as we know to our cost in the case of Vines and fruit trees when they get into sour subsoils or clay, and fail entirely to find food at all, but simply an excess of water. However, the point for consideration

is, Should the term spongiole be properly applied to root tips or caps? My view is that such term being derived from a sponge or absorber is not correct, also that it is misleading, as it leads to the inference that these root caps are what apparently they are not.—READER.

SOUTHERN HORTICULTURISTS.

I RECENTLY had the privilege of visiting some southern horticulturists, including Mr. Benjamin R. Cant and Dr. Wallace of Colchester, Mr. William Paul of Waltham, Mr. T. F. Rivers of Sawbridgeworth, Messrs. Sander of St. Albans, and Mr. C. Turner of Slough. I also intended to have visited Mr. George Paul of Cheshunt, who showed me much kindness on a former occasion, but failed owing to circumstances. However, I hope to see both himself and his famous nurseries when next I visit the modern Babylon.

St. Albans, where Mr. F. Sander's Orchid houses are situated, is one of the most picturesque places in Hertfordshire. Very beautiful are the stately envining woods, while the houses are in many instances covered with climbing Roses, among which predominate Gloire de Dijon, William Allen Richardson, and Belle Lyonnaise. On the day on which I visited St. Albans Mr. F. Sander was unfortunately absent, but his foreman showed me his vast collection of Orchids. It took me fully three hours to inspect them, and I saw them in every stage of their development. In the presence of such floral affluence it is hard to specialise, but I remember that the Cattleyas, Cypripediums, Oncidium, Dendrobiums, and Odontoglossums impressed me most. Cattleya Mossiae, C. Mendeli, and C. Lawrenceana; Odontoglossum vexillarium and O. crispum, and Laelia purpurata were especially fine. Many of Mr. Sander's own recent creations were extremely fascinating. Mr. Sander has made Orchids his predominating speciality, but I think it is very desirable to say that tropical plants of every possible description are cultivated at St. Albans with perfect success.

At Colchester I had the pleasure of making the acquaintance of Dr. Wallace, the perusal of whose book on "Oriental Lilies" first made me a cultivator of those flowers. There also I met, for the first time, with that veteran rosarian, Mr. Benjamin R. Cant, and his sons, who inherit their father's capabilities for the cultivation and exhibition of the "regal Rose." His nurseries, which are consecrated entirely to the culture of the queen of flowers, are both extensive and impressive. In one place I saw 150,000 of the grandest standard Roses I have ever beheld. Though so early in the season, many of the Teas, Noisettes, and Bourbons—such, for example, as Maréchal Niel, Comtesse de Nadaillac, Hon. Edith Gifford, Marie Van Houtte, and Souvenir de la Malmaison—were already in splendid bloom. I do not marvel greatly at Mr. Cant's success, for his Roses receive every possible attention.

At the nurseries of Messrs. R. Wallace & Co., which I visited the same day, I was charmed with the Calochorti, which I saw then for the first time; also with the Irises and Eastern Lilies, which luxuriate there. Messrs. Wallace & Co. have the finest collection of plants of Liliun Henryi I have ever seen. They told me they had no difficulty with the culture of the Calochorti (or "Mariposa Lilies"), which are certainly well worthy of extended cultivation. Among the most graceful and interesting of those Californian flowers are the following varieties:—Amenus, cœruleus elegans, Howelli, Plummeræ, macrocarpus, Palmeri, pulchellus, splendens, and venustus oculatus, roseus, and citrinus, all of which are delicately beautiful. Among the Irises, the one which chiefly riveted my attention was pallida dalmatica, of exquisite azure hue.

I have already given, in a previous contribution to this Journal, a description of the nurseries of Mr. William Paul at Waltham Cross. On the occasion of my recent visit I was chiefly impressed by the Camellias, Azaleas, Rhododendrons, and flowering trees; also by the Tea and Hybrid Perpetual Roses in flower under glass. Among the latter were two recently originated Roses of remarkable beauty, named Enchantress and Empress Alexander of Russia. They possess all the qualifications requisite for exhibition, and will undoubtedly prove invaluable for garden decoration.

At Sawbridgeworth I found my friend Mr. Rivers in high spirits. How could it be otherwise, after gaining two gold medals in one short week at the Manchester and Royal Horticultural shows? The Nectarines which had been so highly honoured I found very appreciable and enjoyable in more senses than one. The Early Rivers variety, whether for size, flavour, or complexion, could not easily be surpassed. Cardinal, Mr. Rivers' latest Nectarine, is, I understand, of a more delicate constitution, and therefore not so well adapted for general cultivation. Grapes and Peaches in the glass houses had a very promising aspect; and the Early Rivers Cherries, though not quite ripe, were tempting to behold.

A few days before my departure from London I revisited the Royal Nurseries at Slough. I found the Pelargoniums, Carnations, and Roses as good as previously. I regretted, however, that I was both too late and too early for the Crimson Rambler, which had faded in the conservatories and was only visible in the nurseries in the form of buds. Having learned incidentally in the course of conversation that I had a strong desire to visit the scene of Gray's immortal Elegy, which is only two miles distant from Slough, Mr. Harry Turner sent me to the churchyard of Stoke Pogis. Along the central walk was a line of the finest standard Roses, including Grace Darling. After inspecting the church, which is of quite unique artistic and architectural interest, I repaired with a letter of introduction to the head gardener of Stoke House, who showed me all its romantic environments, of which Mr. Bryant of match-making fame is the present proprietor.—DAVID R. WILLIAMSON.

THE GARDENERS' ROYAL BENEVOLENT INSTITUTION.—ANNUAL DINNER.

ON Friday, June 28th, the fifty-sixth anniversary festival of the above Society took place at the Hotel Métropole, London, and we have great pleasure in stating that it proved to be one of the most successful ever held. The tables were tastefully decorated with flowers kindly sent by Messrs. J. Laing & Sons, Forest Hill; F. Sander & Co., St. Albans; James Veitch & Sons, Chelsea; H. Turner, Slough; and B. S. Williams, Holloway, and the whole of the arrangements were carried out with every satisfaction by the able Secretary, Mr. Ingram.

The chair was taken by His Grace the Duke of Fife, K.T., supported by Sir Trevor Lawrence, Bart., and Sir J. W. Ellis, and amongst other gentlemen present were the Rev. W. Wilks, Messrs. G. A. Dickson, N. Sherwood, W. Jefferies, D. T. Smith, J. G. Brackenridge, G. F. Wilson, E. Stern, N. L. Cohen, C. Sharpe, J. G. Veitch, J. L. Woodroffe, J. T. Anderson, J. Laing, P. Barr, H. Williams, W. H. Cutbush, A. Moss, R. M. Hogg, T. F. Rivers, H. M. Hill, A. F. Barron, J. Douglas, A. Weeks, W. J. Nutting, George Munro, T. M. Cox, W. G. Head, H. Turner, H. Balderson, W. Cobb, T. Hayes, G. Bishop, G. Wythes, T. Swift, W. Titt, W. L. Corry, J. Baker, B. Wheatley, and Dr. Gorton.

After the usual toasts had been given for Her Majesty the Queen, the Prince of Wales, and the rest of the Royal Family, His Grace the DUKE OF FIFE arose amidst great applause to give the toast of the evening—viz., "Prosperity to the Institution," and in the course of a few well chosen remarks, said that it gave him exceeding great pleasure to be amongst them on this occasion and to propose the toast. In spite of the universal depression large sums of money had been spent in charity, and in London alone a sum of no less than £5,250,000 sterling had been given by different societies in one year, to say nothing of private benevolence, of which we hear but little of. Larger sums of money were disposed of in charity in England than in any other country in the world. Unfortunately, His Grace went on to say, there was not often sufficient concentration in these efforts; but happily this does not apply to the Gardeners' Royal Benevolent Institution, as it was the only Society of its kind in Great Britain, its work being to assist the aged and infirm by means of pensions, preference being given to those who subscribe to its funds.

In this country a spirit of sturdy independence flourishes amongst us, and the existence of this Society is proof of it. It was now proposed to establish a system of State-aided pensions, and grateful as we are to our all-wise Parliament for such a scheme, until this happy millennium is reached, and to prevent all disappointments, we must support the Gardeners' Benevolent Society, as it has been for many years and is still doing for gardeners what the State proposes to do for everybody. Many were apt to think the life of a gardener a happy one, but it is not a bed of Roses, as all are not in the employ of the wealthy, and have not happy homes. The day's work of gardeners often begins before the lark, and they are still at it late into the night in order to provide us with Nature's choicest gifts. Nature has doubtless provided us many gifts, but in these vast cities that have grown almost everywhere, what should we do or where should we be without the gardener's art—art that brings joy to the hearts of the wealthy and also the poor?

In the course of further remarks His Grace said he had last year visited with his wife (prolonged cheers) horticultural exhibitions in the East of London, held under the auspices of a Society of which His Grace is President, and there found creditable exhibits that had been grown in windows and back yards. These people owed their simple, but real, pleasure to the knowledge which had been propagated by the gardener's art; therefore the art appeals to all, and gardeners may be looked upon as benefactors. But misfortune often overtakes them, old age creeps upon all, and often finds many ill provided for through no fault of their own. It was to meet such cases that this Society was formed sixty years ago. Since then it has distributed in pensions and gratuities a sum of £65,000; 156 persons were receiving assistance—seventy-seven men and seventy-nine women—and the pensions had been raised to £20 per annum for men, and £16 for women—not, he thought, an exorbitant sum. Many other pressing cases were awaiting selection.

In conclusion His Grace said he would not detain them much longer. We often hear, he continued, the language of flowers passing from commonplace to beautiful ideas, and pleasant associations gather round many of them. He would ask them to let the flowers that had been so kindly sent appeal to them on behalf of the charity. He had come there in its name, and if anything he had said would do any good for the Institution he should consider that he had passed a most pleasant and profitable evening. His Grace then sat down amidst loud cheers.

Mr. G. A. DICKSON responded, and said his first duty was a regrettable one—namely, that of announcing the unavoidable absence, through illness, of Mr. Harry J. Veitch, which he was sure all regretted. The object of these gatherings was to increase the usefulness of the Institution, which had Her Most Gracious Majesty for a patron; and he was sure that all connected with it felt indebted to the Duke of Fife for his presence. Mr. Dickson then read a letter from Mr. John Lee, the Father of the Society, regretting his inability to attend through old age. Mr. Lee is nearly ninety, and with one exception has attended every annual dinner. In further remarks Mr. Dickson said that the investments of the Society had been slightly altered, by which the income had been augmented by £50 a year. In spite of this every year the candidates amount to more than can be taken on the list. At

the last election only fourteen out of fifty candidates were able to be benefited. Imagine, said he, the disappointment of those thirty-six who were left. An income of £700 per annum is necessary to satisfy all claims, and some efforts should be made to obtain this in order to provide for all who are dependent on others. Mr. Dickson then read letters from several candidates, after which he remarked that no institution in the world was managed better than this, and for which management they could not thank the Stewards too much. As a suggestion, he thought ladies might be enlisted to collect for the Institution. A good example had been set by the Shropshire Horticultural Society, who had agreed to give £5 annually, and he thought other Societies of the kind might render assistance. As representing the Treasurer, Mr. Veitch, he hoped that all present would endeavour to do more in the future than had been done in the past. To some it would be a little sacrifice, to others it would not; but if everyone did their best some would do little and others much more.

Mr. DICKSON then read a telegram from Mr. Veitch stating his inability to attend, but hoping the meeting would be a record. He would conclude by echoing his sentiments, for though kingdoms come and go, and ministries come and go, gardeners and gardens are always with us, and he hoped all would unite and do more than had previously been done for this Society.

Mr. W. J. JEFFERIES proposed the toast of "Success to Horticulture," and coupled with it the name of Sir Trevor Lawrence, who, he said, was associated with the Royal Horticultural Society, and a close friend of horticulture.

Sir TREVOR LAWRENCE, in reply, said he was addressing a large number who followed the pursuit of horticulture for either pleasure or profit, and he knew of no pursuit which brought more pure and unalloyed pleasure to either than this. No science had taken greater strides, and several of the dishes on the table were the products of horticultural skill, down to the excellent British Queen Strawberries, which they had partaken of for dessert. Sir Trevor then dwelt on the progress of horticulture, and added that the greatest amount of pleasure derived from gardens was due to the working gardener, who, in spite of climatic disadvantages, could hold his own. He thought that gardeners when young should contribute to the fund, and all who are at heart genuine horticulturists he felt sure would do all they could for the benefit of the Society. The Secretary then read out the list of subscriptions, which was as follows:—In addition to sums already acknowledged—Duke of Fife, £30; C. Czarnikow, Esq., £10 10s.; Messrs. James Veitch & Sons, £25; N. Sherwood, Esq., £21; Messrs. Rothschild, £105; Alfred de Rothschild, Esq., £10 10s.; George Munro, Esq., £105; G. J. Braikenridge, Esq., £8 8s.; G. W. Dawes, Esq., £10 10s.; Messrs. Protheroe & Morris, £5 5s.; J. Coleman, £5 5s.; Sir Trevor Lawrence, £10 10s.; Edward Stern, Esq., £10 10s.; George A. Dickson, Esq., £5 5s.; Thames Bank Iron Company, £5 5s.; Geo. Profit, £21; G. Maycock, £10 10s.; William Thomson Memorial Fund, £98; part proceeds Third Edition "Cypripediums, Hybrids and Species," per R. I. Measures, Esq., £7 10s.; John Lee, Esq., £5 5s.; E. V. Low, Esq., £5 5s.; Mr. W. G. Head, £5. Other sums bring up total to £1900.

In expressing satisfaction that the list was such a satisfactory one, Sir Trevor concluded by saying that they were largely indebted to His Grace the Duke of Fife for taking the chair, and for the noble manner in which he had held it.

Mr. N. SHERWOOD, in proposing the health of the Chairman, said he was quite sure he echoed the sentiments of all present in asking His Grace to accept their hearty thanks for presiding. All knew of the interest taken by members of the Royal Family in charitable institutions, and he was sure it was a pleasure to His Grace to preside on that occasion.

His Grace in reply offered his warmest thanks for the kind manner in which they had proposed his health, and remarked that though he had no great knowledge of horticulture he would give way to no one for the love of it. The Society, he said, was doing good work, and it had given him great pleasure to preside that evening.

Mr. G. A. DICKSON then proposed the health of and a hearty vote of thanks to Mr. Ingram, remarking that as a Secretary he was a model one, and he had never met a more genial man. He would conclude by thanking him sincerely for what he had done and was still doing for the Society.

Mr. INGRAM, in reply, said he hardly knew what to say, and could only add that in his duties, both official and private, he had always done what he could, and for the Society he had done his best to enhance its interest and add to its wealth; this he would endeavour to go on doing so long as the gentlemen supported him in the future as they had in the past, and he begged to thank all present for the manner they had received the toast.

Mr. A. MOSS proposed the health of the Stewards, and thanked them for their efforts on this occasion, coupling with the toast the name of Mr. Geo. Monroe; and to merit this he thought it only required him to call their attention to the fact that under his name was the sum of over £100.

Mr. MONROE rose to give thanks, and said that trying to reach that sum had given him great pleasure, and though a century was a common occurrence nowadays, Dr. W. G. Grace had never experienced so much pleasure in obtaining his hundred as he had in reaching that sum.

An excellent selection of music was provided under the direction of Mr. Herbert Schartau, and the company afterwards dispersed, a most enjoyable evening having been spent.

LIVERPOOL NOTES.

THE WEATHER AND THE CROPS.

ALTHOUGH the weather has given every indication of breaking, the rain does not come. Lawns are almost burnt up, and a great amount of labour is required to keep newly planted produce supplied with water. Frost in May is bad enough, but I had no idea that a June frost such as we had on the 15th could have done so much damage. In our garden we have had two fine beds of tuberous Begonias and a similar number of bedding Nasturtiums killed outright, not a vestige of them being left.

From a note I received recently from Mr. Middleton, Rainford Hall, St. Helen's, he states that in that district the loss to farmers with the frost must be very great, acres of Potatoes being cut down, and with the present dry weather will make scarcely any progress. Crops of all kinds are looking fairly well, but Louise Bonne of Jersey Pear, which was the reliable cropper of last year, is completely without fruit this. Hay crops will scarcely pay for the labour, many farmers having put acres to pasture, rather unusual in this agricultural district of Lancashire.

Who would have thought that fruit trees by the acre would ever have been thought of in the neighbourhood of Liverpool? It would have been compared to a bad dream had the thought been suggested; but then agriculture is at a low ebb, and a whisper reaches me that a gentleman not finding farming profitable has made strict calculations as to cost of planting fruit trees, and is launching into Apple culture, convinced that it will pay him a great deal better. He knows the trade, he has his markets for good samples, and the way he can market Lord Suffield and other good sorts justifies, in my opinion, the attempt being made. He is firmly convinced that a check can be put on foreign Apples, and I wish him every success. Further work will be watched with interest.

OPEN SPACES IN THE CITY.

Visitors who have been absent from the city for some few years, would now find much to satisfy them in work that has been done by the Corporation with regard to open spaces. St. Peter's and St. John's churchyards have been transformed, the beautiful green grass, the oblong beds of Ivy, numerous other beds filled with the usual display of bedding plants, good seats, where tired citizens in the busiest parts of the city can almost fancy themselves in the country, is grand to contemplate when one contrasts the previous state of nothing but dark crumbling stones, monuments and the dank earth.

In other parts of the city the same good work is being carried on, so that altogether it is a pleasing duty to be able to record this work, which is so necessary in our days, and which tends to elevate all sorts and conditions of men to a better state of things. Mr. Herbert, the Superintendent of several of the parks, is responsible for this work being carefully looked after, and he is deserving of much credit for his part in it.—R. P. R.



A BEAUTIFUL GROUP OF ORCHIDS.

THE accompanying illustration (fig. 2) has been reproduced from a photograph taken by Mrs. C. A. S. Smith-Ryland of Bayford Hill, Warwickshire, and will I think be pronounced by all who see it to be a well finished example of amateur photography. The "Squire" of Bayford Hill (High Sheriff of Warwickshire) and Mrs. Smith-Ryland, are well known in the district as generous supporters of horticulture, and any sterling novelty in the shape of flowers, fruits, or vegetables is speedily added to the Bayford collection. Orchids are likely to prove a strong feature there in the future, as numbers are being purchased each year. Quite recently several plants of *Odontoglossums* were bought for 21 guineas each, and 20 guineas apiece were paid for grand examples of *Lælias*; all are making satisfactory progress under the watchful eye of Mr. R. Jones.

In such gardens where good things abound, it seems natural that a taste for photography should be developed. Having made such great progress in the art, Mrs. Smith-Ryland seems determined not to be content with half measures. A studio is now in course of construction, which is to be fitted up with all the latest appliances; when complete this (which is situated in the midst of well kept gardens) will doubtless prove a source of great attraction to the many visitors who are entertained so hospitably at Bayford Hill.—WANDERER.

SALE OF THE BROOMFIELD ORCHIDS.

THIS collection of Orchids, belonging to Mr. M. Wells of Sale, near Manchester, was recently disposed of by Messrs. Protheroe

and Morris. Among the principal prices realised were the following:—*Odontoglossum crispum*, like *apiatum*, three bulbs, one lead, 63 guineas; *Cattleya Hardyana* (Wrigley's variety), six bulbs, one lead, 55 guineas; *Cattleya Lord Rothschild*, three bulbs, one lead, 60 guineas; *Cattleya Mossiæ alba*, fourteen bulbs, 10 inches across the flower, 34 guineas; *Lælio-Cattleya Broomfieldense*, four bulbs, one lead, 35 guineas; *Cattleya Mossiæ Wagneri*, eight bulbs, two leads, 30 guineas; *Cattleya labiata alba*, four bulbs, one lead, 50 guineas; *Odontoglossum Wrigleyanum*, two bulbs and lead, 34 guineas; *Lælio-Cattleya Arnoldiana*, seven bulbs, two leads, 30 guineas; *Cattleya exoniensis superba*, five bulbs, 55 guineas; *Cattleya Mossiæ alba*, twelve bulbs, two leads, 33 guineas; *Cattleya Trianae Reine des Belges*, nine bulbs, one lead, 50 guineas; *Cattleya Trianae Measuresiana*, four bulbs, one lead, 30 guineas; *Cattleya Gaskelliana alba*, four bulbs, one lead, 38 guineas; *Cattleya Mossiæ Reineckiana*, fourteen bulbs, three leads, 42 guineas; and *Cattleya Mendeli Blunti*, two bulbs, one lead, 30 guineas.

ORCHIDS IN LONDON.

It is possible that at the time when Orchid growing was yet in its youth, the idea of cultivating them in the impure atmosphere of London would have been scoffed at as a thing as impossible as it was absurd. Be that as it may, Orchids are now grown in London and many other large manufacturing towns in extraordinary numbers, and to an astonishing degree of perfection. Confirmation of this statement may be found at any meeting of the Royal Horticultural Society at the Drill Hall, where in nineteen cases out of every twenty town-grown Orchids will be found in abundance. Not only do nurserymen contribute to these displays, but also amateurs, who show plants in a condition which proves they have congenial homes and attention, though their surroundings may be decidedly the reverse.

Amongst the many exhibitors, mention may be made of R. I. Measures, Esq., of Flodden Road, Camberwell, who is at present one of our most enthusiastic orchidists. True, this gentleman does not exhibit to the same extent as do others, but it is rather from disinclination than any lack of plants either in respect of quality or quantity. When, however, specimens are sent, one may be sure of finding something of interest either horticulturally or botanically. Mr. Measures does not grow his own Orchids—this would be expecting too much, but employs for the purpose Mr. H. J. Chapman, who is well known to have a very varied knowledge of them and their requirements. As a grower proof of his ability is apparent by the excellent health of the plants, and his acquaintance with their nomenclature is almost equally extensive.

With a vivid recollection of the many excellent Orchids that had been staged from Cambridge Lodge permission was asked, and most promptly granted, to pay a visit and see the plants at home. One must not go expecting to find an extensive estate, or disappointment is sure to be the result. It is nothing of the sort, simply a charming villa residence, with a fair amount of garden at the rear. Once in this garden the Orchid lover will experience no more disappointments, as something like a dozen and a half of houses will be found, and all are devoted to Orchids. Apparently nothing else is grown, with perhaps the exception of a few Maidenhair Ferns to provide fronds for the making of buttonhole bouquets, and presumably also for aid in the adornment of the house. Cambridge Lodge has become a byword with Orchid growers, and rightly so, for it is truly a home wherein are found hundreds—nay, thousands—of these quaint, beautiful, and rare exotics.

Though the collection comprises all kinds it is in very varied numbers, as the greater portion is devoted to *Cypripediums*, which are found in the greatest diversity. The next largest section is the one given up to *Masdevallias*, all types of which are represented in such a manner as to be almost, if not quite, unique. After these two main features there are *Cattleyas*, *Lælias*, *Odontoglossums*, *Aërides*, *Vandas*, *Oncidiums*, *Coelogynes*, *Dendrobiums*, in fact all kinds, though each in lesser number than those previously mentioned.

Of the *Cypripediums* grown Mr. Measures has compiled a list which is published in the form of a small book, handsomely bound in leather. The parentage of all the hybrids is given, and with regard to species the native habitat is stated. Those desirous of becoming thoroughly acquainted with this family ought to purchase a copy, the price being 3s. 6d., for it will be found invaluable. Absolutely all the profits are given to one of our gardening

charities, and this alone should act as a very strong recommendation. Upwards of 600 kinds are mentioned.

Turning now to the Slipper Orchids grown, we may mention only a few that were in flower at the time of the visit, which was made several days ago. They comprised *Cypripedium Lawrenceanum*, *atrorubens*, *rubicundum*, *Sedeni candidulum*, *cardinale*, *Curtisi*, *barbatum* in variety, *Mastersianum*, *Godseffianum*, the Cambridge Lodge variety of *Lawrenceanum*, and numerous others. It must

most prominent. It would be an impossibility to do justice to either them, or those named in the previous paragraph, in these notes, as one might easily write a page about either did time and space permit.

Passing on we find ourselves literally in the midst of a superb display of *Odontoglossum vexillarium* in variety, while in another house are hundreds of *Cattleyas* and *Lælias*, many in flower, several past, and others yet to come. Beyond these are *Oncidiums*, *Bolleas*, *Saccolabiums*, *Pleurothallis*, *Epidendrums* altogether, in



FIG. 2.—A BEAUTIFUL GROUP OF ORCHIDS.

be understood these are but a few, and can convey only a very poor idea of the collection. The plants range from minute seedlings to handsome specimens; but no matter what size or sort, the health and condition of all are alike excellent.

The *Masdevallias* are, as has been suggested, to be found in marvellous variety, and many are the certificates that have been accorded to different kinds at the Drill Hall at the various meetings where they have been shown. As with the *Cypripediums*, we must content ourselves with the names of a brief selection, and these not necessarily the best. *O'Brienianum*, *calura*, *Reichenbachiana*, *muscosa*, *Measuresianum*, *Harryanum* in great variety, *gargantua*, *Lowi*, and *leontoglossa* were undoubtedly amongst the

apparently endless numbers and variety. Some of the plants are very large, many having been at Cambridge Lodge for several years, while others again are quite new comers; but all are sure to be accorded the utmost amount of intelligent care and attention.

Mention has been made of the health of the numerous plants, but ere the closure is placed on attention might well be called and credit accorded for the splendid cleanliness that prevails. In the houses everything is as it should be, while out of doors little or no fault could be found. The visit, though a hurried one, was extremely pleasant, and worthy of a better record, but *Roses* claim both space and attention, so we must be content to another look round with Mr. Chapman in the days that are yet to come.—W.



ROSE SHOW FIXTURES FOR 1895.

- July 4th (Thursday).—Eltham and Norwich.
 „ 6th (Saturday).—Crystal Palace (N.R.S.).
 „ 9th (Tuesday).—Ipswich, Westminster (R.H.S.), and Wolverhampton.*
 „ 10th (Wednesday).—Chelmsford, Farnham, Hitchin, and Redhill (Reigate), Ulverston.
 „ 11th (Thursday).—Bath, Great Malvern (Hereford Rose Society), Helensburgh, Woodbridge, and Worksop.
 „ 12th (Friday).—King's Lynn.
 „ 13th (Saturday).—New Brighton.
 „ 17th (Wednesday).—Derby (N.R.S.).
 „ 18th (Thursday).—Canterbury (Kent Hospital Fête) and Halifax.
 „ 20th (Saturday).—Manchester.
 „ 23rd (Tuesday).—Tibshelf.
 „ 24th (Wednesday).—Chesterfield and Newcastle-on-Tyne.*
 „ 25th (Thursday).—Trentham.
 Aug. 3rd (Saturday) and 5th.—Liverpool.†

* A show lasting three days. † A show lasting two days.

—EDWARD MAWLEY, *Rosebank, Berkhamsted, Herts.*

A GREAT ROSE SHOW.

3656 Rose blooms were staged in competition at the National Rose Society's Show at Gloucester, on June 27th. The above total does not include the Roses exhibited in the section for garden Roses, and in the decorative classes. With the exception of those at Birmingham in 1890, and Chester in 1892, this was the largest provincial exhibition the Society has yet held.—EDWARD MAWLEY.

WILLIAM ALLEN RICHARDSON.

MY blooms of this Rose are almost white this season, only faintly coloured cream. Why is this? Once before I observed this paleness. Is it from watering where the main soil is clay?—A. M. B.

[By far the most richly coloured blooms we have seen this year were produced by a plant growing against a wall which only received the morning and afternoon sun. A plant in the same garden on a south aspect had flowers both smaller and paler.]

LOW STANDARD ROSES.

I HAVE often wondered that dwarf standard Roses are not more extensively planted. They form such beautiful objects in the flower garden. If on stems 1 to 1½ foot high, when well grown the flowers are brought within a pleasant distance of the eye and nose, delighting the former and regaling the latter. It is so easy, too, to keep the surface of the ground loose and the weeds down by frequent hoeing under the heads. I have a short avenue of them in my garden which everyone admires. Some of the plants are thirty years old, yards in circumference, with hundreds of flowers on each. They form, indeed, an exquisite picture of floral beauty.—WM. PAUL, *Waltham Cross.*

NEW ROSES.

IN your last issue (page 563) the lasting qualities of our new Roses, Queen Mab and Sylph, are noticed as being fresh in colour and fragrance after having been in water for six days. As a raiser or introducer of new Roses, the durability of the flowers has always been a principal aim with me (see "Rose Garden," ninth edition, page 119), and those who possess my Princess Beatrice and Star of Waltham have flowers that will last for twelve or fourteen days. The transitoriness of single Roses is in my judgment a fatal bar to their extended use, either in garden or house decoration. Their lives are numbered not by days, but by hours. They are

"Like the snowfall in the river.
 A moment white, then melt for ever."

—WM. PAUL (of William Paul & Son), *Waltham Cross.*

A TRIO OF MARÉCHAL NIEL.

THE three giant Maréchal Niel Rose trees at Stockfield and Streetbridge, in Royton, belonging to Mr. Mellor and Mr. L. Baron respectively, which during the past few weeks have been envied by all true lovers of the queen of flowers, have ceased to bloom. Since the first Sunday in May up to within about a fortnight ago no fewer than 30,000 Roses have been cut from these trees. From Mr. Mellor's tree at Stockfield, which is the largest of the three, 15,000 Roses have been cut and sold. When the Roses were in bloom the glass houses in which they grow, and, in fact, the village of Streetbridge itself, were fragrant with the scent arising from them. The trees are massive, and the doorways leading to the summer houses would, but for the pruning

knife, soon get blocked by the profusion of the climbers. Hundreds of people visited Streetbridge when the Roses were in bloom, many coming from distant parts.—("Oldham Weekly Chronicle.")

PÆONIES AT ALTRINCHAM.

ON a recent visit to Messrs. Clibran & Sons' Nurseries I was fortunate enough to see their large collection of Chinese Pæonies, comprising many thousands in the height of perfection, the sight being a truly magnificent one. In the early days, when the old-fashioned crimson held undisputed sway, it would have been difficult to imagine the glories of an up-to-date collection, where for brilliancy of colour, remarkable combination, diversity of form, and freedom of flowering, Pæonies stand unrivalled for open beds and borders during the early summer months. What a change the hybridist has made in the appearance of the flowers!

As there are so many varieties catalogued, it becomes a tiresome task to make a choice, but for the benefit of those who would commence or care to add to their collection I have made a selection that I can strongly recommend, and which I hope may be helpful to many readers. Augustine d'Hour, purple scarlet, white reflection; Albert Crousse, silvery peach; Achille, delicate pink; Baroness James de Rothschild, silvery rose; Canari, white with yellow centre; Charles Binder, soft lilac purple, extra large flower; Countess de Montlavet, pink, centre white, mixed with carmine; Crimson King, intense crimson, exquisitely scented; Carlotta Grisi, rose, centre carmine and white, fragrant; Duchesse d'Orleans, pale rose, salmon centre; Duguesclin, deep rose suffused light pink; Etendard du Grand Homme, brilliant rose purple, fragrant; Eugène Verdier, rosy pink, blush centre, rose stamens, scented; festiva maxima, pure white, centre carmine, fragrant; Faust, blush white, centre chamois; flavescent, creamy white, rose scented; grandiflora rosea lutescens, guard petals pink spotted, carmine centre, sweet; Jeanne d'Arc, rosy pink, white and rose centre; Marie Lemoine, pure white, golden anthers; Monsieur Galland, blood red, shaded violet, extra large; plenissima rosea superba, bright rose, silvery white reflection, fragrant; Prince de Salm Dyck, rosy pink, light centre, large; Pauline, salmon rose, shaded, and tipped white; Taglioni, pink suffused white; Ville de Poisy, satiny rose, shading to white.

In single and Anemone-centred varieties a charming pair are Duke of York, Anemone-flowered, outer petals crimson, with golden and crimson stamens; and Duchess of York, white with thread-like stamens. Four others very fine are Crimson Perfection, with golden stamens; Delicatissima, pale pink, golden stamens; Lord Stamford, violet crimson, gold and crimson stamens; and Pride of Oldfield, an enormous flower, pink guard petals, sulphur stamens.

Their cultivation offers very few difficulties, the chief points being an open bed or border exposed to the sun, rich soil, liberal treatment in manure, both forked in and heavily mulched. Messrs. Clibran do not allow the roots too long without being disturbed, but take up and divide every three, four, or five years.—A VISITOR.

R.H.S. EXAMINATION.

I HAVE read (page 470) the answers to the first set of questions given at the recent examination in horticulture. I should like to say a few words about a few mistakes made in some of them by the writer "E. D. S.," and also to one made on page 500 by "A Reader."

"E. D. S." says, "Plants absorb by means of their roots organic and inorganic elements." But of the eleven he quoted as elements only six of them are such, the other five, which are as follows, potash, soda, lime, magnesia, and silica, being compounds. He left out altogether one of the most essential of all the elements—viz., phosphorus. "E. D. S." also claims that the spongioles are of equal importance for the absorption of water as root-hairs, but this is a mistake, for while the extremities of the roots are able to absorb a very small quantity of water, the root-hairs are great absorbers.

The fact that the tips of Calceolaria roots were eaten away by the grubs of the leather jacket does not prove that the plants drooped because the spongioles could not take up water, but rather on account of the growing points of the roots being destroyed no new growth could take place, consequently no new root-hairs, and the old ones soon die and the cell wall becomes almost impervious to water. His description of the Onion was rather wide. An Onion is a bulb, and not, as he said, an underground stem. The best definition of a bulb I know of is in Hooker's "Primer of Botany," and I think the following are the correct words used:—"A bulb is a stem with undeveloped internodes, covered with thick scaly leaves." The organ represented by an Onion is distinctly that of a stem and bud.

On page 500 "A Reader" says, "So far as science has made it clear it seems that root-hairs are the only mediums by which food is absorbed." This is only partly correct, for although the root-hairs are great absorbers of water and plant food, the other cells on the same part of the root which have not developed them absorb moisture. There are some plants under certain conditions do not develop root-hairs, and others only sparingly; if water and food could only be absorbed through the root-hairs how would these plants be nourished?

Let us now take Question 1.

(a) What substances do plants absorb by means of their roots? explain the process of absorption.

(b) What elements do plants obtain from the air, and by what agency do they obtain them?

(a) 1, Plants by means of their roots absorb water, in which are dissolved certain compounds containing two or more of the following elements:—Carbon, hydrogen, nitrogen, oxygen, sulphur, phosphorus, chlorine, silicon, potassium, sodium, magnesium, calcium, and iron. The first eight belong to the class of elements known as the non-metals, these in combination with hydrogen and oxygen form acids (*e.g.*, nitric acid, sulphuric acid). The other five are known as metals, they too combine with oxygen—sometimes with oxygen and hydrogen—to form bases (*e.g.*, potash, lime, &c.). Acids will readily combine with bases to form salts (*e.g.*, nitrate of potash and sulphate of lime), these salts being more or less soluble in water are soon taken into the plant.

2, If we pull a rapidly growing plant carefully out of the soil and examine its roots we find about an inch behind the apex of the root fibrils covered with delicate root hairs. These are developed as out-growths of the epidermal cell walls, each hair growing from a single cell. These hairs enable the roots to present a larger absorptive surface, and are the means by which nearly all the water and dissolved salts are taken into the plant. Those epidermal cells near the growing point which have not elongated to form root hairs—and there are many on some plants—can and do absorb moisture from the soil, but their superficial surface is very small in comparison with the root hairs. As the roots penetrate through the soil the outer cells of the root cap die, by their decay they give a trace of carbonic acid, which attacks some of the insoluble ingredients of the soil, which are then absorbed by the underlying cells. The absorbed water with the dissolved salts passes from cell to cell by a process known as osmosis or diffusion. The richer a cell is in protoplasm the stronger will be its power of attraction. The inner cells of a young growing root are full of protoplasm and make a strong centre of attraction, so that a current of water passes from outside to the more central part of the root, afterwards through the vessels of the wood into the leaves.

(b). 1, Plants obtain from the air large quantities of carbon and oxygen, traces of nitrogen and hydrogen. 2, The agency by which these elements are obtained from the air are the leaves, or any part of the plant coloured green by chlorophyll. Carbon and oxygen chemically combine to form the gas carbon dioxide, which is found in the atmosphere to the extent of four volumes in every 10,000 volumes of air. It is from this compound that plants obtain by means of their leaves the carbon and part of the oxygen they contain, but they can also absorb free oxygen from the atmosphere. Hydrogen and nitrogen chemically combine to form ammonia. Plants are able to make use of this gas if absorbed, but there never is more than a trace in the atmosphere.—W. D., *Turnford*.

ROSE AND HORTICULTURAL SHOWS.

ISLE OF WIGHT.—JUNE 25TH.

THE weather was beautifully fine for the annual exhibition of the above Society, which took place in the shady grounds of Westhill, Cowes, on June 25th, an appropriate and charming site for such a purpose, kindly lent by the Rev. A. W. Milroy. The exhibits were arranged in two tents, one being devoted to the open classes and amateur exhibits and the other to the cottagers. Thirteen of the thirty-two classes on the schedule were open, four of them to amateurs. The principal prizetakers were Messrs. B. R. and Frank Cant of Colchester, whose collections were of the first order. Last year Mr. F. Cant took the lead. This year the premier place was taken by Mr. Benjamin R. Cant, who carried off the first prizes in the principal open classes, and in his collection was the best Rose in the show, a beautiful example of Madame Cusin. The open classes were, speaking generally, keenly contested, and the show of blooms was excellent.

Features of the most praiseworthy character were presented in the competitions limited to the Isle of Wight and members of the Society. Mr. J. Lee White of East Cowes had the honour of taking the Queen's gold medal in the class for twelve distinct Roses, open to members of the Society. This was a very fine collection, prominent of the twelve being a good example of Marie Baumann, followed by the Earl of Dufferin, Prince Arthur, and Louis Van Houtte. In the same class the silver medal was awarded to Mr. G. Kent, and the bronze medal to Dr. J. B. Morgan. The Society's handsome silver challenge cup was taken by Sir J. Barrington Simeon, Bart., for a beautiful collection of twenty-four distinct varieties. Most of them were Teas, but the best flower among them was Eclair. He had, however, a close competitor in the Rev. G. E. Jeans, who was adjudged the second award, and Mr. G. Kent the third. Lady Mary Hamond-Græme secured the silver medal for twelve distinct Teas. Mr. J. Lee White was also the winner of a silver medal in one of the divisional classes. The best Rose of any sort shown from the Island proved to be one in the collection of the Rev. G. E. Jeans, a beautiful example of Etienne Levet. In the open-to-all amateurs' classes Messrs. F. W. Flight, A. Slaughter, and R. E. West were awarded the prizes in the order named for eighteen blooms.

Messrs. Keynes, Williams & Co. of Salisbury, sent, for exhibition purposes only, a varied collection of Lord Penzance's Hybrid Sweetbriars, an assortment of brilliant hues which attracted general attention and admiration. A fine show of miscellaneous hardy plants was made by Mr. B. Ladhams of Southampton (also a successful competitor in the open classes). Mr. J. O. Brook of Ryde displayed a

magnificent collection of Roses with foliage which received the first prize. Lady Harpur Crewe made a valued contribution to the flowers sent merely for decorative purposes. Mr. H. Morgan and Mr. W. Saunders of Cowes lent a number of foliage plants which added much to the appearance of the show.

THE ROYAL OXFORDSHIRE.—JUNE 25TH.

THE Oxford Commemoration Flower show was held in the gardens of Trinity College on the 25th ult. in brilliant summer weather. The most notable feature of these gardens is "the Lime tree walk," the rows on each side of which are formed of twenty-four trees, a number corresponding with that of the Fellows and Scholars formerly on the foundation the College. These trees, from being polled when in vigorous growth of many years since, now present a very picturesque appearance, their arching branches forming a perfect canopy, affording a most agreeable retreat from the summer sun. Advantage was taken of this situation to stage the numerous exhibits of vegetables, the whole of the other productions being accommodated in the two large marquees erected on the north lawn.

Amongst the most notable exhibits were the classes open to all England, the most important one for stove or greenhouse plants, nine varieties, attracting well-known competitors. Mr. James Cypher, Cheltenham, secured the premier position, being followed by Mr. J. Marriott, Coventry, and Mr. W. Vause, Leamington. For ornamental foliaged plants, six varieties, Mr. Cypher was again first; Mr. Vause second, and Mr. Marriott third. Show Pelargoniums were effectively staged by Mr. Chas. Turner, Slough, to whom the chief award was made; the second being taken by Mr. J. Johnson, Garsington. Mr. Cypher was the only exhibitor in the class for nine Orchids, his exhibit securing the first prize.

Roses made a very good display, being generally staged in a better condition than might have been anticipated considering the long-continued drought. For twenty-four varieties, three of each, Mr. George Prince, Oxford, was first; Mr. Jno. Mattock, New Headington, second; and Messrs. Townsend & Sons, Worcester, third. For twenty-four varieties, distinct, some excellent blooms were staged, particularly those from the Rev. J. H. Pemberton, Havering, Romford, who returned from Oxford with first honours. The second prize went to Messrs. Townsend and Sons, Mr. Jno. Mattock being third. For table decorations, Mr. Mattock, Mr. Vause, and Mr. C. Bates were the successful competitors, and were awarded the prizes in the order named. In the members' classes, stove and greenhouse plants, Orchids, Gloxinias, Pelargoniums, exotic and British Ferns were particularly noteworthy, as were the collection of hardy perennial flowers, Roses, and Pelargoniums.

Vegetables were so well shown in this division as to suggest their being unaffected by an adverse season. The special prizes offered by Messrs. Sutton & Sons, Reading, and Messrs. Webb & Sons, Stourbridge, for collections of six vegetables were awarded as follows:—Mr. W. Pope, Highclere Gardens, Newbury, was first in both cases; Mr. C. Brock, Witney, was second in the former and third in the latter; while Mr. Geo. Neal, Bampton, was third in the first named competition and second in the other; the fourth prize in the former being taken by Mr. R. Wadham, Steeple Aston.

Extra productions comprised a collection of vegetables from Mr. Deverill, Banbury; a group of Orchids from Mr. E. A. Bevers, Oxford; wild flowers and honey. Mr. Thomas Whillans, gardener to the Duke of Marlborough, staged a collection of Carnations, including named and seedling varieties of the perpetual flowering section, and was awarded a certificate of merit for a seedling yellow self named Admiration, the largeness of the flowers and its fine colour attracting a good deal of attention.

GLOUCESTER.—JUNE 27TH.

THE National Rose Society held a most successful meeting in the Spa Cricket Field, adjoining The Park. There were very few of the classes but what were strongly contested, and the general opinion was that we had seen the best Rose Show of this season, the great heat and drought having brought them on so rapidly. No bad stands were placed on the tables, and the quality ruled high all through the show.

NURSERYMEN'S CLASSES.

In the premier class for forty-eight varieties, single trusses, there were eight competitors, Messrs. Harkness & Sons, Bedale, Yorks, being placed first, closely followed by Mr. B. R. Cant, Colchester. Messrs. Harkness' back row consisted of Suzanne Marie Rodocanachi, Charles Darwin, Caroline Testout, Gustave Piganeau, Captain Christy, Comte de Raimbaud, François Michelin, Ulrich Brunner, Maurice Bernardin, Marie Verdier, Captain Hayward, Lady Mary Fitzwilliam, Alfred Colomb, Mrs. John Laing, Marie Baumann, and Her Majesty; in the second row were Duke of Edinburgh, La Boule d'Or, A. K. Williams, Comtesse de Nadaillac, Charles Lefebvre, La France, Dupuy Jamain, Pride of Waltham, Sir Rowland Hill, Madame Hoste, Comtesse de Ludre (silver medal bloom), Souvenir d'Elise, Horace Vernet, Jean Ducher, and Madame Victor Verdier; the front row being Madame Eugène Verdier, Fisher Holmes, Etoile de Lyon, Countess of Rosebery, Madame Gabrielle Luizet, Duchesse de Morny, Catherine Mermet, Sénateur Vaisse, Marie Rady, Francisca Krüger, Doctor Andry, Earl of Dufferin, Général Jacqueminot, Merveille de Lyon, Duchess of Bedford, and Queen of Queens. It was a magnificent stand, and did not contain a faulty bloom. In Mr. B. R. Cant's the following were very good:—Earl of Dufferin, Comtesse de Nadaillac, Suzanne Marie Rodocanachi,

A. K. Williams, Her Majesty, Caroline Testout, La France, Dupuy Jamain, and Lady Mary Fitzwilliam. Mr. H. Merryweather, Southwell, Notts, was placed third.

Seven competitors were found for twenty-four distinct single trusses, Messrs. Townshend & Son, Worcester, winning with even blooms, the best of which were Rubens, Gustave Piganeau, Marie Rady, and Charles Lefebvre. The second prize went to Messrs. Cooling & Sons, Bath. It contained splendid examples of Horace Vernet, A. K. Williams, and Xavier Olibo. Mr. F. J. Fletcher, Maidenhead, was third, and had one of the finest Her Majesty we have yet seen.

Trebles of twenty-four distinct varieties were fine, ten stands being staged. Messrs. Harkness & Sons were again first, showing A. K. Williams, Gabriel Luizet, E. Y. Teas, Horace Vernet, Her Majesty, Jean Ducher, Gustave Piganeau, Lady Mary Fitzwilliam, and Captain Hayward in fine form. Mr. B. R. Cant, Colchester, followed with a very clean and bright stand, but a little smaller; Messrs. D. Prior & Son, also of Colchester, running very close here, while none of the other seven stands was weak.

Twelve singles of any Rose except Tea or Noisette found Mr. B. R. Cant in front with Lady Mary Fitzwilliam; Messrs. Townshend & Son second with Mrs. John Laing; and Mr. Merryweather third with Ulrich Brunner.

AMATEURS' CLASSES.

In an extra class for twelve single trusses, open to all amateurs, and in which there were sixteen exhibitors, the Rev. J. H. Pemberton, Havering-atte-Bower, was first with Ulrich Brunner, Gabriel Luizet, A. K. Williams, Her Majesty, Horace Vernet (a grand specimen); François Michelin, Marie Baumann, Marchioness of Londonderry, Earl of Dufferin, Gustave Piganeau, Caroline Testout, and Auguste Rigotard.

Twenty-four distinct, open to all amateurs, Mr. Drew, Ledbury, won against nine others. His best blooms were Her Majesty, Ulrich Brunner, François Michelin, and Innocente Pirola. Here, also, Mr. E. B. Lindsell was a good second, and had some grand blooms, particularly Comte Raimbaud, Her Majesty, and Duke of Wellington. Rev. J. H. Pemberton, Havering-atte-Bower, was third.

In the class for eighteen singles, open only to those who grow less than 2000 plants of recognised show varieties, Mr. J. Parker, Hitchin, was first, some of his best blooms being La France, Madame Gabriel Luizet, Souvenir d'Elise, Etoile de Lyon, and Duchesse de Vallombrosa. Mr. E. Mawley, Berkhamstead, was second; and Mr. W. Colin Romaine, The Priory, Old Windsor, third. For six distinct varieties three of each, one short of a dozen competitors were found. Mr. E. B. Lindsell's trebles were very bright and clean, consisting of A. K. Williams, Her Majesty, Horace Vernet, La France, Louis Van Houtte, and Mrs. J. Laing. Mr. W. Drew, Ledbury, was a capital second; and Mr. A. Tate, Leatherhead, third. A class for twelve trusses, confined to grower, of less than 1000 plants, found Mr. Conway Jones, Hucclecote; Mr. O. G. Orpen, Colchester; and Mr. J. Parker, Headington, in the order named.

A class was made for growers of less than 500 plants, consisting of six single trusses. Mr. G. Moules, Hitchin, was first with La France, Charles Lefebvre, Innocente Pirola, Dr. Andry, Merveille de Lyon, and A. K. Williams being the varieties. Mr. H. P. Landon, Brentwood, and Mr. R. F. Hobbs, Worcester, were second and third.

For six trusses of any Rose except Teas or Noisettes, and open to all amateurs, the first position went to Horace Vernet, from Mr. E. B. Lindsell; Mr. W. Drew, Ledbury, being second with Her Majesty; and the Rev. J. H. Pemberton third with Caroline Testout, three of which were extra good. Twelve bunches, distinct, but with not more than seven trusses to a bunch, and arranged on a space 4 feet by 3 feet, only brought one exhibitor—Mr. H. V. Machin, Gateford Hill, Worksop.

TEA AND NOISETTE SECTION.

These were excellent throughout, cleanliness—so great a point with Teas—being very remarkable. In the nurserymen's class for twenty-four, single trusses, Messrs. Prior & Son, Colchester, staged a grand exhibit. In the back row were Boule d'Or, Niphetos, Ethel Brownlow, Rubens, Catherine Mermet, Madame Margottin, Ernest Metz, and Comtesse de Nadaillac. Middle row: Souvenir d'Elise, Maréchal Niel, Alba Rosea, Madame Hoste, Souvenir d'un Ami, Souvenir de S. A. Prince, Madame Cusin, and Innocente Pirola; and the front row, Edith Gifford, Francisca Krüger, Madame de Watteville, Caroline Kuster, The Bride, Amazon, Marie Guillot, and Marie Van Houtte. All of these were good in every way. Mr. Frank Cant, Colchester, was second, and among others had the medal Tea in Ethel Brownlow; while Mr. H. Merryweather, Southwell, Notts, had a magnificent Niphetos in his third prize stand. Twelve distinct singles: First, Mr. S. Tressider, Cardiff; Messrs. Townshend and Sons, Worcester, and Messrs. J. Jefferies & Sons, Cirencester, following. In the first prize stand Catherine Mermet, Madame Cusin, La Boule d'Or, and The Bride were most noteworthy.

Amateurs.—Seven good stands were put up in the premier class of eighteen singles, Mr. O. G. Orpen, Colchester, winning, the best of which were Cleopatra, Madame H. Jamain, Francisca Krüger, Madame Cusin, Maréchal Niel, Souvenir d'un Ami, and Ernest Metz. The Rev. A. Foster Melliar, Sproughton Rectory, Ipswich, was a good second, and staged the silver medal Tea in La Boule d'Or, which was a magnificent bloom. A. Hill Gray, Esq., Bath, was a close third. In a class of nine single trusses, for growers of less than 500 plants, there were eight competitors, Mr. R. H. Langton, Hendon, winning with Ernest Metz, Cleopatra, Edith Gifford, Innocente Pirola, Madame Cusin,

Niphetos, Ethel Brownlow, Comtesse de Nadaillac, and Madame de Watteville. Mr. W. Boyes, Derby, was second; and Mr. A. Tate, Leatherhead, third. For growers of less than 200 plants, Mr. George Moules, Hitchin, was well in front, Comtesse de Nadaillac, Innocente Pirola, and Caroline Kuster being especially good. Mr. R. F. Hobbs, Worcester; and Mr. H. P. Landon, Brentwood, followed.

In an extra class of six trebles, open to all amateurs, the Ipswich Teas were well to the front, the Rev. A. Foster Melliar's examples of Maréchal Niel, Souvenir d'Elise Vardon, Madame Hoste, Comtesse de Nadaillac, Caroline Kuster, and Marie Van Houtte being grand. Mr. Conway Jones, Hucclecote; and Dr. S. P. Budd, Bath, came in the order named. For six single trusses of any Tea or Noisette the Rev. A. Foster Melliar won with Souvenir d'Elise Vardon, the Rev. F. R. Burnside was second with Edith Gifford, and Mr. W. Boyes third with Innocente Pirola.

OPEN CLASSES.

Twelve varieties, three of each, brought out some of the best Teas we have seen, Mr. B. R. Cant winning with La Boule d'Or, Madame Cusin, Innocente Pirola, and Souvenir de S. A. Prince as his best; Mr. Frank Cant was second, and Messrs. D. Prior & Son third. All three stands coming from Colchester. There was an excellent treble of Luciole in Messrs. Prior's stand. Messrs. Prior & Son were first for twelve trusses of any Tea or Noisette, showing Marie Van Houtte in superb form. Mr. F. Cant took second with Catherine Mermet; while Messrs. Harkness & Sons, with Jean Ducher, shared equal third with Marie Van Houtte from Messrs. Townshend.

GARDEN ROSES.

As usual these were a great attraction, but the early and hot season, as well as severe winter, evidently affected many of the stronger growers, and which only bloom upon old wood.

In a class of thirty-six bunches, Mr. C. Turner, Slough, was placed first with a very pretty stand, Rugosas, Persian Yellow, Crimson Rambler, Mosses, Macrantha, L'Idéale, Hébés Lip, and Moschata alba, being very good. Mr. D. Prosser, Gloucester, made a good second; and Messrs. Paul & Son, Cheshunt, third. Mr. A. Tate, Leatherhead, was first for eighteen similar bunches from amateurs. Both this and the second from Mr. O. G. Orpen, Colchester, were very showy and good. Mr. H. V. Machin, Gateford Hall, Worksop, had some really beautiful Mosses in his third. A reserved class for six bunches found the Rev. J. H. Pemberton in front, a semi-double form of Polyantha, also the old Red Provins and Pissardi, were noteworthy here. Mr. G. Ough, Hereford, was second.

A display of Roses, arranged on a space not exceeding 6 feet by 3 feet, was well put up by Mr. H. Whitehead, Heatherville Nursery, Gloucester, who formed the N.R.S. initials with Edith Gifford, Marie Van Houtte, and Lamarque. A good box of Turner's Crimson Rambler was staged here.

Local classes were good, but could not come up to the standard in the other classes. Mr. Conway Jones, Hucclecote, won the silver cup for eighteen distinct singles, and Mr. T. A. Washbourne, Hucclecote, was placed next. A silver medal for twelve varieties was won by Mr. F. J. Fulford, Mr. Gambier Parry and Mrs. Leddon following. A challenge plate, presented by the Rev. F. R. Burnside, for twelve Teas or Noisettes was taken by Mr. T. A. Washbourne, while Mr. Conway Jones won the silver medal for six Teas or Noisettes. A silver medal for twelve single trusses went to Mr. T. Thorpe, Hilddrop, near Gloucester, and the first prize for six blooms to Mr. G. Pratt, 39, Park End Road.

The Corporation of Gloucester presented a silver salver for twelve distinct singles, which was won by Mr. Conway Jones with a grand exhibit; a piece of plate for second; and silver medal as third went to Mr. C. Brown, Saints' Bridge House, and to Mr. T. Washbourne, Hucclecote, respectively. A silver medal was offered for twelve varieties grown by cottagers, and won by Mr. E. C. Hopeton, Hucclecote. Mr. J. Middecote, Malson, was first for six singles; while the bronze medal in the cottagers' division was won by Mr. Edwin Poole, Upton St. Leonards; and Mr. F. W. Bolton had the best single truss in Mrs. John Laing.

The hybrid Sweet Briars from Messrs. Keynes, Williams & Co. were good and attractive. Edith Bellenden, a light pink; Catherine Leyton, also light; and Jeannie Deans are most promising. The last named is very bright, semi-double, and will be one of the best for decoration. Messrs. Dartnell & Co., Cheltenham, had boxes of cut Roses, and Messrs. J. Laing & Son some Begonias.

The silver medal for best Hybrid Perpetuals in the amateurs' classes went to the Rev. F. R. Burnside for Horace Vernet. The best Tea or Noisette was Rev. A. Foster Melliar's grand La Boule d'Or. Among the nurserymen Comtesse de Ludre won for Messrs. Harkness & Sons, a truly beautiful and perfect flower, while Mr. Frank Cant's Ethel Brownlow carried off a similar honour from the Teas.

WINDSOR.—JUNE 29TH.

THE fourth annual exhibition of the Windsor Rose and Horticultural Society was held on Saturday. Rain threatened in the morning, but after slight showers the weather broke out fine and bright. Roses were the chief feature, the principal classes being well filled with creditable exhibits. The effect of one tent, set apart for miscellaneous groups, was very pleasing.

The premier prize for thirty-six Roses was awarded to Mr. B. R. Cant, Colchester, for a superb exhibit composed of excellent blooms of Lady Mary Fitzwilliam, Duke of Fife, Suzanne Marie Rodocanachi,

Marguerite Boudet, A. K. Williams, Marchioness of Dufferin, Le Havre, La France, Madame Delville, Maurice Bernardin, Maréchal Niel, Etienne Levet, Prince Arthur, Boieldieu, Madame Watteville, Dr. Andry, Heinrich Schultheis, La Boule d'Or, Gustave Piganeau, White Lady, Ulrich Brunner, Mrs. John Laing, Horace Vernet, Her Majesty, Earl of Dufferin, Madame Gabriel Luizet, Camille Bernardin, Comtesse de Ludre, Madame Eugène Verdier, Dr. Sewell, Marchioness of Downshire, Jean Soupert, Medea, Marie Baumann, and Caroline Testout. Messrs. Harkness & Sons, Bedale, were second with blooms of but little less merit, and the third prize fell to Messrs. D. Prior & Son, Colchester.

The first prize for eighteen Tea Roses was gained by Messrs. D. Prior and Son with good blooms of Souvenir d'Elise, Ethel Brownlow, Niphetos, Cleopatra, The Bride, Catherine Mermet, Caroline Kuster, Bridesmaid, Edith Gifford, Souvenir d'un Ami, Medea, Madame Cusin, Madame Bravy, Marie Van Houtte, Souvenir de S. A. Prince, Comtesse de Nadaillac, Innocente Pirola, and Maréchal Niel. Mr. Frank Cant, Colchester, was a good second, and Mr. B. R. Cant, Colchester, third.

For twelve Roses, distinct, the first prize was awarded to Rev. J. H. Pemberton, Messrs. Harkness & Sons were second, and Mr. B. R. Cant third. First honours for eighteen blooms fell to Rev. J. H. Pemberton for an excellent stand; Mr. J. G. Fowler was a creditable second, and Mr. T. Gutteridge, gardener to C. Romaine, Esq., followed with the third. For six single trusses the Rev. J. H. Pemberton was again first, Mr. Machin second, and Mr. Briginshaw third. For twelve Teas Mr. Machin was an easy first, Mr. R. E. West second, and Mr. J. Gutteridge, gardener to Mrs. J. Heneage, third.

In the classes open to local amateurs the first prize for eighteen blooms fell to Mr. A. Sturt, gardener to N. L. Cohen, Esq., the second to Mr. E. Johnson, gardener to A. Gilliot, Esq., and the third to Mr. T. Tomlin. For twelve blooms Mr. Sturt was again first, Mr. Winkfield, gardener to Miss Bailey, Denton, second, and Mr. J. Williams, gardener to F. Ricards, Esq., third. For six distinct blooms Mr. C. A. Johnson was first, Mr. H. Briginshaw second, and Mr. T. Elisha third.

For six Hybrid Perpetuals Mr. A. Gillies, gardener to Sir Robert Harvey, Bart., was a good first. Mr. D. Paxton, gardener to Hon. C. S. Isby, second; and Mr. Winkfield third. The first prize for six Teas was won by Mr. A. Sturt, second Mr. T. Elisha, and third Mr. A. F. Govett. Mr. T. Gutteridge was a capital first for a basket of Roses, Mrs. Osman second, and Mr. F. Holme, gardener to Mrs. H. Stevenson, third. Mr. T. Elisha was first for six bunches of garden Roses. Mr. A. Gillies was first for a group of plants. The exhibition was tastefully arranged, and consisted of Gloxinias, Orchids, Francoas, and others arranged with Maidenhair Ferns. Mr. A. Sturt was second for an exhibit of less merit, and Mr. T. Williams third. For six specimen plants Mr. A. Gillies was again first. Mr. J. Gutteridge was first for six Zonal Pelargoniums, and Mr. Chalvey, gardener to Mr. H. Austin, second. Mr. D. Paxton, gardener to the Hon. C. S. Isby, was first for Fuchsias, and Mr. J. Williams, gardener to F. Ricards, Esq., first for Begonias. For table plants Mr. A. Gillies was first, and for Ferns the first prize fell to Mr. D. Paxton.

The first prize for two bunches of black Grapes fell to Mr. T. Osman, gardener to L. Baker, Esq., for well coloured bunches; Mr. A. Sturt was second; and Mr. T. Marcham, gardener to Miss Arnott, third. For two bunches white Grapes Mr. Sturt was first, Mr. Osman second, and Mr. Gillies third. Mr. J. G. Mowbray, gardener to Major Legge, Fulmer, was first for six Peaches; Mr. T. Elisha, gardener to Mrs. Irving, second; and Mr. T. Osman third. The first prize for six Nectarines fell to Mr. Sturt, the second to Mr. J. G. Mowbray, and third to Mr. T. Osman. For two dishes of Strawberries Mr. T. Elisha was first; Mr. Ottermead, gardener to — Young, Esq., second. The first prize (given by Messrs. Sutton & Sons, Reading) for a brace of Melons was won by Mr. W. Wicks, gardener to Mrs. Burton. Vegetables were well shown, the first for a collection going to Mr. D. Paxton, the second to Mr. T. Osman, and third to Mr. T. Tomlin, gardener to Mrs. Goldingham. For Tomatoes Mr. Lane, gardener to Miss A. S. Ridge, was first; and Mr. G. Quelch second. For the prize offered by Messrs. J. Carter & Co., Holtorn, for collection of vegetables Mr. Quelch was awarded premier honours. Mr. T. Tomlin was first for a brace of Cucumbers.

Miscellaneous exhibits were well represented, and amongst them an excellent group of flower and foliage plants from the Royal Gardens was especially conspicuous. The plants were arranged with taste, and amongst others were noticed Crotons Weismannii, Majestic, and angustifolius; Hydrangeas, Lilium Harrisii, Gladiolus The Bride, Gloxinias, Marguerites, Spiræas palmata and astilboides, with Palms, Alocasias, Crassulas, Ferns, and Panicum variegatum. Messrs. John Laing and Sons, Forest Hill, sent an elegant collection of plants, consisting of Begonias, Crotons, Caladiums, Palms, Gloxinias, Carnations, Anthuriums, Odontoglossums, arranged with Ferns and other foliage plants. Messrs. Jas. Veitch & Sons, Chelsea, were well represented by a large and effective collection of hardy herbaceous flowers and Roses. Amongst the former were Delphiniums in variety, Phloxes, Heuchera sanguinea, Veronica latifolia, Campanulas latifolia and latifolia alba, Aquilegia chrysantha, Tropæolum polyphyllum, Centaurea montana rosea, and many others. Roses were good, and consisted of Fisher Holmes, La France, Ulrich Brunner, and others.

From Mr. Charles Turner, Slough, came a tasteful exhibit consisting of Carnations and baskets of Roses arranged with Maidenhair Fern. Amongst the latter were Turner's Crimson Rambler, Baroness Rothschild, Prince Arthur, Ulrich Brunner, and others. The same firm also sent a group of Fancy Pelargoniums. Messrs. Wm. Cutbush & Son, Highgate, exhibited a showy bank of Malmaison Carnations.

Messrs. John Peed & Sons, Norwood, sent a fine group of mixed flower and foliage plants, in which were included Crotons, Caladiums, Gloxinias, Hydrangeas, and Liliums. Mr. W. H. Tibbs, Windsor, exhibited floral designs in the shape of wreaths and bouquets. Mr. T. S. Ware, Tottenham, was represented by an excellent group of double and single Begonias of a great diversity in colour. Amongst others were Beauty of Belgrove, Picotée Samuel Pope, Champion, Rosebud, and Snowdon. Hardy flowers in variety came from Mr. B. Ladhams, Southampton, and Messrs. George Jackman & Son, Woking, staged excellent Roses in variety, and also a diversified collection of hardy flowers. Floral designs of great beauty were shown by Mr. G. Phippen, Reading. Mr. J. Smith, Windsor, sent a group of plants, and from Mr. Henry Eckford, Wem, came an exquisite collection of Sweet Peas.

[It was with extreme difficulty that we were able to decipher the names of many of the prizewinners, and it would be beneficial to visitors if the cards in future could be written more plainly.]

SUTTON.—JULY 2ND.

THE fourteenth exhibition of the Sutton Rose Society was held on Tuesday last. Most of the classes were open only to members of the Society and amateurs residing in the neighbourhood, though several were open to nurserymen from any part of England. The blooms were all arranged on long tables in the Public Hall, and the lines of excellent flowers produced a pleasing effect, any degree of sameness that might have been caused by this being done away with by several groups of miscellaneous flower and foliage plants, together with a collection of hardy flowers staged by Messrs. John Peed & Sons, Norwood. Many of the classes were well filled, and the Judges in some instances must have had difficulty in awarding the prizes. A pleasing feature in the show was the ladies' section, in which table decorations, baskets of flowers, bouquets, sprays, and buttonholes were shown, much to the credit of the exhibitors.

In the premier class, open to nurserymen, for thirty-six blooms, first honours were awarded to Mr. B. R. Cant, Colchester, for an excellent stand of flowers consisting of Ulrich Brunner, Boieldieu, Marie Rady, Pride of Waltham, Horace Vernet, Her Majesty, Duke of Fife, Madame G. Luizet, Countess of Oxford, Caroline Testout, Gustave Piganeau, Marie Finger, Marquis de Litta, Souvenir de S. A. Prince, Prince C. de Rohan, Maréchal Niel, Madame Cusin, Captain Hayward, Marchioness of Dufferin, Maurice Bernardin, Comtesse de Nadaillac, Dr. Sewell, Cleopatra, A. K. Williams, Mrs. John Laing, Countess of Rosebery, Lady M. Fitzwilliam, Fisher Holmes, Marchioness of Downshire, Beauty of Waltham, La Boule d'Or, Jean Soupert, Marie Verdier, Etienne Levet, and Alfred Colomb. Mr. Frank Cant, Colchester, was second with blooms of little less merit, and Messrs. D. Prior & Son, Colchester, third.

For twelve Teas or Noisettes Mr. Frank Cant was a decided first with good examples of Honourable Edith Gifford, Ethel Brownlow, Caroline Kuster, Catherine Mermet, Souvenir d'Elise Vardon, Comtesse de Nadaillac, Amazon, Madame Cusin, The Bride, Madame de Watteville, Innocente Pirola, and Cleopatra. The second prize fell to Mr. B. R. Cant; and the third to Messrs. D. Prior & Son.

In the principal class open to amateurs for twenty-four blooms, distinct varieties, first honours were won by Mr. J. G. Fowler, his stand being made up of compact blooms of Earl of Dufferin, Pride of Waltham, Duchesse de Caylus, Mrs. J. Laing, Marie Rady, La France, Star of Waltham, Her Majesty, Comte de Raimbaud, Heinrich Schultheis, Charles Darwin, E. Y. Teas, Ulrich Brunner, Madame Gabriel Luizet, Horace Vernet, Gustave Piganeau, Fisher Holmes, Sénateur Vaisse, Grand Mogul, Pierre Notting, A. K. Williams, Duke of Connaught, and François Louvat. Mr. Alfred Slater was a close second.

For eight varieties, three trusses of each, Mr. J. G. Fowler was again first with blooms of Le Havre, Her Majesty, Madame Victor Verdier, Duchess of Bedford, Mrs. John Laing, Ella Gordon, Marie Rady, and La France; Mr. Alfred Slaughter following with second prize.

For twelve distinct blooms the first prize fell to Mr. E. M. Bethune for flowers of Marie Baumann, Earl of Dufferin, Lady Arthur Hill, Louis Van Houtte, La France, A. K. Williams, Madame Prosper Laugier, Madame Gabriel Luizet, Xavier Olibo, Charles Lefebvre, Countess of Rosebery, and Duchess of Bedford. The second prize fell to Mr. G. C. Burnand, and the third to Mr. R. E. West. For six varieties, three blooms of each, Mr. R. E. West was first with La France, Madame Victor Verdier, Merveille de Lyon, Ulrich Brunner, Madame Gabriel Luizet, and Marie Rady. The second prize was won by Mr. E. M. Bethune, and the third by Mr. P. G. Burnand. For six Teas Mr. E. M. Bethune was first with Princess of Wales, Souvenir de Thérèse Levet, Anna Ollivier, Jean Ducher, The Bride, Ernest Metz, Caroline Kuster, Innocente Pirola, and Catherine Mermet. Mr. R. E. West followed with second.

For nine distinct blooms Mr. J. Bateman was first with Her Majesty, Ulrich Brunner, Mrs. J. Laing, Earl of Dufferin, François Michelin, Duchess of Bedford, Merveille de Lyon, Dr. Andry, and Marchioness of Dufferin; Mr. R. H. Langton being second, and Mr. M. Hodgson third. Mr. R. H. Langton was awarded first prize for six blooms with Her Majesty, Mrs. J. Laing, Madame Gabriel Luizet, Dupuy Jamain, Ernest Metz, and Madame de Watteville. Mr. M. Hodgson was second, and Mr. J. Bateman third. Mr. R. H. Langton was again first for six Teas with Caroline Kuster, Catherine Mermet, Souvenir d'un Ami, Souvenir de S. A. Prince, Innocente Pirola, and Ethel Brownlow. Mr. J. Bateman was second, and Mr. C. C. Nicholls third.

For twelve blooms of any one variety, Mr. E. M. Bethune was first with excellent examples of Madame Gabriel Luizet, Mr. A. Slaughter being second, and Mr. F. Hughes third. For six trusses of one kind Mr. H. B. Kenjan was first with Her Majesty; Mr. J. Wall-Row, being second. For four varieties, three blooms of each, first honours fell to Mr. J. Bateman for Her Majesty, Mrs. John Laing, François Michelin, and Horace Vernet; Mr. C. C. Nicholls being second.

In the class for amateurs, open only to those residing within a given radius of Sutton, the first prize for twelve distinct blooms was won by Mr. J. Wall-Row, for a stand which included good flowers of Duke of Wellington, Her Majesty, Victor Verdier, A. Colomb, and Fisher Holmes. Mr. R. W. Miller was a close second, and Mr. W. Hooper third. For nine distinct blooms Mr. W. F. Hughes was first with flowers of Ulrich Brunner, Her Majesty, Star of Waltham, Marie Baumann, Marie Rady, Merveille de Lyon, Madame Gabriel Luizet, A. K. Williams, and Marquise de Castellane. The second prize fell to Mr. R. W. Miller, and the third to Mr. W. Hooper.

For six distinct blooms Mr. R. W. Miller was first with La France, Comtesse de Nadaillac, Baroness Rothschild, Madame G. Levet, E. Y. Teas, and Eugène Verdier. Mr. W. Hooper was a good second, and Mr. F. Hughes third. Mr. T. Hughes was first for three Hybrid Perpetual blooms; Mr. T. B. Fisher, second; and Mr. R. S. Farden, third. Mr. G. H. Chadburn was first for three Teas. The winner of the ladies' challenge cup and silver medal for six distinct trusses was Mr. R. W. Miller.

In the classes set apart for ladies only, dinner table decorations and floral designs were shown in a separate room, and proved exceedingly effective. For table decoration Miss M. W. Fisher was awarded first prize, Mrs. Ernest Wilkins second, and Mrs. A. Buntree third. For a basket of Roses Miss M. A. Fisher was first, the same lady also gaining first honours for a bouquet of Roses. Other prizewinners for sprays, buttonholes, and designs were Miss Hilda Heiron, Mrs. T. Detman, Mrs. C. F. Atkins, and Miss Emily Palmer.

MAIDSTONE.—JULY 2ND.

ON Tuesday last the annual show of the Maidstone Rose Club was held in the Church Institute of that town. Floriculturally the exhibition could not be termed a great success, but we trust it was better financially. All the classes were limited to members of the Club, and this of course tends to greatly reduce the number of exhibitors, as doubtless with open classes growers from a distance would be represented. The number of blooms staged was comparatively small, and the prizes were divided amongst a very few. As a rule the quality was fair, though some very poor Roses were staged. We were glad to see Mr. George Bunyard out again and acting as one of the judges, and trust he will now regain strength.

Mr. F. Knight, Bobbing Court, Sittingbourne, was placed first in the class for twenty-four distinct, a cup given by the Mayor of Maidstone being the first prize in the class. Most of the blooms were fresh and clean, but a few were weak and lacked substance and colour. The blooms comprised—Back row: Ulrich Brunner, Souvenir de Paul Neyron, Countess of Rosebery, Comtesse de Nadaillac, Dr. Andry, Innocente Pirola, Madame Gabriel Luizet, and Madame Bravy. Middle row: Marie Van Houtte, Fisher Holmes, Princess of Wales, Her Majesty, Edith Gifford, Marie Rady, Madame Hippolyte Jamain, and Susanne Marie Rodocanachi. Front row: Edith Brownlow, Madame de Watteville, Marie Finger, Earl Dufferin, Ernest Metz, Mrs. J. Laing, Caroline Kuster, and Eugène Fürst. Mr. R. E. West, Reigate, was second with a stand of small but fresh and evenly coloured flowers. Amongst the best were Ulrich Brunner, Dupuy Jamain, La France, Comte Raimbaud, The Bride, and Her Majesty. Mr. R. J. Balston, Springfield, Maidstone, was a poor third.

Colonel Pitt was the only exhibitor in the class for twenty-four distinct, and was adjudged the premier prize. The blooms were as a rule good, though some were past their best. The stand would have looked decidedly better had there been more light-coloured blooms used. The varieties represented were—Back row: Her Majesty, Louis Van Houtte, J. S. Mill, Marie Verdier, Etienne Levet, Emilie Hausberg, and Marie Baumann. Middle row: Comtesse d'Oxford, Mons. E. Y. Teas, Countess of Rosebery, Duke of Wellington, La France, Maurice Bernardin, Dupuy Jamain, and Lady A. Hill. Front row: Marechal Vaillant, Madame Gabriel Luizet, François Michelin, Beauty of Waltham, Gustave Piganeau, Earl of Dufferin, and Merveille de Lyon.

For twelve Teas, distinct, Colonel Pitt was again the only competitor, and received the second prize. The blooms were small, and many of them loose. Madame Tarta, Cleopatra, Comtesse de Nadaillac, Madame Hoste, Catherine Mermet, Caroline Kuster, Princess of Wales, Hon. Edith Gifford, Princess Beatrice, Innocente Pirola, Madame H. Jamain, and Marie Van Houtte were shown.

In the class for eight trebles Col. Pitt was again in the premier position with Marie Rady, Mrs. J. Laing, Madame Gabriel Luizet, John S. Mill, Merveille de Lyon, Madame Eugène Verdier, Her Majesty, and Dupuy Jamain.

There were six competitors in the class for twelve distinct varieties for growers of not more than 1000 plants, Mr. H. Foster, Ashford, being placed first with an even stand of well coloured flowers. The varieties comprised Dupuy Jamain, Marquise de Castellane, Ulrich Brunner, Mrs. J. Laing, Eugène Fürst, Marguerite Brassac, Marie Rady, Duchess of Bedford, Earl of Dufferin, Etienne Levet, Marie Baumann, and Abel Carrière. The Rev. H. B. Byron, Lympne, near Hythe, was a fine second with a stand comprising handsome blooms of Ulrich Brunner, A. K. Williams, Marie Verdier, and Eugène Fürst. Mr. R. J. Balston was a fair third.

For six Teas, distinct, three stands were staged, the Rev. H. B. Byron taking first position with Souvenir d'un Ami, Etoile de Lyon, Marie Van Houtte, Caroline Kuster, La Boule d'Or, and Comtesse de Nadaillac. Messrs. F. J. Knight and R. J. Balston were second and third as named.

Mr. H. Foster secured the premier award for four trebles with Marie Rady, Abel Carrière, Dupuy Jamain, and Marquise de Castellane. The Rev. H. B. Byron was a weak second, and R. J. Balston a fair third.

The class for nine distinct varieties was open only to growers of less than 300 plants, and brought four competitors. Mr. C. Foster was first with François Michelin, Madame Gabriel Luizet, Heinrich Schultheis, Annie Wood, Caroline Testout, Le Havre, Ulrich Brunner, Madame de Watteville, and Prince Arthur. Mrs. W. Haynes was second, and Mr. H. Monckton third.

For six Teas, subject to the restriction named in the previous class, Mr. H. Monckton was an easy first with Anna Ollivier, Ethel Brownlow, Marie Van Houtte, Madame Bravy, Comtesse de Nadaillac, and Madame Willermoz. Mrs. W. Haynes was a poor second, and Mr. W. H. Day a weak third.

Six stands were shown in the open class for six trusses of any one variety, Mr. R. J. Balston being placed first with Mrs. J. Laing; Colonel Pitt second with Caroline Kuster; and Mr. H. Foster third with Madame Gabriel Luizet.

There were two exhibits in the class for six trebles of Teas, open to all. Colonel Pitt was placed in the chief position with Princess of Wales, Caroline Kuster, Souvenir de T. Levet, Madame Hoste, Marie Van Houtte, and Comtesse de Nadaillac. Mrs. Lee Smith was a poor second. Mr. R. J. Balston and Colonel Pitt secured the prizes in the class for six bunches of Roses in distinct kinds with charming exhibits.

Exhibits "not for competition" were confined to two, Colonel Pitt staging a very fine box of Roses, comprising excellent examples of a good number of varieties, and Messrs. G. Bunyard & Co., Maidstone, who showed two boxes of Roses. All these blooms were fresh and well coloured, and comprised Madame Gabriel Luizet, Marie Baumann, Suzanne Marie Rodocanachi, Comtesse d'Oxford, Beauty of Waltham, Heinrich Schultheis, Adelina Viviani Morel (exceptionally beautiful), and numerous others.

CROYDON.—JULY 3RD.

THE Croydon Horticultural Society held its annual show in the grounds of Brickwood House on the above date, and, as is customary, there was a brilliant display. Roses formed the centre of attraction, though there were perhaps hardly such large numbers shown. As a rule the quality ranged high, many superb blooms being staged. Foliage and flowering stove and greenhouse plants occupied one large marquee, and were generally of excellent quality. In addition to these there were good stands of fruit, vegetables, and flowers. The prize-winners in the principal Rose classes are appended, the time at our disposal previous to going to press precluding our giving a detailed report.

The chief class was for forty-eight Roses distinct, in which there were two competitors. Mr. B. R. Cant, Colchester, was first with superb blooms of—Back row: Gustave Piganeau, Heinrich Schultheis, Marie Rady, Caroline Testout, Camille Bernardin, Lady Mary Fitzwilliam, Comtesse d'Oxford, Boieldieu, Maurice Bernardin, Countess of Rosebery, J. S. Mill, Marchioness of Londonderry, Ulrich Brunner, Marquise de Litta, Alfred Colomb, and Her Majesty. Middle row: Baroness Rothschild, Madame Bois, Madame de Watteville, Prince Arthur, Innocente Pirola, Jeannie Dickson, Horace Vernet, Duke of Fife, Comtesse de Nadaillac, Marie Baumann, La Franchiseur, Duchesse de Morny, Maréchal Niel, Abel Carrière, Madame Gabriel Luizet, and Charles Lefebvre. Front row: Etienne Levet, Madame Hoste, Thomas Mills, Ernest Metz, Fisher Holmes, Mrs. John Laing, Annie Laxton, Marchioness of Downshire, Dr. Sewell, Marie Verdier, Victor Hugo, The Bride, Lady Arthur Hill, White Lady, Dupuy Jamain, and Madame Cusin. Mr. Frank Cant, Colchester, was a good second.

Mr. B. R. Cant was the only competitor in the class for twenty-four trebles, and was adjudged the first prize for an even exhibit of well-coloured blooms. Amongst the most noticeable varieties were Alfred Colomb, Annie Laxton, Madame Gabriel Luizet, Jeannie Dickson, Gustave Piganeau, Caroline Testout, and White Lady.

Five stands were staged in the class for twenty-four distinct single trusses, Messrs. G. & W. H. Burch, Peterborough, receiving the premier award for a beautiful exhibit. The varieties staged were—Back row: Her Majesty, Horace Vernet, Jeannie Dickson, Duke of Fife, Marchioness of Dufferin, Charles Lefebvre, Mrs. John Laing, and Alfred Colomb. Middle row: Marie Rady, Niphetos, Xavier Olibo, Madame Hoste, Earl Dufferin, Ulrich Brunner, Marie Baumann, and Caroline Testout. Front row: Lady Mary Fitzwilliam, Prince Arthur, Innocente Pirola, Fisher Holmes, Madame de Watteville, Louis Van Houtte, Exposition de Brie, and Duke of Connaught. Messrs. Townsend and Sons, Worcester, were second with a stand containing a few weak flowers, and Messrs. D. & W. Croll, Dundee, a good third.

Mr. Frank Cant was a splendid first in the class for eighteen distinct Teas. Amongst the best were Madame de Watteville, La Boule d'Or, The Bride, Niphetos, Amazone, and Czarina. Mr. B. R. Cant was a good second, and Messrs. D. & W. Croll third.

For twelve blooms of any one variety Mr. Frank Cant was first with a superb stand of Her Majesty; Mr. B. R. Cant second with Gustave Piganeau, and Messrs. G. & W. H. Burch third with Her Majesty. There were six exhibits in this class.

For twelve Teas of any one variety, Mr. Frank Cant was first with

Madame de Watteville. Messrs. G. & W. H. Burch were second with Niphetos, and Messrs. Townsend & Sons third with Catherine Mermet.

The Rev. J. H. Pemberton, Havering-atte-Bower, was first in the class for thirty-six, distinct, with the first prize of which went a silver challenge cup. Amongst the best were Marie Verdier, Suzanne Marie Rodocanachi, Duchess of Bedford, Etienne Levet, Comte Raimbaud, and A. K. Williams. Mr. Mease, gardener to A. Tate, Esq., Leatherhead, was a fair second, and Mr. Salter, gardener to T. B. Haywood, Esq., Reigate, third.

H. V. Machin, Esq., was a splendid first for twenty-four Roses, distinct, his stand comprising grand examples of Niphetos, Général Jacqueminot, Comte Raimbaud, Gustave Piganeau, Maman Cochet, and Madame Gabriel Luizet. The Rev. J. H. Pemberton was second, and A. Slaughter, Esq., Steyning, third.

Mr. Mease was a good first for eighteen Teas or Noisettes with good specimens of Innocente Pirola, Mrs. J. Wilson, Etoile de Lyon, Ernest Metz, Francisca Kruger, and Madame de Watteville. H. V. Machin, Esq., was a fair second, A. Slaughter, Esq., third.

The Rev. J. H. Pemberton was first for six trebles with Her Majesty, Horace Vernet, Marchioness of Londonderry, A. K. Williams, Mrs. J. Laing, and Suzanne Marie Rodocanachi; Mr. Mease was second; and Mr. Foster third. There were five exhibitors.

For twelve Roses of any variety H. V. Machin, Esq., was first with Her Majesty, in good form; Mr. Salter second with Alfred Colomb; and F. W. Campion, Esq., Reigate, third with Mrs. J. Laing.

J. Parker, Esq., Hitchin, was first with twelve Roses, distinct, with Mrs. J. Laing, Grand Mogul, Mons. Noman, Duchess of Bedford, Marie Baumann, Madame Gabriel Luizet, Etienne Levet, Merveille de Lyon, Duc de Rohan, Fisher Holmes, A. K. Williams, and Sénateur Vaisse. Ed. Mawley, Esq., Berkhamsted, was a close second, and E. M. Bethune, Esq., third. For twelve Teas J. Parker, Esq., was first, R. H. Langton, Esq., second, and E. M. Bethune, Esq., third.

G. Moules, Esq., Hitchin, secured the coveted position for six distinct Roses with Madame Gabriel Luizet, Le Havre, Violet Bouyer, Madame de Watteville, Charles Lefebvre, and Her Majesty, all in capital condition. H. K. Gifford, Esq., Streatham, was second; and J. Perry, Esq., Caterham Valley, third.

The miscellaneous exhibits, "not for competition," were not very numerous, but of the best quality, and all were remarkably well displayed, much taste being evident in the arrangement. Messrs. J. Laing & Sons, Forest Hill, staged Caladiums in variety, and the best of condition; Begonias carrying large, handsomely formed, beautifully coloured flowers; Roses in good condition, besides several other plants. Messrs. W. Cutbush & Son, Highgate, had a handsome bank of Souvenir de la Malmaison Carnations; Messrs. J. Cheal & Sons, Crawley, a diversified collection of hardy flowers, comprising the majority of the kinds now in flower, as also had Mr. Box, Croydon, who staged, in addition, some superb Begonias.

LEE.—JULY 3RD AND 4TH.

THE annual summer exhibition of the above Society was opened on Wednesday, and, so far as quantity and quality of exhibits were concerned, was in every way successful. Classes were provided for nurserymen, amateurs, and cottagers, and in most instances these were well filled with creditable productions. One large tent set apart for flowers and foliage plants produced a showy effect. Roses were also a feature, many of the blooms being of a high order of merit. The Executive, after several attempts to produce a good show of these flowers, may this year congratulate themselves on its success.

In the principal class for seventy-two blooms premier honours were awarded to Messrs. Harkness & Sons, Bedale, Yorkshire, for excellent blooms of Gustave Piganeau, François Michelon, Her Majesty, Harrison Weir, Lady Mary Fitzwilliam, Ulrich Brunner, Caroline Testout, Captain Hayward, Duke of Fife, Marchioness of Londonderry, Horace Vernet, Viscountess Folkestone, Madame Jean Perriere, Magna Charta, Madame C. Wood, Madame Cusin, Souvenir d'Elise, S. M. Rodocanachi, Maréchal Niel, Duke of Teck, Mrs. John Laing, Fisher Holmes, Captain Christy, Madame Victor Verdier, Augustus Rigotard, Comtesse d'Oxford, Pride of Waltham, Charles Lefebvre, Madame Luizet, Xavier Olibo, Marchioness of Dufferin, Marie Verdier, Comtesse de Ludre, Niphetos, Duchess of Bedford, Général Jacqueminot, Merveille de Lyon, Dr. Sewell, Violet Bowyer, Marie Baumann, Luciole, Prince Arthur, Mrs. Harkness, Benoit Comte, Francisca Kruger, and Duke of Connaught. Messrs. D. Prior and Son, Colchester, took the second place, and Messrs. G. & W. H. Burch, Peterborough, the third.

For forty-eight single blooms Messrs. Harkness & Sons again claimed premier position with Star of Waltham, Her Majesty, Gustave Piganeau, Madame Eugène Verdier, Marie Rady, Earl of Dufferin, Ulrich Brunner, Pride of Waltham, Lady Helen Stewart, Lady M. Fitzwilliam, Prince Arthur, Madame Cusin, S. M. Rodocanachi, Marchioness of Dufferin, Madame Hausmann, Merveille de Lyon, Sir R. Hill, Madame G. Luizet, Duchess of Bedford, Queen of Queens, Alfred Colomb, Madame Montet, Général Jacqueminot, E. Y. Teas, Merrie England, Comte Raimbaud, Heinrich Schultheis, Fisher Holmes, Comtesse d'Oxford, Charles Lefebvre, Viscountess Folkestone, Caroline Kuster, Duchess of Bedford, Mrs. J. Laing, A. Colomb, Captain Christy, Margaret Dickson, Dupuy Jamain, C. Nadaillac, Mrs. Howitt, La France, and Francisca Kruger. As in the former case, Messrs. D. Prior & Sons were second, and Messrs. G. & W. H. Burch third.

For twenty-four blooms Messrs. D. Prior & Son were first with Her Majesty, Gustave Piganeau, Marchioness of Dufferin, Ulrich Brunner,

Caroline Testout, Heinrich Schultheis, La France, Duke of Fife, Alfred Colomb, Madame Gabriel Luizet, Victor Hugo, Niphetos, Horace Vernet, Merveille de Lyon, Duke of Wellington, Innocente Pirola, Fisher Holmes, Countess of Pembroke, Abel Carrière, Maréchal Niel, Prince Arthur, The Bride, Charles Darwin, and Marchioness of Downshire. Messrs. Harkness & Sons were a good second; and Messrs. G. & W. H. Burch third.

The first prize for twelve Roses for amateurs was won by E. R. Smith, Esq., Muswell Hill, with Ulrich Brunner, Earl of Dufferin, Etienne Levet, Baroness Rothschild, Dr. Andry, Suzanne Marie Rodocanachi, Victor Hugo, Dupuy Jamain, Louis Van Houtte, François Michelon, Général Jacqueminot, and Marie Baumann. J. Bateman, Esq., Rosevale, followed with second; and Mr. H. Cole, gardener to T. A. Mitchell, Esq., Chislehurst, third.

E. R. Smith, Esq., Muswell Hill, was first for six Roses with Ulrich Brunner, Victor Hugo, Suzanne Marie Rodocanachi, Earl of Dufferin, Baroness Rothschild, and Beauty of Waltham. J. Bateman, Esq., was second, and Mr. Mark Webster, gardener to E. J. Preston, Esq., Beckenham, third. For six blooms of one variety G. W. Cook, Esq., North Finchley, was first with Madame Gabriel Luizet. For six Tea Roses G. W. Cook, Esq., was again first, and Mr. H. Cole second.

Floral arrangements were shown in fair quantity. For three stands of cut flowers Mr. C. Nunn, gardener to W. Soames, Esq., Greenwich, gained first prize. For stand of cut flowers, Mr. G. T. Shrubb, gardener to Mrs. South, Blackheath Park, was awarded the premier prize. Mr. Mark Webster was first for a hand bouquet, and for a bridal bouquet Mr. C. J. Gatehouse, Lewisham, gained the highest award. In the ladies' classes for floral decorations the chief prizewinners were Miss Amy Harman, Lewisham, and Miss Lottie Day, Lewisham. Mr. C. Saville, gardener to J. Murray Wilson, Esq., Lee Terrace, was first for hardy herbaceous flowers, Mr. G. T. Shrubb second, and Mr. H. Cole third. Mr. G. T. Shrubb was first for a collection of annuals, Mr. M. Webster second, and Mr. H. Cole third.

The first prize for a collection of fruit, eight dishes, was won by Mr. J. Fulford, Bickley Hall, who was also first for a collection of four dishes. Mr. R. Goddard, gardener to T. M. Whittaker, Esq., Lee, claimed first honours for black Grapes, and also occupied the same position in the class for white Grapes.

Mr. F. Fox, gardener to Mrs. Penn, The Cedars, Lee, claimed first honours for twelve stove and greenhouse plants, Mr. C. Birch, gardener to R. Whyte, Esq., Lee, following with second, and Mr. C. Nunn, gardener to W. Soames, Esq., Greenwich, third. The premier prize for twelve stove or greenhouse plants in flower fell to Mr. C. Birch, the exhibit containing good specimens of Ixora Prince of Orange and Bougainvillea glabra. Mr. J. Lambert, gardener to H. W. Segelcke, Esq., Herne Hill, won first prize for half a dozen ornamental foliage with well-grown specimens.

Mr. F. Fox was first for six Palms, and also for a specimen foliage plant. For four Caladiums Mr. H. Horton claimed first honours, Mr. F. Johnson, gardener to S. Brailsford, Esq., Blackheath, being second, and Mr. T. Aley third. A. J. Rowberry, Esq., gained first honours for twelve sprays of Violas, and was also awarded first prize for six. The first prize for six Coleus fell to Mr. F. Fox, and the second to Mr. Aley, gardener to R. Kelsey, Esq., Hurst Lodge, Lee.

The premier award for six Caladiums fell to Mr. C. Nunn, whose plants were exceedingly well grown. Mr. W. Payne, gardener to C. D. Abel, Esq., Blackheath, followed with second. Mr. H. Horton, gardener to Major-General Ashburner, Blackheath, was first for six single tuberous-rooted Begonias, and also for four double Begonias. Mr. F. Johnson, gardener to J. Brailsford, Esq., Blackheath Park, claimed first honours for four single Begonias, Mr. J. Lambert being second, and Mr. C. Birch, gardener to R. Whyte, Esq., Lee, third.

The first prize for four Dracenas was won by Mr. T. Aley; the second fell to Mr. W. Payne; and the third to Mr. C. Birch. Mr. C. Birch was first for a collection of miscellaneous plants; Mr. F. Fox second; and Mr. T. Aley third. Mr. G. Lambert was a good first for six Dracenas, and Mr. F. Fox second. For four Orchids in flower Mr. Hird, gardener to Mrs. Bailey, Lee, was awarded first prize; Mr. H. Horton second; and Mr. Hood, gardener to M. N. Buttanshaw, Esq., Blackheath, third.

Mr. F. Fox won the first prize for a group of table plants with a tasty arrangement. Mr. C. Nunn being second. For twelve miscellaneous plants first honours fell to Mr. C. Birch; the second to Mr. C. Saville, gardener to J. M. Wilson, Esq., Lee Terrace; and the third to Mr. F. Johnson. For a specimen plant in flower Mr. C. Birch was first with a beautiful Ixora, Mr. C. Nunn following with second. For four ornamental Begonias Mr. F. Fox was first, Mr. W. Payne second, and Mr. T. Aley third.

The first prize for six exotic Ferns was won by Mr. F. Johnson, and the second by Mr. C. Birch. For four foliage plants Mr. C. Birch claimed first honours. For four exotic Ferns Mr. J. Lambert was first, and Mr. Nunn second. Mr. C. Birch was first for Ferns in large pots. The premier prize for a group of plants arranged for effect fell to Mr. J. Lambert, Mr. C. Nunn being second. Mr. H. Horton was first for six Show Pelargoniums, and Mr. F. Fox first for six Zonals.

Several miscellaneous exhibits were shown by nurserymen, and principal amongst them were a showy and effective bank of Begonias sent by Mr. H. J. Jones, Lewisham, and a pleasing exhibit of flowers sent by the Agricultural and Horticultural Association. Begonias came from Messrs. H. Cannell & Sons, Swanley, and Caladiums from Messrs. John Peed & Sons, Norwood.

LEDUM PALUSTRE.

As dwarf evergreen free-flowering shrubs the Ledums are worth a place wherever peat-loving plants are grown and an American garden is provided. The leaves of *L. palustre* (fig. 3) have a balsamic odour, an aromatic bitter taste, and contain, among other ingredients, volatile oil and tannin. They have been sometimes used to allay irritation in whooping cough and various cutaneous diseases.



FIG. 3.—LEDUM, PALUSTRE.

In complaints of the skin they are used both externally and internally in the form of decoction. When placed among clothes they are said to prevent the attack of moths. In Germany they are sometimes substituted for hops in the preparation of beer. An oil is obtained from the leaves by distillation, which is yellow, with an intoxicating odour and a burning aromatic taste.



HARDY FRUIT GARDEN.

Propagating Strawberries.—There are various methods of securing rooted plants for forming early beds and to grow in pots for forcing. The chief object in assisting early and quick rooting is to obtain strong plants that will be progressing while the growing season remains, making abundance of roots and building up bold crowns. These ends secured, fruitfulness the first season is assured.

Small Pots.—Rooting in 3-inch pots is perhaps the best and handiest method that can be recommended. Each pot may be drained sufficiently with a piece of substantial turf pressed firmly down, filling with loam and manure in equal parts, also made firm, and used moist.

Squares of Turf.—Square cubes of turf 3 inches thick laid grass side downwards provide a ready rooting medium in preparing stock for early beds. Soak these immediately before use in water or liquid manure. Bury them slightly in the soil, which will partially prevent their drying so quickly in hot weather.

Selecting Plantlets.—Select those of sturdy character with good centres, the first on the wire or runner in many cases being the best, though the second may also be employed. It is essential that they have from the first been fully exposed to light, so that the foliage is not weakened and the leafstalks unduly lengthened by overcrowding. When the rootlets are just issuing is the exact time to fasten down the plantlets on the rooting medium. For pots nothing acts better than a stone, which will not only keep them in position, but act as partial shade for the soil. Small wooden or wire pegs are perhaps the best for turves, the object being simply to keep the runners in position until roots have penetrated the soil. Stop all growth extending beyond this point, and immediately roots are increasing abundantly detach the runners from the parent plants.

Watering.—Water freely night and morning in bright weather, which will prevent any possibility of the rooting medium becoming dust dry. Moisture facilitates the emission of roots, therefore the sooner these are secured the easier will be the management, as the plants may be stood closely together.

Raising Young Plants.—A portion of the young stock required may be propagated on the soil between the rows, or on the spaces outside the plantations if there is room. If the soil should be poor and hard it ought to be forked, and a little manure added or some good loam intermixed before pegging down the plantlets. This is a good plan for obtaining the general stock of fresh plants for establishing beds in August and September.

Strawberries frequently, if left alone, propagate themselves very largely, especially in a moist season; but if this is depended on, an early thinning-out of crowded runners must be adopted. Given abundance of light and room to develop, plants obtained in this way are excellent for general autumn planting; but the most reliable methods for pot plants and the earliest beds is to assist early rooting in small pots or turves.

General Treatment of Strawberry Beds.—Plants of whatever age or size that have shown no bloom this season should be uprooted, as they are invariably useless, and stock ought never to be propagated from such plants, because it will have the same characteristics.

Young beds not in bearing must have all runners cut away as they form in order to strengthen the plants for next season. Clear away regularly superfluous runners on all beds, also weeds, retaining nothing but what is or will be profitable.

Gather ripe fruit in the early morning while firm and fresh. Plants with fruit still swelling may be assisted with water applied freely to the roots, afterwards giving a little liquid manure, this assisting the fruit to enlarge considerably.

Clearing Insects from Plum and Cherry Trees.—Plum trees are infested with the blue aphid, and the points of Cherry shoots are attacked with black aphid. Clear water applied vigorously with the garden engine will do much to wash the infested foliage, and the points of shoots attacked ought to be dipped in some insecticide which will kill them without damaging the growths.

Tobacco liquor diluted with six parts water, or 2 to 3 ozs. of soft soap dissolved in a gallon of water, is safe and effectual. A solution of quassia chips is a favourite remedy with many people, but it is not advisable to employ it on choice fruit trees such as Peaches, Nectarines, and Apricots, or other trees when fruit is ripening, as the bitter principle in the chips may be imparted to the fruit. In preparing the quassia solution soak the chips for a day in cold water, 4 ozs. of chips to the gallon of water. After well soaking pour off the liquid and add 4 ozs. of soft soap dissolved in a gallon of hot water. Mix well, and if a little more water is added the solution will be safe for the tenderest shoots. Dip as many shoots as possible, spraying the rest, which is more economical than syringing.

Wall Trees.—Attend to summer pruning and laying in shoots of Peaches, Nectarines, Apricots, Plums, and Cherries. It is not at present necessary to fasten them permanently in position, but they may be laid in the direction it is intended they shall assume. This gives some idea of the number required and prevents undue crowding, as those not wanted may be cut clean out or shortened to form spurs. Trees swelling good crops of fruit may be assisted greatly by removing the least promising fruits, affording water and liquid manure to the roots and mulching the surface of the soil.

FRUIT FORCING.

Vines.—**Early Houses.**—Vines from which the Grapes have been cut should be well syringed every evening until the foliage is thoroughly cleansed from dust and red spider, afterwards recurring to it occasionally so as to keep the leaves as long as possible in a healthy condition, for when the foliage dies early from red spider, lack of moisture at the roots, or other causes, second growth not unfrequently takes place when the Vines ought to be going to rest. Admit air to the fullest possible extent, maintaining a moderate degree of moisture in the borders, particularly at the surface, so as to keep the roots there. A moderate extension of the laterals will not do any harm, but good in keeping the sap active, and so

preventing early maturity, the loss of the leaves corresponding to the pruning buds; but irregularities, and particularly gross ones, should be checked by pinching or being entirely removed. Weakly Vines will be greatly assisted in forming the buds by an occasional application of liquid manure, or top-dressings of the advertised fertilisers washed in moderately.

Vines in Pots for Early Forcing.—An arid atmosphere and deficiency of liquid nourishment at the roots greatly facilitates the attacks of red spider; indeed, neglect in syringing and withholding due supplies of water and aliment from the roots bring off the leaves prematurely. Syringe, therefore, as necessary to keep the foliage clean and healthy, exposing it to all the light possible, and ventilating freely. Liquid manure should be given at every alternate watering, or every time water is required if the Vines do not plump the buds well, but do not apply any until the soil is becoming dry, for over-watering is worse than a sparing amount. Vines that have completed their growth should now have less moisture, syringing being discontinued, and the supply of water at the roots moderated, air being freely admitted, keeping the foliage well up to the glass.

Houses of Ripe Grapes.—Moderate atmospheric moisture is necessary for the preservation of the foliage in health, and due supplies of water at the roots essential for the sound keeping of the Grapes, as well as the supplying of nourishment to the growth. A little lateral extension will do good, provided such growth does not interfere with the access of light to the principal leaves. A little air should be admitted constantly, and if necessary a gentle warmth be kept in the hot-water pipes, so as to prevent the deposition of moisture on the Grapes, increasing the ventilation early, so as to allow the atmospheric moisture to be dispersed and the Grapes heated uniformly with the surrounding air, then moisture will not be condensed on the berries and spotting follow, either as a consequence of the moisture or the development of fungal germs.

A light shading will be necessary to prevent the sun taking the colour out of Black Hamburg and Madresfield Court Grapes, even Buckland Sweetwater, Foster's Seedling, and Muscat of Alexandria retaining their golden amber colour longer when the roof is covered with a doubled herring or single thickness of pilchard netting. Whatever water is needed should be supplied early in the day, and with a free circulation of air no bad results will follow in the Grapes.

Grapes Ripening.—Atmospheric moisture to a fair amount is necessary, as its withdrawal causes the berries to shrivel, especially in the case of Muscat of Alexandria; and once this occurs no amount of water afterwards enables them to recover their freshness. Damp the floors and borders occasionally in the early stages of ripening in the morning and early afternoon, diminishing it as the Grapes colour. Inside borders must have a thorough supply of water and nourishment either in the form of liquid manure following a good watering or top-dressing of some advertised fertiliser applied after duly moistening the border and then washing in moderately.

Outside borders must also be well watered and fertilisers applied if the weather be dry and nutriment needed. Food of a sustaining rather than a stimulating nature is much the best at this stage, profiting the Vines in perfecting their crops and forming buds and storing matter for a succeeding one. A light mulch of short, sweet, lumpy spent material is of great advantage in all cases, stable material being preferable for heavy and cow manure for light soils. The thing is to give it thinly—an inch or two thick, then air can get into the soil, and the roots ramify freely amongst the aerified and assimilated matter, and the Vines profit accordingly. Thick soapy mulchings do more harm than good, as they exclude air, so that the nutrient elements are not oxidised, consequently they become sour, and shanking in the Grapes is frequently the consequence.

Directly colour is noticed in the berries afford plenty of air, a little fire heat being essential to the high quality of the Grapes, insuring a circulation of warm, rather dry, air, but allow the temperature to fall to 65° at night, otherwise securing by artificial means a temperature of 70° to 75°, and 80° to 85° through the day from sun heat for Black Hamburg and similar varieties. Muscats should have, when ripening, a night temperature of 70° to 75°, falling to 65° through the night when the weather is bright by day and cold at night, 80° to 85° by day, up to 90° or 95° from sun heat. As Muscats require a longer time to ripen than other thin-skinned varieties, there must not be any deficiency of water at the roots, as from the somewhat drier atmosphere the rich amber colour, the unique crackling flesh, and rich pleasing flavour peculiarly their own, is derived. The foliage may suffer through insufficient supplies of nutriment essential for the perfecting of the Grapes and the formation of the buds with stored matter in the adjacent wood, which is essential for sustaining the next year's growth and crop in the early stages.

Grapes Stoning.—During this process the Grapes do not swell to a great extent, but are more or less stationary, this being the most crucial matter to the Grapes, whose object is reproduction, the perfecting of the future plant in the seed. For the stoning the plant needs mineral substances, and the skin is proportionate in mineral matter to the amount available in soluble form in the soil. The advertisers' fertilisers are of great advantage during the stoning process, as they are mainly compounds of minerals in a soluble form, therefore readily available for taking up by the roots, while they contain sufficient nitrogenous matter for sustaining or promoting steady advancing growth. This is what Grapes require during the stoning, any excess of nitrogen or of acids resulting from humus being productive of "red" or shanked Grapes.

Scorching and scalding also attend undue excitement, such as that induced by a close atmosphere unduly heated by the sun. The former

is easily avoided by early attention to the ventilation, and for preventing scalding there is nothing better than a gentle warmth in the pipes with a little air constantly, and free ventilation early and through the day. It is not desirable to close early at this stage, as the Grapes require time to perfect the stoning, and particular attention must be given to the ventilation, not closing early to cause a moist atmosphere, but reduce it by degrees, so that the temperature and hygrometrical conditions may not be greatly fluctuating during the fortnight or three weeks which precede the assuming of the ripening tints by the berries. This extended over such period will insure immunity from scorching and scalding, if not from the equally disastrous shanking. If the weather be very bright a slight shade over the roof lights, especially of Muscat houses, is very beneficial, a double thickness of herring nets affording all the shade required.

Grapes Swelling.—A genial condition of the atmosphere is essential, and should be secured by sprinkling the floors and borders in the morning and afternoon, particularly the latter. The border should be mulched with a little short sweetened lumpy stable manure, this giving off ammonia, which is certainly taken in with atmospheric air by the leaves, and as it is not respired it must be assimilated by the plant. It does good to the foliage in small amount, imparting a deep colour, which signifies the development of chlorophyll, while the nitrogenous matter formed and washed into the soil aids in such manufacture, and on this depends the ultimate development of colour and finish in the Grapes. The mulch also acts mechanically, conserving the soil moisture, and is a never failing attraction to the roots if kept properly moist—not saturated constantly but damped when it becomes dry.

Avoid a close, saturated, vitiated atmosphere, especially in close, moist, dull weather. A little ventilation almost constantly will make all safe, but it is desirable to close the house in the afternoon, well damping at the same time, allowing the temperature to rise to 90° or 95°, and after the sun passes the west, or at 6 P.M., provide a little ventilation at the top of the house. It will allow of the air changing, prevent excessive deposition of moisture during the night, whereby the foliage will be less liable to be scorched should the sun act powerfully on it whilst wet. Scorching is caused by inattention to early ventilation and then giving it excessively. A night temperature of 65° is ample, advancing early in the day to 70° or 75°, having recourse to artificial heat if necessary. Increase the ventilation to between 70° and 75°, allowing it to advance to 80° or 85° through the day, and close as before stated, the heat to rise to 90° or 95°.

Permit a steady growth in the laterals, it keeps the roots active, but avoid overcrowding, not allowing the laterals to interfere with the principal leaves, so as to deprive them of light and air. The outside borders must not be neglected where the rainfall is insufficient, and a light mulching of fresh stable manure will lessen evaporation without depriving the soil of the beneficial action of air, warmth, and the moisture of dew and rain.

Cucumbers.—The disease produced by eelworm is again playing havoc with Cucumbers, and no wonder, as they are kept in an atmosphere so moist, close, and full of organic matter as to support low organic forms, such as eelworms. These lively animals revel in organic nitrogen as found in either dead vegetable substances or living plants, and singularly they hate nitric acid. Nitrate of soda will kill eelworms, so also will soluble phenyle, without danger but benefit to the plant. If lime or basic slag be frequently sprinkled on the soil it will help the plants, so also will soot—this putting colour into them, partly from the nitrogen and partly from the iron. Of course, nothing will restore the tissues of Cucumber stems destroyed by eelworms, hence there is no cure; all the same, if the phenyle or nitrate of soda be applied in time—before the tissues are destroyed—the eelworms will be expelled therefrom and perish in the soil, while the plants will go ahead and produce fruit abundantly.

Attention must be given to plants in full bearing by way of thinning out the exhausted growths and foliage, laying in young bearing wood, stopping one joint beyond the fruit, and earthing the roots periodically. Copious supplies of water or liquid manure will be required about twice a week, or as may be necessary, but avoid applying it too strong. Syringe at closing time, and maintain a good moisture in the house all day long by sprinkling the paths and walks as necessary, always with tepid water, attending to it more frequently in hot weather than when dull. Do not overcrop young plants nor allow the fruit to hang too long, as upon attention to this depends in a measure a good and continuous supply. A few seeds may now be sown for a late summer and autumn supply of fruit. They will germinate, and the seedlings be fit to plant out in about a month.



APIARIAN NOTES.

THE long-wished-for rain has at last begun to fall, and is generally welcomed. It will, no doubt, put an end to honey gathering for a time, but water this year is of greater value than honey. In some districts there will be a fair yield of super honey. One noted bee-keeper from the South of Scotland writes:—"I was beginning to despair, but last Saturday, the 22nd, bees began to enter their

supers. Three miles from me they appear to be better, as I hear supers are near completion." From the best Clover district in the upper ward of Lanarkshire another bee-keeper says, "White Clover a total failure, Thyme is well out, and Heather early."

On the 24th June I visited some bee-keepers in Renfrewshire. There, as in some other places, there is a paucity of Clover bloom, and the scarcity of water is much felt. Swarming had only become general, and many swarms are reported to have been lost. On that day several swarms flew off to the roofs of mansions a considerable distance off, where no doubt there is an accumulation of combs from swarms of previous years. Most of the hives were very strong, but generally very little honey had been gathered.

At one apiary I was shown black bees, said to be the pure British native bees. I examined them minutely, but could see no distinguishing marks which entitled them to be called pure British bees.

I am glad to learn, too, that a truthful statement of the aspects of bee-keeping and the profit from bees has been forwarded from Renfrewshire bee-keepers to the President of the Board of Agriculture, and from what was told me it will have attention in Parliament. Like myself, they apprehend more mischief to arise from any Act which might be passed than from foul brood.

I visited Craighet, where many a happy hour was spent with the late "Renfrewshire Bee-keeper." There, too, I was pleased to see strong colonies in storified Stewartons, and one colony of Cyprians, which appears almost if not pure after so many years of its importation.

MY OWN APIARY.

After four or five days high temperature my stocks appeared to require supering. I may state that several of my stocks occupy two divisions only. These are not further advanced than those occupying three, while the latter when a honey flow comes will far surpass the former hives in the ingathering of honey. I delayed supering till the 27th. It is the better plan when we can to put the supers on at the beginning of the flow, as when that is done the quality and appearance of the supers are all that can be desired.

The upper divisions of my three-storied hives have the combs filled and sealed. While the weather continues broken hives will remain untouched, but all will be supered on the return of honey weather.—A LANARKSHIRE BEE-KEEPER.

SEASONABLE NOTES.

AFTER a spell of cold weather and low night temperatures, which have not been advantageous to honey production, the much-needed rain has come. Pastures of white Clover that had been heavily grazed by sheep, which a week ago appeared quite bare of herbage, are now bursting into growth, and should the weather become settled and a high temperature prevail there is still time to obtain a good harvest of honey from that source. But the bulk of the white Clover will be over in a fortnight, to be followed by the Lime trees, which are showing well for bloom.

The weather, though, is a great factor in honey production. There have been only three days during the past fortnight in which the bees stored a surplus. Strong colonies increased rapidly in weight, and as the bees were not affected with the swarming mania some well-finished sections of comb honey resulted, and a superior example of run honey was obtained from frames placed over the brood chamber, the queen being kept below on the brood combs.

The frames should be at least three parts sealed over before being extracted. The honey will then be well ripened, which in due course will granulate and keep in good condition for several years. Unripe honey usually ferments and is practically useless. If there is any doubt in the matter it is better to feed it back to the bees than to run any risk. In working for extracted honey, if shallow frames are used, and the weather is favourable, the bees will fill them much more rapidly. Then the honey can be ripened and sealed over, and if more space is not given them they will probably swarm, and much valuable time will be lost.

To prevent this place another lot of shallow frames under those that are nearly full. In some instances a third lot may be added, always placing the empty ones underneath. The bees will then draw out the combs and fill them with honey, whilst that in the top storey will in due course be ripened and sealed over. They may then be taken off and the honey extracted, the frames being returned to the hive to be filled again. By paying close attention to the matter it is surprising the amount of honey that may be procured from a strong colony.—AN ENGLISH BEE-KEEPER.

TRADE CATALOGUES RECEIVED.

M. Raines & Co., 34, Mansell Street, Aldgate, London.—*Wholesale Bulb Catalogue.*

G. Bunyard & Co., Maidstone.—*Catalogue of Roses and List of Strawberries.*



All correspondence should be directed either to "THE EDITOR" or to "THE PUBLISHER." Letters addressed to Dr. Hogg or members of the staff often remain unopened unavoidably. We request that no one will write privately to any of our correspondents, as doing so subjects them to unjustifiable trouble and expense.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Bee subjects, and should never send more than two or three questions at once. All articles intended for insertion should be written on one side of the paper only. We cannot reply to questions through the post, and we do not undertake to return rejected communications.

New Melon (D. R.).—Your letter and directed envelope have been forwarded to Mr. A. F. Barron, from whom you may expect to hear in the course of a few days.

Chickweed and Rheumatism (Inquirer).—The note on this subject appeared in the *Journal of Horticulture* for February 14th, page 133. It was sent to us by the Rev. F. H. Brett, Carsington Rectory, Derbyshire.

XL All Vapourising Fumigator (A. B.).—If you refer to the *Journal of Horticulture* of April 25th of the present year you will find that this fumigator has been advertised by Mr. G. H. Richards, Old Shot Tower Wharf, Lambeth, London.

Covent Garden Market (H. C.).—Tuesday, Thursday, and Saturday are the chief market mornings. If you enclose a stamped directed envelope or postcard we will endeavour to answer the remaining part of your letter. You ask for information which it is not in accordance with our rules to publish.

Orange Fungus on Roses (Nemo).—*Coleosporium pinque* is the scientific name of the fungus given in Mr. Foster Melliar's "Book of the Rose," but the author observes it has several other names according to its different stages. You should treat yourself to this book, which is both useful and attractive—one of the best presentation books for lovers of Roses and haters of their enemies.

Flowers for Buttonholes (W. J. C.).—Of the flowers you name we consider Roses of the right size and quality by far the best. We have never seen such a collection as you enumerate win in high-class competitions, and scarcely expect to do so. Still, if they were the best, cleanest, and freshest flowers staged they would be entitled to the leading position. The art of arranging flowers for the purpose indicated cannot very well be taught on paper.

Lillium Buds Turning Brown and Falling (W. S.).—This is a not uncommon occurrence, and by no means clearly understood; indeed, it arises from various causes, the chief of which is (1) lack of vigour in the bulbs, due to insufficiency of stored matter in the preceding season; (2) the bringing the plants forward in too high temperature, and in defectively ventilated structure; and (3) insufficient nourishment during the latest stages of development. The plants should be grown in the lightest position the greenhouse affords, be supplied with liquid manure after they are growing freely, continuing it alternating with water, but only when the plants require supplies of water, as over-watering is very injurious. This treatment is usually satisfactory if the management is good in other respects. Guano, 1 oz. to a gallon of water, forms a suitable liquid manure, straining it through muslin to free it from undissolved lumps.

Properties of Pinks (New Reader).—You have no occasion to apologise; we are as ready to be helpful to new readers as to old ones. The following characteristics of a good Pink are taken from the florists' flower section of the "Garden Manual." "The flower must be fully double; so much so that it should form the half of a ball, rising up to the centre, and should be perfectly circular in outline. Each petal should be stout, broad, and smooth at the edges. This smoothness is called rose-edged—that is, without any notches or teeth. The lowest tier of petals should be the widest, reaching in diameter at least from 2 to 2½ inches. The next row should be shorter, so much so as to show the lacing fully on the lower petals; and the next shorter again, and so on up to the centre, which should be well filled up without confusion. The ground colour should be pure white. The lacing, or circular stripe, should leave an edge of white outside of it and another inside; this lacing of colour should be of the same width as the outside edging of white, and should be smooth and even at the edges—in fact, laid on as if it had been traced by a skilful hand with a fine camel-hair pencil. Then at the bottom of the petals there should be another body of colour the same as the lacing, to form a bold, rich eye."

Liquid Manure for Asparagus (W. S.).—After the plants are established and fairly growing, weak liquid manure given once a week would do them good, but too strong applications might do much harm. Drainings vary so much in strength that it is impossible to say to what extent your liquid should be diluted. If you err at all err on the side of weakness, and give each plant about a gallon at a time. This will be far more effectual than a multitude of dribbles.

Poplars Failing (E. P.).—We very much fear that the Ontario Poplars are falling victims to the noxious gases for which your district is famed. The fact of the trees collapsing after they have made several inches of growth appears to show that the then tender tissues cannot resist the atmospheric influences that prevail. In the "Forester" no reference is made to any disease peculiar to this Poplar, but the author says that large healthy trees can only be produced where there is abundant underground moisture, and recommends their being planted where the water table is only 2 or 3 feet below the surface. We are sorry for the misfortune, for which we very much fear there is no remedy.

Leaves Absorbing Ammonia (Doubter).—Yes, we do know that some gardeners, but very few, place lumps of ammonia on hot-water pipes in order that plants or Vines may be benefited. Relative to the question you raise, Storer says, "It is a very interesting fact that ammonia gas and the vapour of carbonate of ammonia can be absorbed by the leaves of plants, but their power to absorb ammonia from the air is practically less important than at first might be supposed. The proportion of ammonia naturally present in the air is so insignificant that it cannot be supposed to have much direct influence upon the growth of vegetation, and in point of fact it does not. It is only when the atmospheric ammonia has been accumulated and brought down to the earth by rain or dew, and has soaked into or been fixed in the soil, that it acquires any real significance. But it is then the roots of the plants, and not the leaves, that have to do with the ammonia; it has been transferred from the air to the soil-water. In any event, however, the proportion of ammonia naturally present in the air and in soils is so small that it must be of quite secondary importance for the support of plants as compared with the nitrates naturally found in the soil."

Latinising Names (C. W. D.).—You ask, "What is the rule for placing one *i* and two *ii*'s at the end of proper names of plants, such as Andersoni in one case and Veitchii in the other?" There is no absolutely rigid and inflexible rule. Botanical nomenclature is somewhat arbitrary, and depends much upon the taste and fancy of the authority who first names a newly discovered plant. There is a rule, however, which seems to be pretty consistently adhered to in cases such as those mentioned, when the Latin genitive in *i* is affixed to one of our modern and extremely un-Latin proper names. It is that names ending with a soft or liquid consonant, or with a vowel (except when the vowel is *a*), have an *i*, while hard or harsh terminations have two *i*'s. Still, even to this rule there are so many exceptions that ordinary readers may well become perplexed, and it is to be feared that writers in their haste do not always stop to study consistency. Botanical nomenclature, like the English language, is in the matter of pronunciation and spelling, a fearful and wonderful thing, and to make a slip by no means argues ignorance or stupidity in the perpetrator. In international correspondence between the learned, however, such nomenclature is indispensable, and its extravagances may well be tolerated by the purist for the sake of its utility. Veitch, having a somewhat harsh sound, would be Latinised Veitchius, and the name of a plant raised by Mr. Veitch would be correctly rendered Veitchii, though it would perhaps not be easy to prove that Veitchi would be absolutely wrong. Anderson, Cooper, and such like names, have softer sounds, and might be Latinised differently, as Andersonus and Cooperus. Thus plants invested with such names after their raisers would be Andersoni and Cooperi. The question seems to be very much one of euphony in converting a modern English name into the ancient Latin tongue. You perhaps know that a plant which you might raise of, say, a *Dracæna*, and desire to name in compliment to Mr. Veitch, would not be correct if rendered either Veitchi or Veitchii, but Veitchiana.

Names of Plants.—We only undertake to name species of plants, not varieties that have originated from seeds and termed florists' flowers. Flowering specimens are necessary of flowering plants, and Fern fronds should bear spores. Specimens should arrive in a fresh state in firm boxes. Slightly damp moss, soft green grass, or leaves form the best packing, dry wool the worst. Not more than six specimens can be named at once, and the numbers should be visible without untying the ligatures, it being often difficult to separate them when the paper is damp. (J. H.).—1, *Lathyrus latifolius*; 2, *Lysimachia vulgaris*. (C. W. P.).—1, Tarragon; 2, Pot Marjoram; 3, Winter Savory. (Kate).—1, *Doodia aspera*; 2, *Osmunda gracilis*; 3, *Phlebodium* (*Polypodium*) *aureum*; 4, *Cheilanthes elegans*; 5, *Asplenium bifforme*; 6, *Adiantum gracillimum*. (T. H. N.).—1, *Lychnis chalcidonica*; 2, *Stachys lanata*; 3, *Linaria bipartita*; 4, *Dictamnus Fraxinella alba*; 5, *Spiræa filipendula flore-pleno*. (D. W.).—1, *Dracæna terminalis*; 2, *Erica Cavendishi*; 3, *Saxifraga pyramidalis*; 4, *Melilotus albus*. (W. P. N.).—1 and 3, Apparently forms of *Campanula turbinata*; 2, *Geranium sanguineum*; 4, Specimen insufficient; 5, *Acer Negundo variegata*; 6, Send when in flower. (Montrose).—1, *Pimelca sylvestris*; 2, Undeterminable; 3, *Corydalis lutea*; 4, *Tradescantia virginica*; 5, *Dianthus atrorubens*; 6, *Geranium nodosum*. (H. J.).—It is practically impossible to name Strawberries from the fruits without seeing the

plants. No. 1 is possibly James Veitch; No. 2 may be Trollope's Victoria; 3, Entirely spoilt in transit. No one can name with certainty Strawberries from individual fruits more or less injured in transit. (W. K.).—1, An *Albuca*, specimen insufficient to determine varietal name; 2, *Dictamnus Fraxinella purpurea*.

COVENT GARDEN MARKET.—JULY 3RD.

PRICES practically unaltered. Outdoor fruit coming on in fair supply.

FRUIT.

	s.	d.	s.	d.		s.	d.	s.	d.
Apples, Nova Scotia, per barrel..	10	0	21	0	Cobs, per 100 lbs.	0	0	0	0
" Tasmanian, per case..	5	0	11	0	Currants, per half sieve	3	0	3	6
Asparagus, English, per bundle	1	0	3	0	Grapes, per lb.	0	6	2	0
Cherries, per half sieve	3	6	8	0	Lemons, case	10	0	15	0
					Peaches, per dozen	3	0	12	0
					St. Michael Pines, each	2	0	6	0
					Strawberries, per lb.	0	2	0	6

VEGETABLES.

	s.	d.	s.	d.		s.	d.	s.	d.		
Beans, Kidney, per lb.	0	6	to	0	0	Mustard and Cress, punnet	0	2	to	0	0
Beet, Red, dozen	1	0	0	0	0	Onions, bushel	3	6	4	0	
Carrots, bunch	0	3	0	4	0	Parsley, dozen bunches	2	0	3	0	
Cauliflowers, dozen	3	0	6	0	0	Parsnips, dozen	1	0	0	6	
Celery, bundle	1	0	1	3	0	Potatoes, per cwt.	2	0	4	0	
Coleworts, dozen bunches	2	0	4	0	0	Salsafy, bundle	1	0	1	6	
Cucumbers, dozen	1	6	3	6	0	Seakale, per basket	0	0	0	0	
Endive, dozen	1	3	1	6	0	Scorzonera, bundle	1	6	0	0	
Herbs, bunch	0	3	0	0	0	Shallots, per lb.	0	3	0	0	
Leeks, bunch	0	2	0	0	0	Spinach, bushel	1	0	1	6	
Lettuce, dozen	0	9	1	6	0	Tomatoes, per lb.	0	3	0	4	
Mushrooms, punnet	0	9	1	0	0	Turnips, bunch	0	3	0	6	

AVERAGE WHOLESALE PRICES.—OUT FLOWERS.—Orchid Blooms in variety.

	s.	d.		s.	d.		s.	d.		s.	d.
Arum Lilies, 12 blooms ..	3	0	to	4	0	Orchids, dozen blooms ..	1	6	to	12	0
Asparagus Fern, per bunch	2	0		4	0	Pansies, various, dozen					
Bouvardias, bunch	0	6		1	0	bunches	1	0		2	0
Carnations, 12 blooms ..	2	0		4	0	Pelargoniums, 12 bunches	6	0		9	0
Eucharis, dozen	4	0		6	0	Primula (double), doz. spys.	0	6		1	0
Gardenias, dozen	3	0		4	0	Roses (indoor), dozen ..	1	0		2	0
Geranium, scarlet, doz.						„ Moss, per dozen	1	0		2	0
bunches	4	0		6	0	„ Tea, white, dozen	1	0		2	0
Iris, various, per dozen						„ Yellow, dozen (Niels)	3	0		6	0
bunches	3	0		6	0	„ Safrano (English),					
Lilac (French) per bunch	4	6		5	0	dozen	1	0		2	0
Lilium candidum, 12 blooms	1	0		2	0	„ Yellow, dozen blooms	1	6		2	0
„ doz. bunches	18	0		3	0	„ Red, dozen blooms ..	1	0		2	0
„ lancifolium, 12 blooms	4	0		6	0	„ various, doz. bunches	3	0		9	0
„ longiflorum, 12 blooms	3	0		4	0	Smilax, per bunch	5	0		6	0
Marguerites, 12 bunches ..	1	6		3	0	Spiræa, dozen bunches ..	4	0		6	0
Maidenhair Fern, dozen						Stephanotis, dozen sprays	1	6		2	0
bunches	4	0		6	0	Tuberoses, 12 blooms ..	0	4		0	6

PLANTS IN POTS.

	s.	d.	s.	d.		s.	d.	s.	d.		
Arbor Vitæ (golden) dozen	6	0	to	12	0	Heliotrope, per dozen	6	0	to	8	0
Aspidistra, dozen	18	0	36	0	Hydrangeas, per dozen	12	0	42	0		
Aspidistra, specimen plant	5	0	10	6	Lobelia, per dozen	3	0	4	0		
Calceolaria, per doz.	4	0	6	0	Lycopodiums, dozen	3	0	4	0		
Coleus, per doz.	4	0	6	0	Marguerite Daisy, dozen	6	0	9	0		
Dracæna, various, dozen	12	0	30	0	Myrtles, dozen	6	0	9	0		
Dracæna viridis, dozen	9	0	18	0	Palms, in var., each	1	0	15	0		
Euonymus, var., dozen	6	0	18	0	„ (specimens)	21	0	63	0		
Evergreens, in var., dozen	6	0	24	0	Pelargoniums, per dozen	10	0	15	0		
Ferns, in variety, dozen	4	0	18	0	„ scarlets, per						
Ferns (small) per hundred	4	0	6	0	„ dozen	3	0	6	0		
Ficus elastica, each	1	0	7	0	Rhodanthe, per dozen	4	0	6	0		
Foliage plants, var. each	2	0	10	0	Roses, per dozen	8	0	24	0		
Fuchsias, per dozen	6	0	10	0	Schizanthus, per dozen	6	0	9	0		
Geraniums, Ivy, per dozen	7	0	10	0	Spiræa, per dozen	6	0	8	0		



RAILWAY RATES.

AMONG the burdens which farmers are said to have to bear unfairly, none has had greater prominence given them by the popular agitator than preferential railway rates, or the carrying by the railway companies of imported farm produce for long distances at much lower rates per ton than they would carry home-grown produce for shorter distances. Repeatedly have figures been quoted to prove this—quoted without a word of explanation, and so it has come about that the farmers themselves believe this thing to be true, and they have repeatedly asked for relief from a burden which, on the face of it, appears to be as oppressive and unfair as it can be.

To take one example out of many, from Southampton docks to Nine Elms, London, a distance of 76 miles, the rate for

bacon, hams, butter, cheese, lard, Hops, and wool, is 5s. per ton. On the same railway there is a rate of 8s. 6d. per ton for hay from Micheldever to London, a distance of 56½ miles; from Alton, 45 miles, the rate for Hops is 15s., or 10s. per ton more than is charged for carrying foreign Hops 31 miles farther. This appears to be bad enough, but still worse seems the rate of 17s. 11d. per ton for bacon and hams from Southampton Town Station, which is about the same distance from London as the docks from whence the same class of produce is carried for 5s. per ton.

As a simple statement of facts, made for a special object, without a word of explanation, as is so frequently the case, the case against the railway company is certainly a strong one, and the grievance of the farmers real enough. Yet, under the test of such an inquiry as was made recently by the Railway Commissioners, it was found that imported produce yields a greater profit per truck per mile than home produce does, the reason for this being the different conditions under which the traffic is carried on. The rates from the docks are for truck loads—we might almost have said train loads, train after train being loaded and dispatched with marvellous celerity straight through to London.

For intermediate stations frequent stoppages, doubtful quantities which may be anything, from a few hundredweights to a few tons, and uncertain supply, all have to be taken into account. Even the difference in packing tells, as for example in hay: 4½ tons of imported hay only requiring the same space as 2½ tons of English hay, and in Hops the square foreign bales packing much more closely than the round English "pockets." In the test for quantity it was shown that from the fourteen stations which were said in this instance to be affected by preferential rates, the total traffic to London of bacon, hams, butter, cheese, lard, and wool, in twenty months, was only 12 tons 4 cwt., or less than 1 cwt. per station per month. The quantity of those articles received at those stations direct from London during the same time was more than 2000 tons.

Well has it been asked, where is the farmers' grievance in this case? Here are six articles of farm produce, five of them in daily use in almost every household, of which the farmers do not produce a tithe of what is used. It is idle to talk of over-production under the light of such evidence. If it were possible for consumers, or for the matter of that, the shopkeepers who cater for them, to obtain home-raised or home made produce in their own districts, produce at least equal in quality to any other on the market, it is not likely that they would incur the expense of carriage by rail.

Before this can become possible there must be a radical change in farm management. Instead of following the mere routine of growing corn and raising stock, farm practice must be adapted to local or market requirements. Farming to profit must be the guiding principle, and the produce must be a profitable marketable commodity. If home-grown corn and fodder cannot be sold at a profit, surely they can be consumed so as to produce something in ever-growing daily demand. Milk, butter, cheese, beef, mutton, pork, lard, eggs, poultry, bacon, veal, hams. Surely the list is long enough!

Every one of this dozen of articles of food in common use can be and should be forthcoming in prime condition from a farm run on keen business lines. It may be that a third, a fourth, or any given part of the whole might answer best. That is very possible, because the buyer, whether merchant or provision dealer, must before all things have a steady, full, unbroken supply, combined with high quality. Only guarantee this at a fair price and you have him. Business! Business! is ever his cry. Only convince him that it is to his interest to come to you in the way of business, and he will come fast enough. Be it your business to supply the goods he orders with promptitude; never keep him waiting; never send an

inferior article. That is the way to build up trade, and to keep it going briskly.

As to the matter of railway rates, surely that is simple enough. The British farmer has only to consign produce by the truckload to the railway companies, and he will be placed upon an equitable footing with the importers of foreign produce, or rather he will pay no more than they do. What the railway companies want are truck, or at least, half-truck loads. It is the small parcels that consume time, labour, money.

We hear no complaints of oppressive rates from the great poultry district of Sussex. The North-Western Railway Company finds it worth while running special goods trains daily now from Swanley and other stations near the Kent Strawberry farms. We have even heard it said by one of the Strawberry farmers that it often answers best—i.e., is more profitable to consign Strawberries to Manchester rather than to London. Yet it is the proud boast of the Manchester consumer that he is supplied better and cheaper than the Londoner.

WORK ON THE HOME FARM.

The drought grows in intensity, and the resources of many a farmer are tried severely to keep live stock going well. We have seen much overstocked pasture positively bare of herbage. Without plenty of rain soon the mistake of buying poor cattle will press more and more on the unfortunate purchasers of such stock. Many a lot of them have we had offered us in the last two or three months, but we would have none of them. We admit that under certain conditions a place might be found for some of them, but the conditions are so exceptional and so apart from ordinary farming that it is unnecessary to discuss them now.

Good farming has to do with beasts well wintered, turned out to grass this spring in fresh fleshy condition, so that one can make a sufficiently reliable calculation as to when they will be ready for the butcher. There is nothing vague about such practice; it is working with a purpose and plan, and it generally leads to profit.

As usual, we have brought some promising heifers into our dairy cow herd to fill vacancies caused by barren and worn-out cows. Such vacancies are of constant occurrence in all herds, and we always have a certain number of heifers to select from every spring. If all are not wanted they always sell readily; this season they have sold exceptionally well. But we never sell too freely, even with so good a market. It requires two heifers to fill the place of a really good cow, so that mere numbers can hardly be taken into account, and there must always be a sufficiently liberal margin to insure a full supply of dairy produce for the household.

Our calculations in this and in all produce of the home farm for home consumption are based on possible requirements, which must be well covered. In no other way can they be safe, and no rule other than this can be laid down for general guidance, as the habits of the family, the numbers of the household, and every possible contingency must be taken into account. He certainly is the best home farmer who does this best, pays due heed to economy, and makes the farm "pay."

METEOROLOGICAL OBSERVATIONS.

OAMDEN SQUARE, LONDON.

Lat. 51° 32' 40" N.; Long. 0° 8' 0" W.; Altitude 111 feet.

DATE.	9 A.M.					IN THE DAY.				Rain.
1895.	Barometer at 32° and Sea Level.	Hygrometer.		Direc- tion of Wind.	Temp. of soil at 1 foot.	Shade Tem- perature.		Radiation Temperature		
June.		Dry.	Wet.			Max.	Min.	In Sun.	On Grass.	
	Inchs.	deg.	deg.		deg.	deg.	deg.	deg.	Inchs.	
Sunday .. 23	30.412	68.6	62.5	N.	62.0	83.9	55.7	135.3	50.3	
Monday .. 24	30.445	69.0	62.6	N.	63.9	77.7	60.2	121.2	53.0	
Tuesday .. 25	30.417	63.4	52.9	N.	63.1	80.3	48.4	124.6	42.0	
Wednesday 26	30.176	66.0	59.7	N.	64.1	82.3	52.6	114.1	48.0	
Thursday .. 27	29.957	69.7	55.7	W.	64.2	78.1	57.5	120.7	50.2	
Friday .. 28	29.942	67.1	57.3	W.	64.1	75.7	52.2	119.1	44.4	
Saturday .. 29	29.722	65.1	59.9	W.	64.1	70.9	57.9	103.1	56.1	
	30.153	67.0	58.7		63.6	78.4	54.9	119.7	49.1	
									0.020	

REMARKS.

- 2nd.—Bright early; cloudy at times in day, but generally sunny and close.
 24th.—Generally overcast, with spots of rain about 11 A.M., but sun at times in afternoon.
 25th.—Almost cloudless throughout.
 26th.—Slight fog early, and generally overcast and hazy till about 4 P.M.; distant thunder from 2.30 to 3.30 P.M.; clear evening.
 27th.—Bright early; overcast morning; frequent sunshine in afternoon; fine clear evening.
 28th.—Bright early; generally cloudy after 10 A.M.; and spots of rain between 10.30 and 11 A.M.; slight showers at 4 P.M., and in evening and night.
 29th.—Overcast, with occasional gleams of sun; spots of rain in evening.
 A fine warm week, with very little rain. The ninth consecutive week with less than a quarter of an inch of rain.—G. J. SYMONS.

STRAWBERRIES.



JAMES VEITCH & SONS

Beg to intimate that they are now booking orders for all the leading kinds of Strawberries, either in Pots or prepared Runners.

SPECIAL LIST, JUST PUBLISHED, CAN BE HAD ON APPLICATION.

ROYAL EXOTIC NURSERY, KING'S ROAD, CHELSEA, S.W.

FOR PRESENT & LATER SOWING. THE THREE BEST WALLFLOWERS

DICKSONS GOLDEN BEAUTY.
DICKSONS SELECTED DARK RED.
DICKSONS PRIMROSE DAME.
Per Packet 6d. and 1s., Free by Post.

Choice Mixed Double Wallflower, Myosotis, Silenes, &c.
For Prices and all other particulars see our ILLUSTRATED CATALOGUE, Free on application.

DICKSONS, Seed Growers, Nurserymen, &c., CHESTER.

EARLY BULBS.

Our Special Offer of Early Bulbs is Now Ready and will be sent post free on application. Prices very low. We are now lifting

DAFFODILS,

and can despatch Orders in July for Early Planting. The Bulbs are really splendid and thoroughly ripened.

J. R. PEARSON & SONS,
CHILWELL NURSERIES, NOTTS.

KENT, the GARDEN of ENGLAND

GEORGE BUNYARD & Co.

Beg to ask Buyers to consult their

1895 STRAWBERRY LIST

before ordering their supplies. Now Ready.

Their PLANTS will be GRAND both for Forcing, in little Pots, and as Runners.

Send Orders and Enquiries direct to

THE OLD NURSERIES, MAIDSTONE

FERNS A SPECIALITY.

We have an immense stock of all kinds of Ferns, Stove, Green-house, Filmy, Hardy Exotic, and British, including many very beautiful varieties, rarely seen but which ought to be more generally grown. Catalogue free on application.

W. & J. BIRKENHEAD, F.R.H.S.,
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JOHNSON'S IMPROVED MUSHROOM SPAWN.



Being one of the largest Manufacturers of MUSHROOM SPAWN, and keeping over 100 cows from which I obtain a large quantity of pure virgin spawn, I am in a position to offer the best obtainable at 3s. per bushel.

Special Prices for Large Quantities and the Trade.

HANGER HILL, EALING

No. 785.—VOL. XXXI., THIRD SERIES.

DANIELS' SEEDS

FOR PRESENT SOWING.

CABBAGES—Select Stocks.

DANIELS' DEFIANCE GIANT MARROW.—The finest Cabbage in cultivation. Grows to the weight of 10 to 20 lbs. each, and is early, short-legged, compact, and of splendid flavour. Our own select stock.

Ellam's Early Dwarf, very early..	Per pkt., -/6; per oz., 1/6
Enfield Market .. ..	.. -/4; .. 1/-
Improved Dwarf Nonpareil .. ..	.. -/3; .. -/10
Wheeler's Imperial .. ..	.. -/4; .. 1/-
Early York, dwarf .. ..	.. .. -/6

ONIONS.—DANIELS' GOLDEN ROCCA.—Magnificent variety, of splendid form and great size, with light brown skin and mild flavour, the best for autumn sowing.

WHITE ELEPHANT TRIPOLI. The largest of all the Tripolis	Per pkt., -/6; per oz., 1/6
Red Italian Tripoli .. ..	.. .. -/9
Giant Roeca, very fine .. ..	.. -/4; .. 1/-
White Lisbon, the best for using green in Spring	Per lb., 4/6; per oz., -/6

LETTUCE.—DANIELS' CONTINUITY. The best Cabbage Lettuce in cultivation. Heads large, firm and crisp. Does not run to seed even in the hottest and driest weather per pkt., -/6; per oz., 1/6

DANIELS' BROS., Seed Growers, & Nurserymen, NORWICH.

GATHER HONEY FROM YOUR FLOWERS.

WHY NOT COMMENCE BEE-KEEPING?

Fruit trees to which Bees have access bear the most abundant crops

GEO. NEIGHBOUR & SONS'

BEE-HIVES

And APPLIANCES.

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(Corner of Southampton Street.)

PRIMULAS! PRIMULAS! PRIMULAS!

27th YEAR OF DISTRIBUTION.

WILLIAMS' SUPERB STRAIN, 1/6 per dozen; 10/- per 100. CINERARIAS same price; also DOUBLE WHITE PRIMULAS, 6d. each. Package and Carriage free for cash with order.

JOHN STEVENS, The Nurseries, COVENTRY.

THE NEW EARLY STRAWBERRY 1895, STEVENS' WONDER.

The earliest variety in cultivation and very prolific; solid fruit, good flavour, high perfume.

Awarded First-class Certificates, Royal Horticultural Society and Royal Botanic Society, 1895. See *Gardeners' Chronicle*, March 2; *Journal of Horticulture*, March 14; and *The Garden*, March 16.

Having purchased the whole of the stock of this grand new early Strawberry from the raiser, we have pleasure in offering it as follows:—

STRONG PLANTS, in Pots, £5 per 100, 15/- per doz.
RUNNERS £3 9/-

Ready for delivery early in July. Early Orders requested as stock is limited. Further particulars upon application.

WM. CUTBUSH & SON,
HIGHGATE NURSERIES, LONDON, N., AND BARNET, HERTS.



Journal of Horticulture.

THURSDAY, JULY 11, 1895.

EARLY CABBAGES.

IN the north of England the seeds for yielding a supply of heads fit for cutting in April may be sown from the 10th to the 15th of July, in the south of England the 20th of that month is soon enough to sow for the purpose of having Cabbages of acceptable size as early in the spring as practicable, and this may occasionally occur in March. The plants from sowings made at these dates are thoroughly reliable, always provided the seed be new, saved from true stocks or had from a reliable source.

Tastes differ even in likes and dislikes of certain varieties of Cabbages. Some prefer a mild flavoured and tender Cabbage of small or moderate size, such as Ellam's Early Dwarf and Cocoa Nut. Little Pixie is likewise a delicately flavoured little Cabbage. Others prefer a good sized and fuller-flavoured Cabbage, such as Hill's Incomparable and Early Rainham. Not a few esteem the rich marrow-like flavour of Heartwell and Defiance Marrow Cabbages. Emperor and Enfield Market have large compact hearts, solid, firm, and mild (yet full) flavour. Most seedsmen have their specialities, and thus everyone can be pleased to his or her exact taste as regards early Cabbages.

But the Cabbage is greatly influenced by soil, situation, and cultivation. It is a seaside plant, and not a very tempting one as a species. It has wavy sea-green leaves, no appearance of a head, and its yellow flowers are produced similar to those of wild Mustard or Charlock, but is a biennial or semi-perennial. Such plants will grow almost anywhere, and on good ground develop into something very different—as a Cabbage with a heart weighing 30 lbs. (in England), or a Cauliflower with a head weighing 40 lbs. (in Terragona). Monsters like these can only be produced on very rich soil and in an exceptionally favourable locality, the Cabbage doing better in a comparatively cool, and the Cauliflower in a relatively warmer climate.

The Cabbage does best on rather strong or medium soils, which usually contain a good percentage of potash—the chief mineral required by this plant. Salt (including chlorine), lime, and sulphuric acid are present in about equal amounts, while double the quantity of nitrogen

No. 2441.—VOL. XCIII., OLD SERIES.

is needed as of phosphoric acid. Stable or farmyard manure contains the requisite amount of these elements, hence ground for Cabbages should be well manured, and the more decayed it is the more suitable. Fresh manure means rank growth, abundance of leaves, and little heart. The ground need not be dug deeper than 1 foot, and it is best done with a fork, so as to break up the soil finely and evenly, for the better the tilth the greater the certainty of the delicate fibres penetrating and permeating it in all directions.

Cabbage does well after any crop except a Brassica or cruciferous one. I have found it do better after Onions than any other, excellent results being had after Strawberries, also in succession to Peas or Beans; but all the wonderful nitrogen-gathering power of these never avail much in kitchen gardens—indeed, they take more out of the land in the shape of nitrogen than any other crop I have grown; at least, I could never grow either Peas or Kidney Beans to satisfy the demands of the kitchen and the exacting appetites around the dining table for these vegetables without more manure than any other crop required. If Cabbages follow Peas manure the land, and see that time is given for it to get well soaked through with rain before planting.

As regards site, early Cabbages do fairly well on warm borders provided the soil never lacks moisture. It is, however, a very hardy plant, and loves daylight and fresh air as much as a Daisy—that is, an open situation; but, for early supplies, a sheltered one. It hates shade, this matchless vegetable (in its season) does, even that of a wall, always growing away from one, and never thriving within half the distance of its height. Of course, walls are meant for growing fruits; then why stock vegetables within half their height from them, and where they will neither do good for themselves nor the fruit trees? Cabbages want, and must have, light and air to grow sturdily and produce hearts with few outside leaves (these containing about half as much nitrogen as the hearts). That is one reason why field-grown are better than leafy garden-grown Cabbages.

But there is no reason why garden Cabbages should not be richer than field ones in nitrogen. It is simply a matter of culture—of getting the nitrogen of the soil into the plant. This is easily done by having the soil comparatively firm, as it is in fields, and giving every plant the full benefit of light and air. The plants in fields are never crowded—every one has just sufficient room to develop its outer leaves fully, without encroaching or being encroached on by its nearer neighbours, and it profits accordingly, whilst there is not any waste of ground.

The sowing of the seeds should also be on firm soil, but not of alley-like firmness, for that is going to the opposite extreme to looseness. If in good heart the seed bed is better without manure. I find the bed into which Celery was pricked off and that had been put in the trenches answer well for Cabbage seeds. It is rich, and may be full of *Pythium De Baryanum* resting spores, as leaf mould or other vegetable matter has been used for the Celery; hence it is just as well to apply a dressing of quicklime, say a peck per rod, and point it in lightly, or about 3 or 4 inches. The nitrogen of the vegetable matter must unite with the lime; in fact, this eats it up, and we get nitrate of lime and potash into the plant. Mark, without the lime we are sure to get the nitrogen, and possibly the fungus as well in the shape of "blackleg" in many of the seedlings. That depends again on circumstances, for the fungus cannot grow anywhere, but where the plants are too thick and the atmosphere at the exact point too moist and stagnant, as in a Mustard and Cress box sown too thickly by ten times.

Let the ground be in good working order for seed-sowing, firm it over once with the feet if newly dug; if has laid a time make level, and sow the seeds on the fine, even-raked surface thinly; suffice if the plants come up from half to an inch apart. Cover about half an inch deep, not more, nor less than a quarter of an inch, and make even, beating lightly if rather lumpy. The ground, if in

good working order, will be neither wet nor dry. That is just what seeds delight to germinate in—enough, not too much nor too little moisture. If dry apply water before sowing, using moist soil for covering, and if dry weather follows water as required to insure germination and the steady progress of the seedlings. If fly causes trouble dust with quicklime, which, with watering, will keep the plants safe. When the weather is wet slugs come and feast on the plants, and they must be prevented by dusting quicklime on the seed bed late in the evening. The plants will come up strongly—just rear the cotyledons above the soil boldly, and from between these push a true leaf, which also will be sturdy, and soon after another. The plants may then be lifted carefully, and pricked off in a bed similarly prepared to the seed bed about 3 inches apart, inserting them up to the seed leaves, closing the soil firmly about them, watering and shading from powerful sun until re-established if necessary.

Now have the land manured and dug, it being better to let the air get into it for a few days and become ameliorated and settled before planting than to plant in freshly dug and very open soil. During the first fortnight in September the plants will be fit to set out, and it must be done before they get cramped for want of room in the nursery bed. Perhaps the land is more or less foul with slugs and grubs. There is always something of that sort to contend with, and they hate lime, soot, and salt; take, therefore, equal proportions by measure, and use 1 peck of the mixture per square rod a day or two in advance of planting. If wood ashes are available use only half the salt in the mixture, and give a peck of wood ashes as an extra dressing per rod. Lift the plants carefully with a trowel, plant with that up to the lowest leaves, making the soil firm and giving a good watering. Setting out in moist weather saves watering, and done with a dibber gets the work over sooner; but bear in mind that the less roots the plants lose the sooner they will take to the soil. But some persons, miscalled cultivators, merely pull up the plants, stripping off all the active feeders, and stick them in a hole with many prods at the stem, and wonder the plants lose many of their leaves or why so many plants fail.

If there is any trouble with slugs—I do not mean after the plants are put out, but before, in the mind of the observing and thinking person—and any difficulty in getting the materials named, kainit at the rate of $3\frac{1}{2}$ lbs. per rod may be used instead. Nitrate of soda must not be applied so late in the season, for it only causes succulent growth for the frosts to injure or destroy. The plants should be set 18 inches apart for the lesser growing sorts, or if to heart early 3 inches less in the rows. The larger sorts, and to form fine hearts, should be placed in rows 2 feet asunder and 18 inches distance in the rows, or such as Enfield Market be given 2 feet distance every way. Keep the ground clear of weeds by hoeing when these are in the seedling state, and when the ground is fairly clean of them earth up the plants, drawing the soil to the stems all round or on two sides, not burying the leaves, but giving them or the plants the benefit of the steadiness such imparts against winds, which ruin no end of spindly plants.

Attention in liming or sooting, as required to keep invading slugs in subjection, will be all the care needed in winter, and in spring growths can be encouraged by top-dressings of fish guano and soot, keeping down weeds, and if dry giving copious supplies of water or liquid manure between the rows, this and the guano (about $3\frac{1}{2}$ lbs. per rod) being kept from the plants, soot also not being allowed to get into the hearts. Nitrate of soda may be used in March, or late February in the south, $1\frac{1}{2}$ lb. per rod being sufficient, and it must be kept from the hearts and off the outer leaves of the plants. A peck of soot per rod is sufficient, or if Peruvian guano be used $1\frac{1}{2}$ lb. per rod is ample. Sometimes the plants need and sometimes they do not need these stimulants. Judgment must be exercised in this as in other matters, and then the essential properties of the British Cabbage will be had in full measure.—G. ABBEY.

PLANT NOTES.

Now that the busy season of bedding out has again been brought to a close, the plant grower will find hosts of other matters requiring speedy attention, and which if neglected now will leave conspicuous blanks in the chain of supply later on. After a general clean up among pits and frames has taken place, it will generally be found that there is less pressure on the space of these than at any other time of the year; consequently they may be largely turned to account for the propagation of young plants required for winter, or for growing seedlings which have already been raised for that purpose.

The earliest plants of Primulas and Cinerarias will in many instances be ready for shifting into 5-inch pots; if so, the work should be done without delay, and the plants allowed plenty of room when placed back in the frames. This I consider is one of the most important points to be observed in the production of sturdy specimens of these useful winter flowering plants. Where there is sufficient space for the purpose, I stand the pots from 9 to 12 inches apart, so as to allow a large volume of light to play around them, and I am fully convinced that if the practice were more generally adopted drawn and weakly plants would become far more rare than they at present are. The compost I employ at this stage consists of three parts good fibrous loam, two parts leaf soil, half a part well decayed manure, with a little sharp sand, charcoal, and soot added. Another sowing of both Primulas and Cinerarias should also be made now, so as to secure a supply of useful plants for late flowering.

Where the whole stock of Pelargoniums intended for winter flowering has not been potted into the flowering pots the work should be done at once, so as to get the soil thoroughly permeated with roots by the time the plants are wanted to flower. I find it a good plan to keep the plants under glass for a couple of weeks after potting, so as to be able to shade them effectually, and ward off heavy rains which may occur. After that time the shade is gradually withheld, and the plants transferred to a sunny position in the open air, taking care to stand the pots on a bottom impervious to worms. Kate Farmer (salmon pink), single, and Raspail Improved are two varieties which it does not seem possible to have too large a stock of. Marguerites are indispensable as pot plants during all seasons of the year, and many cultivators find it an excellent plan to have a good number ready for flowering by October. To do this with young plants they ought now to be in 3-inch pots, and having had the points removed previously, be in the right condition for transferring to 5 and 6-inch ones. These should be potted at once and grown in frames, where they can have a light shade during very hot weather and be kept well syringed, conditions which do much towards keeping them free from the leaf borer which gives so much trouble in hot weather.

As soon as the plants have established themselves and the hot weather has passed the shade should, of course, be discontinued, and full exposure given to the plants. Few will require stopping again, except in the case of an occasional very strong shoot. All flower buds should, however, be removed till the third or fourth week in September, and by that time the plants will have formed sturdy bushes ready to develop hosts of flowers. Begonia manicata, a much-neglected plant, is still grown for winter flowering by some. If crowns were rooted in the spring they ought now to be ready for transferring to 5-inch pots, a useful size to flower them in. Where a few old plants exist it is not too late to put in strong crowns. These, if inserted in 3-inch pots in light soil, using plenty of sand around the base of the crown, will flower next spring. The crowns will root well at this season if placed under a hand-light or bell-glass in a cold frame or greenhouse.

Special attention should be paid to Bouvardias during the next two months. A good position for the plants at the present time is in pits or along the front of a south or west wall, the pots being plunged in ashes or cocoa-nut fibre refuse, and arranged with abundance of space between so as to get the wood thoroughly ripened. Regular applications of weak liquid manure ought also to be given.

The several varieties of Selaginellas such as apoda, Martensi variegata, and the still more widely known denticulata, which are so useful for a variety of purposes, should be propagated in quantity now. Cuttings of the two first-named require to be placed in a house or pit where they can have a little bottom heat, but denticulata may be increased rapidly in cool pits at this season of the year. My plan is as follows:—Early in spring manure and leaves are placed in pits to supply bottom heat to annuals and cuttings. When these are removed a layer of cocoa-nut fibre refuse is placed on the top, and boxes of Lobelia cuttings are placed in the frame. These are in turn cleared out, and the frame used for hardening

various kinds of bedding plants. Then at the first opportunity after bedding out time this pit does duty for propagating Selaginellas. A number of 5-inch pots are half filled with drainage, this being covered with manure from a spent Mushroom bed. The pots are then filled with a mixture of light soil, sand, and charcoal, which is pressed moderately firm, and covered with a layer of sand on the top. Small pieces of Selaginella are dibbled thickly into these pots, which are then thoroughly watered and placed in the frame. This is kept quite close and well shaded for several weeks, the cuttings being syringed once or twice daily according to the weather.

As soon as the cuttings begin to grow air is gradually admitted, and regular syringing and closing early in the afternoon resorted to. With this practice the top of the pots soon present a cushion-like appearance of verdant green. The pots then require to be arranged thinly so that the Lycopodium may grow down and around the sides of the pots. About the beginning of October the whole stock should be removed to either cool or warm structures from which the frost is excluded. If in the former, it should be borne in mind that these plants will thrive much better if the pots are placed on the floor than if stood near the ventilators on airy shelves.

All gardeners who have much decorating to do (and how few have not) should make a point of propagating a good number of pots of Selaginellas each year, as the various uses to which they may be put are manifold; indeed, they may be termed indispensable to the finished performance of the decorator's work.—D. W. C.

DEEDS OF VIOLENCE.

JUDGING from outward appearance—which often draws wrong conclusions—there were but few, if any, of those traits of character pointing to the possessor as one walking without the pale of the law. Indeed, it is but right to say that no law was infringed, for none existed—perhaps never will—to protect the victims of that zeal which fired an enthusiastic naturalist to the deed. “A gentleman” would be the verdict at a glance; closer acquaintance might add, “a scholar,” for he who bore the name, which shall not be mentioned here, had the right of tacking several letters to it when asserting his full style and title.

To a few only was it permitted to know the mystery of those lengthy rambles o’er moor and mountain, by dale and dell, and these being members of a certain society which, if not a secret one, conducted parts of its business under cover of a dead language; privacy at least was secured, for dead tongues tell no tales to those to whom ignorance is bliss. Certainly one member, a domestic of this gentleman’s household, had on divers occasions attempted to invade the sanctity of a locked chamber, known as the master’s study, under pretence of clearing it up (whether the mystery or the room is doubtful), but had fain to be content with such observation as the keyhole afforded to prying eyes. Baffled curiosity even went so far as to assert, with a contemptuous sniff, that there was “nothing in it but rubbishage.”

Coming to the particular day and particular deed, reference must be made to the last meeting of the society previously mentioned. On this occasion discussion had been animated and prolonged, whilst opinions were equally divided on the possibility of a distinguished member of a high family being found in the neighbourhood, or, in fact, if it existed at all. The publicity of distinction too often meaning extinction by the public. Rare old volumes by past masters localised the original habitat, hence hopes were held out of present gratification.

Buoyant with faith and hope, if devoid of charity, the central figure of our narrative hastened home, and straightway sought the quiet of his sanctum. The prying domestic who was sent to summon the master, which for the nonce a noisy dinner bell had failed to do, saw from her usual reconnoitering ground, the keyhole, him—most peaceful of men—hastily sheath a bright weapon, and further hide it in a tin box; and on commencing her duties in the early morn, by another similar observation, found that master, box, and blade had flown—were, in fact, over the hills and far away. We who are privileged to follow up his trail—to be in at the death—would scarcely take this be-spectacled, placid looking gentleman for a bushranger, unless a closer discrimination noted the eagerness with which he scanned each bush, hedgerow, cleft, or cranny on approaching his happy hunting grounds.

Eureka! He has found it—his victim, last of the race—and triumphantly draws the bright blade (technically known as a botanical trowel), and up comes root and branch this specimen of the *Florus solitari*, this *rara avis* of the British flora. Alas! poor plant, to be henceforth and for ever as extinct as the Dodo. Slowly, but surely, is its life blood absorbed ’twixt sheets of botanical

paper, and the remains—*caput mortuum*—finally entombed in a *hortus siccus*.

Humph! "Fiction" say you, dear readers. Well, I grant you the point *sans* argument; but now to facts. Sic transit the beauteous or the rare from our native flora, and so passes the graceful and bright in foliage or blossom from their healthy surroundings to the early grave of a noxious fumed city. Whether the victims are immolated by savants on the altar of Science or butchered by city folk on a Bank holiday, there is the same absence of love—that love of Nature which bids the woodman spare the tree. That ardent desire to alone possess what all should enjoy turns our tourists into chevaliers d'industrie, who hunt down their prey to the distant parts of our islands, and Killarney's lakes know their beautiful Fern (*Trichomanes radicans*) no more. So a market is created for knights of the barrow, who ruthlessly strip the Primrose-studded bank.

Any excuse for this? Yes, a poor one, seldom expressed, but clearly understood—viz., "If I don't take it someone else will." How near is this excuse to self-accusation, yet how far from a remedy. Turning from these deeds of violence to veritable blood-thirsty ones, from the flora to the fauna, we may note the same wanton spirit dooming to destruction some rare visitant to our shores, some literal *rara avis*, and the self-beatification which promptly furnishes all particulars to the newspapers. Further dissertation is unnecessary, but the dissemination of teaching which will preserve to posterity the rare or beautiful in Nature is worthy of a more potent pen than that of—NEMO.



A BEAUTIFUL GROUP OF ORCHIDS.

In my note under this heading page 12, a slight printer's error has crept in. The beautiful Warwickshire seat of C. A. S. Smith-Ryland, Esq., there reads "Bayford Hill." It should be Barford Hill.—WANDERER.

ODONTOGLOSSUM EDWARDI.

THIS fine Odontoglossum is quite distinct from any other in the genus, and when happily situated is a very free grower. The spikes are produced at different times in the year and take a long time to come to perfection. They are nearly erect, branching, and bear a very large number of flowers, each about an inch across. The sepals and petals are about equal in size, and the whole flower is violet purple with the exception of a bright yellow marking at the base of the lip. The roots of this species are large and persistent, and like a rough open compost with abundant capacity for aëration.

The pots must be larger than for *O. crispum* and kindred plants, and great care is necessary with the drainage, which must be at least two-thirds of the depth of the pots. The roots, being sometimes pushed above the surface of the compost, are apt to be eaten off at the points by insects if not protected, this being very weakening to the plants. If a little sphagnum moss is placed over these it will keep them safe and assist the plants considerably. The pseudo-bulbs on strong plants are upwards of 4 inches high, oblong, and bear large vigorous foliage of a bronzy green tint. The temperature of the coolest house suits it best during the summer months, but it is easily checked by cold during the winter. A native of Ecuador, flowered in England first in 1880.

CYPRIPEDIUM BARBATUM.

In the race for new species and hybrids many of the older though handsome *Cypripediums* are placed in the background. This species is an instance of this, although it is a really good kind and one that has been very successfully used by the hybridisers. The prettily variegated foliage, which attains a length of about 6 inches, is very stiff in texture and attractive in appearance. The flowers are produced during the summer months and last a very long time in full beauty. The dorsal sepal is broad, and pure white at the apex, the base being striped with green and purple. The petals are purple with several tufts of black hairs on the upper part. The pouch is deep vinous purple, very smooth and regular in outline. These flowers are produced usually singly on tall stems from the centre of the growths.

This kind thrives in a stove temperature all the year round in the compost usually recommended for *Cypripediums*. The leaves are often attacked by a peculiar kind of scab insect, dark with a white lining. These are very fecund, and unless kept well

under soon disfigure the plants. Fumigation will lessen the number of these but will not destroy them all, and recourse must be had to sponging to effect a clearance, thoroughly wetting every part of the plant with warm water and going over every leaf carefully.

C. barbatum is somewhat variable, the best forms being large and very deep in colour. *C. b. biflorum* produces two flowers upon a scape, the pouch being usually more pointed and lighter in colour than the type. *C. b. nigrum* is much darker than the other varieties, bearing larger flowers and having finely marked foliage. *C. b. superbum* is another beautiful variety with bold striking flowers very clearly and distinctly marked. These are the most distinct of the dozen or more varieties so called. They are natives of the Old World, being rather widely distributed about the Malay Peninsula and various parts of India. The type was introduced to England in 1840.

ONCIDIUM PRÆTEXTUM.

This is a remarkably fine species belonging to the *crispum* set, the flowers of which are just opening. It produces handsome branching racemes of flowers which are each upwards of 2 inches across, of varying shades of yellow and brown. This thrives well in the Cattleya house, and should be suspended on a raft or in shallow pans, a great thickness of compost being objectionable. The immense racemes, compared with the growth, are a great drain upon the plants if allowed to remain until they fade, and for this reason they should be cut after about a fortnight, when they will last another week or ten days in water. This is a Brazilian species introduced in 1876.—H. R. R.

PROFITABLE EMPLOYMENT OF GLASS STRUCTURES IN WINTER.

[Silver Medal Essay by Mr. GEORGE SUMMERS, Sandbeck Park, Rotherham.]

(Continued from page 6.)

LILY OF THE VALLEY.—This should be grown in quantity according to the convenience to hand. Unlike Arums, they require a great amount of heat and moisture, and unless this is at command their cultivation should not be undertaken. Procure the best Berlin single crowns, as neither the Dutch nor ordinary home grown varieties are to be depended on, though I have on several occasions obtained English grown crowns from Mr. Jannock of Dersingham, Norfolk, who makes a speciality of them, which have invariably turned out well. Given suitable land, I do not see any reason why as good crowns of the Berlin variety should not be grown in this country as in Germany; in fact, it has proved that quite as good can be supplied, that can be relied on for forcing, and I have had good spikes of them at Christmas. The price being higher than the German crowns, however, have hitherto prevented their extensive use for market purposes. Houses in which Tomatoes or Cucumbers have been grown during the summer, if well heated, are suitable. Narrow span-roofed or lean-to houses are better than large airy structures.

Procure the crowns as early as possible. They usually come to hand early in November, and should at once be placed in boxes. Those I use and have found convenient for the purpose, being 26 inches long, 12 inches wide, and 4½ inches deep. These will hold about 160 crowns each. A few rough leaves or Mushroom bed refuse is placed over the bottom of the box, and any light soil such as has previously been used will be suitable. Cocoa-nut fibre refuse is also useful for the purpose, as the crowns do not emit any new roots during the time they are being forced. Commence at one end of the box, placing the crown singly and firmly in the soil. The roots should not be shortened, as I have on various occasions known failures arise from this practice. After boxing them they should at once be placed in the open air till required for forcing, a little frost not harming them; on the contrary, for the earlier plants I think it is an advantage.

When taken into the forcing house they should be assigned a position in a high temperature, such as a temporary frame placed over the hot-water pipes on which there has been placed some troughs kept filled with water. Or they may be put directly on the hot-water pipes with plenty of moss kept constantly moist round them. The crowns, too, must be well covered with moss, which should never be allowed to become dry. The bottom heat may be from 85° to 90°, the moss remaining on the crowns until they have grown 2 or 3 inches. They must then be gradually brought to the light in a house in which the temperature is kept from 75° to 80°, and the flowers will be ready for market in about a month from the time the crowns were first brought into heat.

Treated in this manner the plants will have good spikes of bloom, and abundance of foliage. Without the latter they are of little use for market purposes. Prices are invariably good from Christmas to the end of January, ranging from 10s. to 15s. per dozen bunches, twelve spikes in a bunch. Throughout February and March this year they averaged 8s. to 10s. per dozen bunches. Lily of the Valley is very easy to manage when once the treatment is understood, but without abundance of heat and moisture it is impossible to force them satisfactory early in the year. My experience of forcing and marketing Lily of the Valley is, that it is one of the best paying winter flowers for market that can at present be grown.

ROMAN HYACINTHS.—These may be grown at a profit, as they invariably do well with but little trouble; best prices are made during November and December, averaging from 9s. to 15s. per dozen bunches, twelve spikes in a bunch. After that time prices have a downward tendency, owing to the numbers that are sent to this country from France, causing a glut in the market. These are often sold at prices barely sufficient to pay carriage and salesman's commission. Home-grown flowers are of more value than the imported ones; still at that time of the year when they become cheap the flowers will not make so much as the bulbs cost before they were forced.

These Hyacinths are always comparatively high in price compared with other bulbs, so only a limited number should be grown. Bulbs can usually be obtained in August or early in September, and should at once be placed in boxes. I prefer boxes the same size as are used for Lily of the Valley. Roman Hyacinths are not particular as regards soil, but a mixture two parts loam, one Mushroom-bed refuse, and a little coarse sand suits them admirably.

The boxes containing the bulbs should be placed in the open air, and covered to the depth of 2 inches with fine ashes or cocoa-nut fibre refuse until the occupants are well rooted; they can then be brought into the forcing house as required, having previously removed the covering, a little moss being placed over the bulbs. They must not be plunged in bottom heat, but stood on stages in the light. They will be ready for market in about a month from the time they are started to grow. Fifty-five to sixty degrees is a suitable temperature in which to grow them, as the spikes come much stronger than if grown in a higher temperature. When in full growth they require abundance of water. It is an advantage to gather a few of their own leaves with the flowers, as they always sell better than if the flowers are sent to market without them.

TULIPS.—Single varieties of these should be grown in quantity, as the bulbs can be obtained cheaply and are very little trouble to grow. If the bulbs are good and not forced too hard not one bulb out of a thousand but will bloom satisfactorily. They may be grown in the same houses as the Roman Hyacinths, as they will not be in bloom till after the Hyacinths are over. For early forcing I prefer the Duc Van Thol varieties. The scarlet Van Thol takes well in the market, and will be in bloom from Christmas onwards. The prices obtained for this variety vary somewhat. During January and the early part of February this year they averaged from 9s. to 12s. per dozen bunches, twelve blooms in a bunch. Since then prices have been much lower, 6s. per dozen being nearer the mark. The best white that I have tried for this purpose is La Neige. This forces well, but cannot be obtained in bloom so early as the Van Thols. It must not be forced too hard when first brought into heat, or it will not bloom satisfactorily. If allowed to come along slowly it may be obtained about a fortnight after the first Van Thols are ready. The bulbs are dearer, but the flowers make much better prices than the coloured varieties, and do not vary much, the average being from 12s. to 15s. per dozen bunches.

The treatment of Tulips in their early stages is similar to the Roman Hyacinth. They should be placed in boxes as soon as obtained in the autumn and be stood out of doors, covered with 2 or 3 inches of fine ashes. The bulbs must be well rooted before being brought into the forcing house, or they will fail to bloom satisfactorily. They should not suffer by want of water, and when brought into the house should be placed on stages in a good light position and not be plunged in bottom heat. A temperature of 55° to 60° suits them well. Tulips should not be allowed to fully open before being gathered, but ought to be taken when they are well in bud, when they will keep for a long time in good condition. If space is limited the boxes containing the bulbs may be placed on the floor of the house for a few days, and on the stages as the more forward ones are removed. They will take from three to five weeks after being brought into the forcing house before they are ready for market.

DAFFODILS.—These are always saleable, as there is a great rage for them; but the blooms must be all cleared off before they begin to arrive from the Scilly Islands. The only variety that I have grown for market is the Old Double, the bulbs of this variety being cheap. A good number may be grown in a small space. I use similar boxes for these as for other bulbs mentioned, and the treatment is the same. As soon as the bulbs are well rooted they may be brought into a cool house, but should not be placed in a higher temperature than 50°, as if given too much heat in the early stages the bulbs will produce leaves instead of flowers.

A plentiful supply of flowers may be obtained throughout January, when prices are comparatively high, ranging from 9s. to 12s. per dozen bunches. The same treatment should be given to the numerous other varieties that are now so extensively grown, such as Golden Spur, Horsefieldi, Emperor, Empress, Sir Watkin, and others. The bulbs of these are costly when compared with the old double variety, and at the present price would not pay to grow for cut flowers; but a stock could soon be obtained cheaply if grown in suitable land, as they increase rapidly.

CARNATIONS.—These find a ready market throughout the winter months, and they have the advantage of requiring little heat. I have only found two varieties that can be depended on to yield a good supply of bloom throughout the winter. These are Miss Joliffe Improved, pale pink; and Winter Cheer, scarlet. La Neige is a good white, but I have not found it to flower so freely in the winter as the two former. Young plants should always be used for the purpose, propagated from

cuttings early in the spring. The small side shoots root freely if placed in a little bottom heat at that time of the year. The plants should be grown in frames or on shelves near the glass, in a temperature of 55° until June, when they will be ready for their final potting into 32-size pots. After this they may be placed out of doors, plunged in ashes, and syringed twice daily. I prefer this sized pot in preference to larger, as unless the pots are well filled with roots the plants will not bloom satisfactorily, but will continue growing instead of flowering.

The plants should be placed in their winter quarters in September, and be grown throughout the winter in a temperature of from 40° to 45°, when, if the plants have been well grown, they will flower freely throughout the winter. The compost I have found most suitable for them is loam, peat, and leaf soil in equal parts, and a little sharp sand added. The average price obtained has been 2s. 6d. per dozen blooms. This year I tried the new clove-scented tree Carnation Uriah Pike, but it did not bloom so satisfactorily as the two former, and is evidently better suited for spring and summer.

PELARGONIUM RASPAIL.—This semi-double variety should be grown in quantity, and as it can be cultivated throughout the summer with but little trouble, the blooms lasting for a long time in a cut state, there is usually a ready sale for them. But the price has been somewhat lower during the past two or three years than was formerly the case, the average being 2s. 6d. per dozen bunches, six to twelve trusses



FIG. 4.—ARNEBIA CORNUTA. (See page 36.)

in a bunch according to size. Cuttings should be rooted as early in the spring as possible, and placed in larger pots as they require it, the points of the shoots and all the blooms being pinched off occasionally to cause a bushy sturdy growth.

During the summer they may be plunged in ashes in the open air, being duly attended to for water, and be placed in their flowering pots early in July. They should be brought into the houses before the end of September, and grown throughout the winter in a temperature of 60°. Treated in this manner they will bloom profusely throughout the winter.

LILIUM HARRIS.—This is another plant that well repays any trouble that may be taken with it. Procure the bulbs as early as possible in the autumn, placing a single bulb in a 32-pot, and cover with a little moss, or anything to keep them dark. Place the pots out of doors for a few weeks or in a cool house, and as soon as they start to grow the covering may be removed, transferring to a temperature of 55°. In January, when the days begin to lengthen, increase the temperature to 60°, which in a few weeks may be raised to 65°. They require a great amount of water whilst growing, and it is an advantage to place saucers under them, occasionally filling them with liquid manure. The aim should be to have them in flower as early as possible, as they are much in request at Easter, and prices fall very rapidly after that time. The soil that I have found most satisfactory for them is peat and loam in equal parts, with a little sharp sand added. Prices vary very much. Early in the spring and at Easter the blooms are worth from 4s. to 8s. per dozen blooms. At the present time they are only making 2s. per dozen.

(To be concluded.)



ROSE SHOW FIXTURES FOR 1895.

July 11th (Thursday).—Bath, Great Malvern (Hereford Rose Society), Helensburgh, Woodbridge, and Worksop.
 „ 12th (Friday).—King's Lynn.
 „ 13th (Saturday).—New Brighton.
 „ 17th (Wednesday).—Derby (N.R.S.).
 „ 18th (Thursday).—Canterbury (Kent Hospital Fête) and Halifax.
 „ 20th (Saturday).—Manchester.
 „ 23rd (Tuesday).—Tibshelf.
 „ 24th (Wednesday).—Chesterfield and Newcastle-on-Tyne.*
 „ 25th (Thursday).—Trentham.
 Aug. 3rd (Saturday) and 5th.—Liverpool.†

* A show lasting three days. † A show lasting two days.

—EDWARD MAWLEY, *Rosebank, Berkhamsted, Herts.*

ISLE OF WIGHT ROSE SHOW.

IN your this week's paper you give a report of the Isle of Wight Show, and remark that Mr. Frank Cant took the lead last year. This is not the case, as I obtained the first prize in both the large classes last season. I simply write this to point out an error which could not have been made if you had referred to your report of last year's show.—B. R. CANT.

[We willingly make the correction. The conductors of gardening journals have to take reports as they are sent to them, and it is quite impracticable to compare them with reports of preceding years.]

IMPRESSIONS OF GLOUCESTER.

GLOUCESTER, under exceptional circumstances, was asked to waive its claims to the National show last year in favour of Windsor, and I do not think the local authorities have had cause to regret their courtesy and good feeling. Everything was done to make the show a success. The active and energetic Secretary, the Rev. T. Holbrow, who, as several of his friends said, is the Gloucestershire Rose Society, and the thoroughly business-like Committee, work together with a will, so that everything that could possibly tend to the comfort of all concerned was secured, while the splendid hospitality of the Mayor added not a little to the enjoyment of the meeting.

With regard to the exhibition itself, it was, I think, to many a great surprise, and to an uncritical eye the long lines of boxes with the rich and varied colouring of the Roses would seem to be the very acme of perfection; but others knew too well through what a trying time they had passed, and that, beautiful as they seemed, there were two defects which, with a few exceptions, were generally apparent. The blooms were mostly smaller than usual, and the substance of the flowers was thin; the exceptions were those, I think, where the plants had been grown on heavy soil. Notably amongst nurserymen Messrs. Harkness and Sons came out first, and their box of forty-eight well kept up their reputation. These were not, however, as many imagined, plucked from their nurseries at Bedale, but from their new ground at Hitchin. The stand contained some very beautiful and bright flowers, and amongst them that which gained the silver medal amongst the H.P.'s nurserymen's flowers. East Anglian growers were not quite so much to the front as on some former occasions, although Messrs. Prior & Son made an advance in their exhibits. In the same way Messrs. Merryweather of Southwell, Townsend & Sons of Worcester, and Jefferies of Cirencester exhibited some excellent stands, but the latter firm stated it was the first time they had ever exhibited in June, and that generally their Roses were not in bloom.

THE CUP CONTEST.

The prizes for amateurs were pretty widely distributed, and a very sharp contest took place for the silver cup presented by the High Sheriff of Gloucester. The contest lay between the Rev. J. H. Pemberton and Mr. Lindsell of Hitchin, and persons who imagine that judging is for an experienced Rose grower an easy matter might have gained a lesson by watching the three experienced Rose growers who had to adjudicate the prizes. The boxes were examined over and over again, points carefully noted, and ultimately the decision was given in Mr. Pemberton's favour, and certainly the stand was of great excellence.

NEW ROSES—MRS. JEFFERIES.

I have but very little to record in the way of new Roses; there was nothing staged for competition in the class especially set apart for a new seedling, but I am not at all sure that there was not a Rose there of which we shall hear something hereafter; this was a yellow Rose raised and exhibited by Messrs. Jefferies & Sons of Cirencester, and shown in their stand of twenty-four. It is said to be a seedling, and it looks like it, between Cloth of Gold and Maréchal Niel; it does not droop so much as the latter, and I am inclined to think that it will hold itself up when strongly grown much in the manner of its other parent.

It has been called Mrs. Jefferies, and I hope will prove itself worthy of its name; it is a strong growing climbing Rose, well formed, and not partaking at all of the Dijon character. Should it continue to exhibit these characteristics it will be a valuable addition to our climbing Roses.

MEDAL ROSES—COMTESSE DE LUDRE.

The medals for the best Roses in the show were awarded, amongst nurserymen, to Messrs. Harkness & Sons for the best H.P., and like the Rose which obtained a similar honour at the Crystal Palace last year it was one of which very few growers seem to have heard, and yet Comtesse de Ludre was sent out fifteen years ago by Eugène Verdier, and is another instance of how a good flower may, through the multitude of claimants for recognition, be overlooked. The colour is bright carmine red, shape and substance good. The best Tea in the same class to which the medal was awarded was a very beautiful bloom of Ethel Brownlow, which is every year obtaining a higher position in this beautiful class; it is very varied in its colouring, and this medal bloom was very bright. In the amateur division the Rev. J. H. Pemberton gained the medal for a grand bloom of Horace Vernet, a variety which he grows well. The medal for the best Tea was awarded to the Rev. A. Foster-Melliar for a grand bloom of La Boule d'Or, a flower not often seen, for it is not very easy to open; such a season as the present, therefore, suiting it well.

LOCAL EXHIBITS.

There is one very satisfactory matter on which the Gloucestershire Rose Society is to be much congratulated—viz., the manner in which its local exhibits have improved. I can recall the time when they were of such a character that one would have gladly put them under the stage had such a thing been permitted. It is very different, however, now. I do not allude to such exhibitors as Mr. Conway Jones, who can hold his own anywhere, but generally to those who have from time to time joined the Society and competed at its exhibitions. The stands were very creditable, and give promise of still better things, and this is really the cause why local societies are so valuable; they urge on exhibitors who after a while are not contented with home honours but enter the lists of our metropolitan exhibitions.

MR. BURNSIDE.

I think that all who know him were glad that although Mr. Burnside had removed to the Midlands, and the greater portion of his fine collection had been dispersed, he was able again to engage in the warfare and carry off a prize. Thus then are my few impressions of the National Rose Society's show in Gloucester, the first of the three to be held this year, and it may be the best of the three; for of this no one can tell even now, although we are in a few days of the Metropolitan show.—D., Deal.

CRIMSON RAMBLER AT HOME.

FOR some time past one of the first questions horticulturists have asked has been, Have you seen Crimson Rambler? Naturally, during the period immediately succeeding its introduction, many persons were compelled to respond in the negative. At the present time, however, it is fairly safe to assume that most flower lovers have seen this Rose at some of the exhibitions. Just now one might propound another query and say, Have you seen Crimson Rambler at home? The probabilities are that many persons would again have to answer in the negative. To these the writer would say, Take the first train you can catch in daylight to Slough and see it, for the spectacle is superb; but more of this later. Rosarians and non-rosarians who visited the National Rose Society's show at the Palace would see the magnificent examples of Crimson Rambler that were staged by Mr. Charles Turner; but to appreciate the full decorative value of this remarkable variety it must be seen growing in all its luxuriance and clothed with its clusters of glowing flowers.

To see them at home, Mr. Arthur Turner was sought out, and asked if a visit could not be paid at once. With the courtesy that he is noted for this gentleman replied, "Come when you like," and the very earliest chance was decided on then and there. Of course great things were expected, but greater were found. As the train sped along the imagination was allowed to picture what we were going to see, with a result of building a fairly high castle ere Slough was reached, and yet it did not do credit to the Rose at home. Most of our readers know that it is but a short walk from the station to the Royal Nurseries, so that we were soon with Mr. Arthur Turner and Mrs. Charles Turner in their delightful home at the top of the nursery. A short chat in the cool was very enjoyable, but time was scarce, and we had soon to turn out in the broiling sun, tracks being first made to the Carnation houses—but of these more anon.

Leaving the houses we walk away to the open ground, getting glimpses of Roses and other flowers on our way until we come to the first row of the Polyantha of Polyanthas. In this case it was in the form of a hedge composed of plants two years old from the bud and worked on the Manetti stock. These specimens have been cut down once, and are now carrying extraordinary numbers of flowers in immense symmetrical trusses. The row presented a carpet of crimson on a green ground when viewed at a distance of a few yards, and put all the other Roses in the vicinity completely in the shade. The plants here were about 3 or 4 feet in height, but the shoots being made which will produce the flowers next season are considerably longer, stouter, and better in every way. These will have only the unripe points removed, it having been found that hard pruning is not conducive of floriferousness. Thus entirely new growths are requisitioned every year, and apparently each is stronger than its predecessor.

From here we made our way with the aid of a pony and trap to Langley, where the firm has a large piece of nursery ground covering about 50 acres. As we were thus making progress Mr. Turner gave his opinions on the best stock for the Rambler, and was of opinion that there was none to equal the Manetti, as with some others it completely outgrew them. The training must of course depend almost entirely on the position of the plants, but grown as they are at Slough the shoots are simply tied down with string, thus being made to cover a piece of ground very quickly. Of course plants may be trained to walls or fences, for which purpose no Roses are better adapted, while the Rambler is certainly equally as useful for the adornment of summer houses. The variety is, moreover, a good doer, and rarely fails to become established if only ordinary care is bestowed on it after planting.

The first plot of Rambler that we came to in this nursery was one several rods in extent, and which is now a perfect mass of flowers and beautiful rich green foliage. We were rather surprised to see such a number, and learnt on inquiry that they had all been ordered, but the weather at the time had been so adverse to planting that it had been deemed advisable to let the orders wait until another season. These plants were three years old from the bud, and many of them had attained to a height of between 5 and 6 feet, while several of the growths that have been made this year are almost, if not quite, 8 feet high and are of extraordinary thickness. A little distance away we came to another stretch, in which case the plants were flowering even more profusely and developing a much richer colour, due in all probability to the manure with which each row had been well mulched. This showed that Crimson Rambler, like all other plants, appreciates and well repays any little attentions that may be bestowed on it from time to time.

Besides these big plants there were hundreds smaller ready for sending out when the proper time arrives, and in addition to these propagation is being carried on in every possible way and at all suitable times. From curiosity the number of blooms on one truss was counted, and it reached the extraordinary total of 175. Surely more need not be said as to its blooming proclivities. It is a Rose, too, that one might call clean, as the petals do not fall and cause a litter as is the case with the majority of the other Roses belonging to this section. Still one other good point is found in the long time that the flowers retain their rich crimson colour, not fading as the Polyanthas usually do. As only slight conception of the glorious beauty of the Crimson Rambler at home can possibly be gleaned from these notes, we would repeat the advice given in the first paragraph, to make an early pilgrimage to Slough to see and judge as to the merits and demerits of the Rose, and we are sure all who do so will find themselves amply repaid for time, trouble, and expense.—NOMAD.

BEDFORD STRAWBERRIES.

HORTICULTURALLY Bedford has become renowned as the birth-place of some of the finest Strawberries in cultivation, for both at Girtford and in the Kimbolton Road Nursery the late Mr. Thomas Laxton carried out an extensive series of experiments in these fruits. Over thirty years' keen and skilful attention to general hybridising resulted in the production of many valuable additions to the lists of garden plants, and amongst them came Strawberry Noble, which in the character of size, form, productiveness, and earliness was the greatest break from old types that had been obtained. Utilising this as a parent for crossing with others to combine the qualities already secured with improved flavour, Mr. Laxton soon succeeded in obtaining good results, while his sons, Messrs. Laxton Brothers, who carry on the business, and this very important work, have extended the number of distinct crosses to over 200 with astonishing and highly satisfactory results. It is not mere haphazard work, but every cross has some definite object in view. Careful records are kept of the parentage, the seedlings are tried for several years before an opinion is pronounced regarding them, and a most rigorous selection is made to determine which are worthy of being placed in commerce.

Following the lines indicated one of the most distinct and useful varieties of the Noble type was Royal Sovereign, obtained from a cross with the variety named King of the Earlies, which was itself raised from Vicomtesse H. de Thury crossed with Black Prince. How many certificates and medals have been awarded for Royal Sovereign within the past two years it would be difficult to say, but the fact remains that it is a Strawberry of great merit, vigorous in habit, prolific, the fruit large, firm, of a beautiful scarlet colour, and the flavour is very satisfactory when the fruit is well developed and ripened. The value of such a variety as a parent in crossing was at once apparent, and the number of experiments made with this already show wonderful results in the seedling quarters at the Kimbolton Road Nurseries.

To enumerate all the notable seedlings would be a formidable task, but it may be remarked that most promising forms have been secured from combinations of Royal Sovereign with Latest of All, Commander, John Ruskin, May Queen, and Sensation. Few persons in the trade would hesitate to put the whole of these into commerce, but it is desired to retain the good reputation gained, and to proceed cautiously, though there are several which may be seen exhibited another season. James Veitch and Captain (Crown Prince \times Forman's Excelsior) have yielded some handsome seedlings, one in particular showing a combination of the colour of Captain with the great size and form of J. Veitch, the flesh solid and finely flavoured; indeed it is one of the best of the wedge-shaped type that has yet been raised, and it may be expected to take a high place amongst the large-fruited varieties.

One of the greatest recent successes that has been deemed worthy of a name is Monarch, which was derived from a cross between Latest of All and Captain. It is a particularly handsome fruit well deserving its title, for in shape, size, and colour it is unique amongst outdoor Strawberries. A large quarter devoted to the variety shows the vigorous and prolific habit to be remarkably uniform, the foliage being broad and thick without a sign of mildew, although some other varieties with thinner leaves are attacked in its vicinity. The flesh is solid, and the flavour brisk and agreeable. It seems destined to take a foremost place amongst the best Strawberries for outdoor cultivation.

A German variety little known in this country, the name of which has been shortened from König Albert Von Sucksen to "The Albert" as more convenient for English tongues, is being utilised for crossing, not on account of its size or form, for it is second or third-rate in these respects; it is also very light coloured, and extremely soft. It possesses, however, a most distinct pleasant aromatic flavour, and may be expected to give rise to a new type. It is said to be a seedling from Unser Fritz, a late, free, large-fruited variety of Continental origin. One cross between The Albert and Sensation seems to have accomplished a great part of what is being striven for, as the fruit has considerable size like the latter variety and a share of the flavour of the former. Notice must not be omitted of that useful new forcing Strawberry Leader, which resulted from a cross between Noble and Latest of All. Though it would not be specially recommended as an outdoor variety, it is unquestionably valuable for forcing purposes, its qualities generally entitling it to a high place amongst those adapted for such work. These are, however, only a few of the "Laxton Strawberries," but all horticulturists who have occasion to grow this important fruit for home use or sale owe much to the efforts that have been made, with so large a share of success, to effect improvements of a marked character.

Though no attempt will now be made to deal with the numberless other plants taken in hand by Messrs. Laxton for cross-breeding, it may be remembered that Peas are receiving special attention as they did in the time of Mr. T. Laxton, and two deserve a line of notice. One of these is an early Pea, very prolific, dwarf, with well filled pods, the quality excellent for an early variety. It was raised from Gradus crossed with Earliest of All, and is fully as early as the last named. The other is one of the Ne Plus Ultra type, but much dwarfer, very compact, of good constitution, and extremely prolific. It is named John Howard, and received three marks in one of the Chiswick trials. Any Pea that is healthy, and crops well in such a dry season as the present without special treatment must at least possess a good constitution.

These hurried notes cannot be concluded without a word of thanks to Mr. William and Mr. Edward Laxton, the two intelligent, energetic young men who are so closely engaged in such useful work and in developing a substantial business.

DO PLANTS ABSORB NITROGEN?

No doubt many will at once answer in the negative; also, perhaps, thinking that I have never studied a text book on plant physiology or agricultural chemistry. To make this point clear I may say that I am perfectly familiar with the words of most of the professors who say that "plants take up their nitrogen as nitrates;" but I find a difficulty in accepting this as being correct, because I cannot account for all the nitrogen found in plants if it was only taken up in this form. Taking it for granted that it is so, then should not the base which took the nitric acid into the plant be also there? We are told that most of the nitrogen is taken up by plants as nitrate of lime, then what becomes of the lime? It cannot be that after the nitrate of lime has once entered the plant and given up its nitrogen that it is turned out of the plant again. That would be against the teaching of modern science. We should expect then to find in the ash of plants equivalent proportions of lime to nitrogen. Is that so?

I am taking for an example the analysis of a crop of Wheat as given by Warrington in his "Chemistry of the Farm." He says a certain crop of Wheat at harvest weighed 4958 lbs., *i.e.*, 1800 lbs. of grain, and 3158 lbs. of straw. This crop contained 48 lbs. of nitrogen, 28.8 lbs. of potash, 2.6 lbs. of soda, and 9.2 lbs. of lime. The 9.2 lbs. of lime, if taken up as a nitrate of lime ($\text{Ca 2NO}_3 \cdot 4\text{H}_2\text{O}$), would only carry 1.07 lbs. of nitrogen into the plant. If the potash and soda were taken up as nitrates, the former would only carry 3.98 lbs. and the latter 0.4 lbs. of nitrogen into the plant. Total 5.55 lbs., against 48 lbs. found, leaves 42.45 lbs. to be accounted for. The difficulty of making this agree with the teaching that "plants take up their nitrogen as nitrates" is so great that I shall be glad to get the opinion of some of your scientific readers on this question.—STUDENT.

EYES OR NO EYES.

STROLLING sometimes through the gardens of friends I am often surprised to see the number of apparently unobserved or unnoticed Briars rising rampant from the roots of Roses, or rioting amongst the foliage and blooms of standards. Of course very soon neither leaf nor flower of the original Rose tree would survive. Only recently I saw a striking example of ignorance of this very elementary, but most essential, knowledge connected with successful Rose culture. Asked by a lover, and to some extent cultivator of her garden, to name a Rose which was enriching an arbour, or rather a dowdy arch leading into the

kitchen garden, with its glowing and beautifully formed blooms. They were those of Belle de Bordeaux, and the accompanying foliage is usually stout and handsome, rather resembling that of Gloire de Dijon. I found that at least one-half of the space which had at one time been covered by the beautiful and luxuriant growth of the Rose in question occupied by Briar suckers which were actually being trained through and over the wooden trelliswork of the arches. Nor is this all. My friend had been from home for some weeks; interest and curiosity led me now and again to give a look round her garden when she was out. I did not then examine the arches of which we have been speaking, but I saw several instances of robust suckers exercising their vocation unmolested in the borders, and robbing the Rose trees of health and strength. Most of these, however, were removed by the gardener before the owner's return, but not before very considerable mischief had been done.—A. M. B.



EVENTS OF THE WEEK.—In addition to the numerous Rose shows that will be held during the coming week, and a list of which is given on page 30, the Woolwich, Plumstead, and District Horticultural Society will hold its annual show on Friday, July 12th.

WEATHER IN LONDON.—The much wanted rain still appears loth to fall in metropolitan districts, as we have again to record a week of drought, with continued tropical sunshine. On Monday the heat was intense, and at the time of going to press there seems but little prospect of a change. The grass in the Parks presents a burnt-up appearance, and vegetation in the neighbourhood is suffering considerably.

WEATHER IN THE NORTH.—Since Tuesday, the 2nd, when another severe thunderstorm raged in the afternoon, the weather has been more settled, and most of the days have been fine with occasional showers. The evening of Monday was dull and cold, and Tuesday morning promised more rain.—B. D., *S. Perthshire*.

UNIVERSITY HONOURS AT OXFORD.—Mr. J. F. Hudson of Jesus College, son of Mr. James Hudson of Gunnersbury House, Acton, has successfully passed the second public examination in mathematics (Honours School) at Oxford, taking first-class honours. In 1893 he took a similar position in the first public examination. He proceeded to take his B.A. degree on Saturday last.

WOKING SHOW.—The schedule of the Woking Gardeners' Association's second annual show is just to hand, and the Committee is to be congratulated on the distinct advance that has been made. There are upwards of ninety classes, including those open to all, others for amateurs, and others, again, for cottagers, in every case good prizes or certificates being given. The exhibition will be held on July 31st and August 1st on the Horsell and Woking Cricket Club ground, and it is hoped that the best of weather will prevail. The Hon. Secretary is Mr. H. W. Robertson, Somerset Villa, Woking, from whom all necessary particulars may be had.

BOTANICAL MAGAZINE.—In the number for July of this publication the following subjects are included:—*Senecio Hualtata* (Compositæ).—This plant, which grows along the Andes, reaches to a height of 5 feet. The leaves attain to a length of 18 inches by 6 inches in breadth. The flower heads are in crowded clusters, being each about an inch broad. The flowers of the ray are of a lighter yellow than those of the disk. *Pyrus crataegifolia* (Rosacæ) is a native of certain woods of north-east Italy. It is nearly allied to *Pyrus torminalis*, which it much resembles. *Aristolochia unguiculifolia*.—Borneo is the habitat of this plant. It is very peculiar in the respect of having two curious swellings or bosses upon the bladder. The tube is long with a recurving mouth, and the limb long, purple, and with revolute margins. *Neuwiedia Griffithi* (Orchideæ) is a native of the peninsula of Malacca, and differs from *N. Lindleyi* in being much smaller and having a shorter spike, broader bracts, and very small white flowers. *Rubus lasiostylus* (Rosacæ).—This plant comes from China. The upper surface of the leaves are strongly marked with brown, as are also the ribs on the under side. The pedicels are red, being the same colour as the calyx, the sepals of which are long and recurved. The petals are blood red, and the achenes dry and woolly.

— WOLVERHAMPTON SHOW.—The largest show yet held at Wolverhampton opened on Tuesday, continuing for three days. There was good competition throughout. Mr. J. Cypher secured the chief prizes for plants and a group. Mr. B. R. Cant was first with seventy-two Roses. Mr. Gleeson won the chief prize for fruit, and Mr. C. J. Waite for vegetables.

— GARDENERS' ROYAL BENEVOLENT INSTITUTION.—Friends of this excellent charity will be pleased to hear that its President, the Duke of Westminster, has increased his annual subscription to the Gardeners' Benevolent Institution to £15 15s., and also that the Worshipful Company of Skinners has given a donation of £10 10s. in aid of the funds of the Gardeners' Royal Benevolent Institution.

— PAPAVER FUGAX.—This is a good Poppy which is not often grown in gardens. The plant is distinguished by soft glaucous green foliage, a tuft of radical leaves, spreading a foot in diameter, from which springs the flower stalk 2 feet or more high. The flowers are a pale orange-red, very numerous, but lasting only a day, whence the name *Fugax*. They are of no use for cutting, but the combination of flower and foliage in the herbaceous border is most effective. The plant is perfectly hardy and is a biennial; when once introduced into a garden it is likely to persist from self-sown seeds.

— GARDENING APPOINTMENTS.—Mr. Wm. Sayer, who for the last four and a half years has been general foreman under Mr. Wm. Bardney, Osmaston Manor Gardens, Derby, has been appointed head gardener to A. Barclay Walker, Esq., Rockingham, Boyle, Roscommon, Ireland, and will shortly enter on his duties. Mr. Edward John Edwards, who has been head gardener and Orchid grower for nine and a half years to Henry Tate, jun., Esq., Allerton Beeches, near Liverpool, has been engaged in the same capacity by Edwin Stanley Clark, Esq., Oak Alyn, Cefn-y-Bedd, near Wrexham, Denbighshire. Mr. J. Thorne, for the past eleven years head gardener to A. E. Flood, Esq., The Bush, Walton-on-Thames, has been appointed head gardener to R. Garton, Esq., Warplesdon Place, Guildford.

— FROST IN YORKSHIRE—A PUZZLE.—In your report of the Wakefield Paxton Society's meeting of June 22nd we read that (on page 8) Mr. Thos. Pitts of Walton asserted "that one night during the week 15th to 22nd of June his thermometer at 4 inches from the ground went down to 8°, thus marking 24° of frost." For the middle of June this statement is difficult to accept, but if correct affords interesting datum for a study in acclimatisation. Will Mr. Pitts kindly inform us after such an experience what there is left alive in his garden, if anything; what has been the effect on the young growths of trees and shrubs, bedding plants and vegetables?—YORK. [We have read in a local paper that the Chairman of the meeting "thought that there must have been something wrong with the thermometer." Mr. Pitts did not assent to this. There has been something "wrong" somewhere. Possibly 8° of frost were registered. Perhaps Mr. Pitts will deal with "York's" puzzle.]

— POTATOES.—As we are now getting some good rains, and the back of the long drought is broken, there is good reason to hope that all late Potatoes will be largely benefited. That early ones have too far ripened to be beneficially affected seems probable, but that is of no great moment. The chief danger to the tubers lies just now less from attacks of the disease than from supertuberating, as much rain not yet penetrating deep seems likely to influence the tubers more than the roots. Should we get abundant rains, a matter far from unlikely now that the weather has so far broken up, then the roots will receive a fillip, and tubers may be less affected. If, however, the rains become too plentiful and soil is saturated, then there is reason to fear a bad attack of disease, which would result in the doing of exceeding mischief. To counteract that harm nothing is available but applications of the Bordeaux mixture, and the sooner the first application is made the better. Where ground has been deeply worked, however, the main Potato breadths have suffered very little in drought; they have indeed kept up their growth wonderfully well. We must not forget that the Potato is a native of a hot dryish climate, and all our efforts after some 300 years of cultivation to render it hardier or less susceptible to excessive moisture have failed. Thus if the tuber produce be relatively less in dry seasons, it is often both sounder and more starchy or matured, hence making the more desirable food. Warm soil and ample sunlight are most important elements in Potato culture, and these, so far, have been freely given. What the ultimate outcome of the crop will be is now entirely dependent on the nature of the weather of the next month.—D.

— **NEW VIOLAS.**—Mr. George Steel sends us specimens of new Violas, chiefly of the miniature type, and neat, clean, fragrant flowers. Most of them are in their respective colours—some rich, others chaste, and all attractive.

— **LORD HERSCHELL**, before giving up the seals of office, appointed Mr. E. J. Beale on the Commission of the Peace for the county of Middlesex. Mr. Beale, as is generally known, is one of the chief proprietors of the firm of Messrs. James Carter & Co., High Holborn.

— **APPOINTMENTS FROM KEW.**—Mr. Charles Henry Humphries, in the employ of the Royal Gardens, has been appointed, by the Secretary of State for the Colonies, Curator of the Botanic Station at Aburi, on the Gold Coast, in succession to the late Mr. William Crowther. Mr. Hugh McMillan, in the employ of the Royal Gardens, has been appointed by the Secretary of State for the Colonies, on the recommendation of Kew, head gardener of the Royal Botanic Gardens at Peradeniya, Ceylon.—(*"Kew Bulletin."*)

— **ROYAL GARDENERS' ORPHAN FUND.**—The usual "Rose fair" in aid of the Royal Gardeners' Orphan Fund was held in connection with the Croydon Horticultural Society's show on July 3rd, and the amount taken for the sale of flowers was £7 16s. Among the contributors of blooms were Messrs. F. Sander & Co., Hugh Low & Co., J. Laing & Sons, B. R. Cant, T. B. Haywood, H. V. Machin, M. Hodgson, E. M. Bethune, W. Mease, C. J. Salter, J. Slater, C. Lane, and Rev. J. H. Pemberton. Mrs. W. Gunner again kindly undertook the sale of the flowers.—G. W. CUMMINS, *Hon. Local Secretary*.

— **BROCKWELL PARK.**—The Parks Committee of the London County Council recommended that £1470 should be expended in the construction and drainage of footpaths, the formation of two ornamental ponds, shrubberies, and a rivulet, the erection of rustic bridges and wire fencing to the paths, and boundary fencing and gates at Arlingford Road. The land on which this new entrance is to be erected will shortly be in possession of the Council, and the work will be commenced without delay. The Council adopted the Parks Committee's recommendation by a substantial majority.

— **RAMIE FIBRE.**—Some years ago there was great hope of bringing this into successful culture in the Southern States. There is no question about the strength and beauty of the material that can be manufactured from it. It is almost a rival of silk in this respect. The conductors have seen some admirable productions made from it. The chief difficulty has been in the manufacture of machinery to prepare the fibre cheaply. This ought not to be an insuperable difficulty. If the matter were taken up in earnest by some State authorities or Association, improved machinery would no doubt soon be forthcoming. It is said that the authorities of Jamaica are entering into Ramie culture with some enthusiasm; but, as before noted, it is not so much the culture as the cost of preparing the article which has been the trouble.—(*"Meehans' Monthly."*)

— **"HAND-LIST OF KEW HERBACEOUS PLANTS."**—The Director of the Royal Gardens, Kew, has favoured us with a copy of the above publication, which has just been issued at the price of 1s. According to the preface "The object of the present 'Hand-list' is to show what species are actually grown at Kew, and in the next to reduce, if possible, the nomenclature in use in gardens to something like a standard. The cultivation of herbaceous plants in the open air, or with merely winter shelter in frames, still remains one of the most important features of Botanic Garden work. Of the total number of species cultivated at Kew probably not less than a quarter are grown in this way. The first collection of herbaceous plants at Kew was formed by William Aiton in 1760, and occupied about an acre of the southern part of the original Botanic Garden. According to an enumeration made by Mr. John Smith the number of the Kew collection of herbaceous plants was 2712 in 1768, while Aiton, in his '*Hortus Kewensis*,' published in 1787, enumerates 2824 species. A sum of £500 was granted by the Treasury for the formation of the present Rock Garden, which was constructed on the vacant piece of ground adjacent to the herbaceous ground. The collection of herbaceous plants is intended for inspection, and it is not permitted to gather specimens. The total number of herbaceous flowering plants now in cultivation at Kew is approximately 6000, including 1000 well-marked varieties." The work is printed on good paper, with fine bold type, every other page having been left blank for the convenience of those who are desirous of taking notes. The arrangement is alphabetical, and the list will doubtless prove a great boon to lovers of herbaceous flowers.

— **GRAPES AT THE YORK SHOW.**—I shall be very much obliged if you will kindly correct an error in your paper of June 27th re "York Gala" in the class for black Grapes. I won the second prize, not Mr. J. Johnson. — J. C. MCPHERSON, *Gardener to the Earl of Londesborough*.

— **JUNE WEATHER AT DRIFFIELD.**—Mean temperature at 8 A.M. (corrected), 59.83°. Mean maximum, 65.76°; mean minimum, 45.16°. Highest, 73.8° on the 22nd; lowest, 35° on the 15th. Mean radiation temperature on grass, 41.30°; lowest, 29.2° on the 15th. Rainfall, 3.60. Number of rainy days, thirteen; greatest amount on one day, 1.01 on the 26th. Mean amount of cloud at 9 A.M. (estimated), 5.4.—W. E. LOVEL, *Observer, York Road, Driffeld*.

— **JUNE WEATHER AT HODSOCK PRIORY, WORKSOP, NOTTS.**—Mean temperature of the month, 57.4°. Maximum on the 26th, 84.5°; minimum on the 15th, 32.3°. Maximum in the sun on the 28th, 131.6°; minimum on the grass on the 15th, 24.1°. Mean temperature of the air at 9 A.M., 60.3°; mean temperature of the soil 1 foot deep, 58.5°. Nights below 32°, on the grass five. Total sunshine in the month, 173 hours. Total rainfall, 1.98 inch. Rain fell on nine days. Approximate averages for June:—Mean temperature, 57.4°; sunshine, 157 hours; rainfall, 2.01 inches. A fine month, but with heavy rains at the beginning and end. The frost on the 15th was the sharpest we have ever had in June, while the maximum temperature is the highest we have had in June since 1878.—J. MALLENDER.

— **WEYBRIDGE SHOW.**—The thirtieth annual summer exhibition of the Chertsey, Walton, and Weybridge Society was held in the grounds attached to Oatlands Lodge on July 4th, the residence of C. Swinfen Eady, Esq., Q.C., and was much the best of the many good shows held by the Society. Specimen plants were perhaps not so numerous as in some seasons, but the general excellence of the show was more than maintained, while the competition was keen in most of the classes. Unfortunately the afternoon turned out wet, which no doubt affected the takings considerably. The arrangements, as usual, were quite perfect under the able guidance of the courteous and energetic Secretary, Mr. T. J. Rawlings, ably backed up by an efficient Committee. Groups of plants arranged for effect were perhaps the leading feature, a tent being set apart for them entirely. Roses especially were bright and well staged. For twenty-four distinct blooms Mr. Will Taylor, Osborn Nursery, Hampton, Middlesex, won leading position with medium-sized well-formed flowers. The same exhibitor won also for twelve Teas with somewhat small but fresh blooms. For twelve trusses of three each Mr. W. Goodhill, gardener to G. Ferguson, Esq., The Hollies, Weybridge, secured first place; Mr. H. Prothero first for twelve single blooms. Cut flowers, any kind.—Mr. H. Jacques won for twelve, closely followed by Mr. T. Osman. Mr. G. Vigers, Mole House, Hersham, won for twelve bunches herbaceous flowers with a creditable stand; Mr. W. C. Pagram second.

— **THE STRAWBERRY CROP.**—"We have been wonderfully busy and have had a splendid Strawberry crop," wrote a friend to me from North Kent the other day. We have been reading with exceeding interest all that Mr. Molyneux has written about the wonderful Strawberry consignments from South Hants. We have seen a grand crop in gardens locally, and we hear, too, of an abundant supply generally. That is indeed good news when the nature of the season is realised, and especially the earlier anticipations formed that the Strawberry crop would be largely discounted by the drought. No doubt the moral of the tale is if you would grow largely for market plant only on good holding soil, but in thousands of gardens the soil has to be taken as it is found, therefore the recent grand crop speaks volumes for Strawberry culture even under difficulties, and will spur and stimulate the fruit growing industry to greater exertions in a remarkable way. It is odd that such fine crops should follow after so severe a winter, but then it shows how very hardy Strawberry crowns and roots are, even if the old leafage be killed wholesale. And yet, in spite of the abundant crop, Strawberries have not been very cheap. The lowest price for decent fruit in punnets has been 4d. Those shot out into heaps have been 3d. per lb., but it is indeed hard to tackle them. There is less of self-denial needed in their case than is found in walking round a garden where Strawberries are lying by bushels and yet not be invited to taste one. That is indeed hard experience. However, the great thing to rejoice over is the undoubted fact that a great fruit industry has, so far, done well. Judging by what I see in all directions of Raspberries, Gooseberries, Currants, and tree fruits, there is good reason to find 1895 to be one of the best fruit seasons of the past decade.—D.

— **MORE FOREIGN COMPETITION.**—Market gardeners are seriously injured by foreign competition already, but, according to the *Etoile Belge*, there is a possibility of the severity of this competition being increased. The Belgian Minister of Agriculture is now engaged in organising a special service of steamers for the purpose of conveying fruit and vegetables to the English markets. The Government is, it is said, prepared to spend £50,000 a year in this scheme for benefiting native industry.

— **ESPARTO FIBRE.**—The trade in Esparto fibre between Tripoli and this country is said to be gradually declining, in consequence of the extended use of wood pulp, which is shipped both from Canada and Norway to England in increasing quantities. In 1893 the exports from Tripoli amounted to 36,500 tons, while in 1894 the quantity had fallen to 36,100 tons, but owing to the steady fall in prices the value in 1894 was only £93,450, against £108,000 in the previous year. Should wood pulp continue to find favour with paper manufacturers it is estimated that the Esparto trade will continue to diminish considerably.

— **THE WEATHER LAST MONTH.**—June was dry until after the 25th, with several cold nights, and a hoar frost on the 15th, which did much damage to tender vegetables in the surrounding villages, but ours escaped from being at a greater elevation. We had a heavy thunderstorm on the 26th. The wind was in a northerly direction nineteen days. Total rainfall 1.35 inches, which fell on thirteen days, the greatest daily fall being 0.46 inch on the 1st. Barometer, highest reading 30.264 at 9 A.M. on the 24th; lowest, 29.480 at 9 A.M. on the 30th. Thermometer, highest in the shade 84° on the 26th; lowest, 36° on the 15th. Mean of daily maxima, 69.60°; mean of daily minima, 47.30°. Mean temperature of the month, 58.45°; lowest on the grass, 28° on the 15th; highest in the sun, 147° on the 22nd. Mean temperature of the earth at 3 feet in depth, 56.46°. Total sunshine 200 hours. We had one sunless day.—W. H. DIVERS, *The Gardens, Belvoir Castle, Grantham.*

— **KAURI GUM.**—This gum, which is annually exported in large quantities from New Zealand, is the solidified turpentine of the Kauri Pine (*Dammara australis*), and occurs in great abundance in a fossil condition in the northern part of the Auckland provincial district, and is dug up alike on the driest fernhills and the deepest swamps. A large quantity is also obtained from the forks of living trees, but is considered of inferior quality, and fetches a lower price. In the fossil state Kauri gum occurs in lumps varying from the size of a Walnut to that of a man's head, and pieces have been found weighing upwards of 100 lbs. When scraped the best specimens are of a rich brown colour, varying greatly in depth of tint. Sometimes translucent, or even transparent specimens are found, occasionally, says a contemporary, with leaves, seeds, or small insects enclosed. When obtained from swamps the resin is very dark coloured, or even almost black, but from dry soils it is usually transparent or semi-transparent and fetches very high prices, being used as a substitute for amber in the manufacture of mouthpieces for cigar-holders and pipes. The great bulk is used in the manufacture of oil varnishes, and in countries where much varnish is made it holds the chief place in the market. The area of the gum fields is upwards of 1,500,000 acres.

— **THE EFFECTS OF THE DROUGHT.**—The injurious effects of the drought are visible in the orchards in many districts, but in the case of the Apples, Plums, and Pears a good fall of rain would soon greatly improve matters. The beneficial results of irrigating orchards is shown by a correspondent in the "Times" who is a fruit grower in Herefordshire. He states that there has been in his district an extraordinary promise of fruit, and, despite violent attacks of weevils and caterpillars, this would have been a record year but for the drought. The bloom was magnificent, and on one bush tree alone—Ecklinville Seedling—7854 blossoms were counted. As he has grown specimens of this variety weighing up to 18 ozs., he considered that 200 Apples of only half a pound each would be yield enough for one tree, so that he could afford to regard with comparative indifference the possible loss of 7654 of the blooms. The intensity of the drought is such, however, that the fruit is disappearing in all directions. Before the middle of June the correspondent, taking time by the forelock, pumped, by means of 350 yards of hose, 6000 gallons of tepid water. On one occasion the thermometer fell to 30°, but all through that night the warm water was pouring over the field. Between 10 A.M. on Wednesday and 9 P.M. on Saturday 10 acres were thus refreshed, the pump never stopping the whole time. As a result of this treatment, which is being repeated, the promise of fruit is great, and the sight it presents can perhaps hardly be paralleled in the kingdom.

— **BEAUTY IN THE GARDEN.**—A correspondent writes to an American contemporary that one need not wait till the flowers bloom to see beauty in the garden. It has an interest for him at any season of the year, especially when the leaves are pushing up from the ground in spring. He thinks that no gaudy flower will equal in interest and beauty the unfolding leaves of the Columbine. Without granting all he claims, it must be conceded that his enthusiasm in this line has very much to sustain it.

FIGHTING INSECT PESTS.

IN these days of keen competition, success in battling with various insect pests must be considered as essential to high-class gardening. For this reason I think this subject is worthy of being thoroughly ventilated in the pages of your valuable Journal.

What every cultivator should aim at is to employ the quickest and most effectual means of destroying insects, at the least possible expense. For this reason I welcome the note of "E. M." (page 564), although he apparently does not quite agree with my former note as to the best method of destroying red spider on Vine leaves. I must confess, however, that my experience leads me to totally different conclusions from that expressed by "E. M."—viz., that "very little good is done by sponging Vine leaves with soapy water or other mixtures." Many times have I had vineries to deal with in which red spider has gained a firm footing, and in each case persistent sponging has gained the victory at last. One notable instance rises to my mind as I write.

Some years ago I had charge of a well-known range of vineries. In one house a Vine of Madresfield Court, which was carrying some grand bunches of that fine Grape, was badly attacked with red spider when the berries were about half grown. The season was a very hot one, and Vine growers in many quarters penned pitiful tales about the condition of their Vines, and I thought at one time that it would be useless to look for highly finished Grapes from a Vine so badly infested as the one in question. I determined, however, that nothing which could be done to eradicate the pest should be left undone; every leaf on the Vine was therefore thoroughly sponged two or three times, with the satisfactory result that three grand bunches of Madresfield Court cut from that very Vine carried off the premier award at an important show, always noted for good Grapes, and I fancy "E. M." gave more than a passing look at those three bunches in the show tent. Let this, then, serve as an illustration as to whether or not any real good may be done by sponging Vine leaves with a view to stamp out that insidious pest red spider.

The next point to consider is, Will dusting the leaves with sulphur effect the same object with less trouble and expense? If so, by all means let us adopt it; but it seems to me that there would be quite as much danger of "rubbing" the berries when applying the sulphur as in sponging the leaves. In addition to this the least shaking of the Vine rods would send the sulphur in a shower on the Grapes, a condition of affairs which would certainly not improve the appearance of the fruit. There is, I fear, a weak point in all these remedies; what fertile brain will show us one without?

Apparently, the sanguine individual mentioned by "E. M." as having given an infallible recipe at a recent lecture has done so; but, alas! for the credulity of human nature, nothing was said as to the condition of the Grapes or Vine leaves after the ordeal. Is there no weak point here, "E. M."? Perhaps our friend who advanced the remedy will tell us.—POMONA.

REVIEW OF BOOK.

Landscape Gardening in Japan. By JOSIAH CONDER. London: Sampson, Low, Marston & Co.

RECENT events previously to the general election, forced Japan very prominently upon our notice, and gave European states to understand that a new factor had presented itself in international politics with which they will have seriously to reckon. It is refreshing, however, to turn from considering the newly developed prowess of the Japanese in modern methods of destruction to a contemplation of their long-standing proficiency in the gentler art of gardening. Hitherto it has been too much the habit of the people of Christendom to look down upon every other settled society—no matter of how great antiquity—with a scorn similar to that with which the ancient Greeks regarded the non-Greeks. To both such foreigners were infidels and barbarians. It did not matter whether newly discovered races were in the savage, hunting, pastoral, or agricultural stage of development, they were indifferently classed under the designation "barbarous," and their history and peculiarities put without the region of sober discussion. In some instances, as we see in the case of Mexico and of Peru, primitive and deeply interesting civilisations have been annihilated by brutal European conquerors before the learned have even had a sufficient opportunity of studying their instructive characteristics.

Events of the last fifty years have fortunately tended to open up the English mind, and we are beginning to learn slowly that Japan is not only capable of giving good hard knocks, but that it is a land larger and more populous than the British Isles, and with arts and institutions of far older origin. Nothing will serve to impress this more upon the reflecting mind than the subject of this notice, entitled, "Landscape Gardening in Japan." From it we learn how elaborate and complicated

is the system of culture which has been evolved by the Japanese genius during more than a thousand years of comparatively settled life.

The period ranging from 500 A.D. to 1500 A.D. was in Europe one in which society was given over to disruption and violence, and the universal lawlessness making self-protection imperative, extinguished the arts and sciences in the ruder game of war. But while the Dark and the Middle Ages lay thus like an incubus upon the minds of the people of Europe, China and Japan, though not without their troubles, seemed to have pursued a less perturbed career. The existence of a carefully thought-out art of landscape gardening, often cast upon quite a Lilliputian scale, indicates that the age of rapine, incursion and of the rudest agriculture, such as we see existing in Europe four centuries ago, must have given place in Japan long before to a state of things more resembling that which we enjoy now. The rules of Japanese gardening being more applicable to very small gardens than to large ones, we must naturally conclude that a system of small holdings and intensive cultivation has prevailed in Japan for many centuries. Inasmuch as we are only just becoming alive to the necessity of creating a similar condition of affairs in England, we must admit that the Japanese have been as much in advance of us in this particular as we are of them in the matter of manufactures.

To those who are desirous of obtaining a true insight into the life and genius of the Japanese we do not hesitate to recommend this work of Mr. Conder. In many respects it is a most fascinating book, and one suited in the highest degree to the large and ever-increasing class of horticulturists about our great cities. Though there is much in Japanese gardening which many will pronounce finicking and superfluous, still many useful suggestions can be gleaned from it, and it is always and everywhere an interesting subject of study. In order, moreover, that there may be no obstacle to the thorough understanding of the many minute points, the designers of these two very handsome volumes have completely subordinated the text to the illustrations. Indeed the second volume consists entirely of views, forty in number, of the most celebrated public and private gardens of Japan, and of which it is impossible to speak too highly, so superb is their execution. More interesting still, however, is the first volume containing a large number of diagrams and plans of objects and designs peculiar to Japanese gardens, accompanied with explanatory text from the expert pen of Mr. Conder, while prefixed to all is an introduction and history of the most pleasing and instructive character. "Landscape Gardening in Japan" is in its nature an *édition de luxe*, and with its rich green binding and designs of embossed gilt, is admirably adapted for complimentary presentation or for display at conversaciones of the learned and polite.

ROYAL HORTICULTURAL SOCIETY.

JULY 9TH.

THE display at the Drill Hall, Westminster, on Tuesday was not nearly so extensive as might have been expected. Orchids were of excellent quality, though not seen in very large numbers, and the same may be said of miscellaneous plants and hardy flowers. Fruit and vegetables, especially from Messrs. J. Veitch & Sons, were very handsome indeed. Roses that were shown in competition were very good, and a list of the prizewinners will be found on page 42.

FRUIT COMMITTEE.—Present: Dr. R. Hogg (in the chair); with A. H. Pearson, W. Pope, A. Dean, W. Bates, T. Geen, G. Reynolds, G. Wythes, F. Q. Lane, J. Smith, J. Hudson, and R. Fife.

The exhibits before the Fruit Committee were rather more numerous, and the quality, as a rule, ranged high. Mr. H. Becker, Jersey, sent Gooseberry Granville Giant, Red Currant Comet, and White Currant Eclipse, all good. From Messrs. Barr & Son came a small vegetable exhibit, comprising Cabbages, Peas, Beans, and Lettuces, all in very creditable condition. Mr. E. Beckett, Aldenham House Gardens, Elstree, arranged a very fine collection of vegetables, consisting of Lettuce Superb White Cos, Cauliflower Walcheren, Onion White Leviathan, Beet Sutton's Gem, Marrows Moore's Cream and Pen-y-byd, Tomatoes Sutton's Perfection, Polegate, and Caemin Rouge, Carrots New Intermediate and Sutton's Early Gem, Turnip Snowball, Potatoes Early Regent, Sharpe's Victor, and Puritan, Bean Carter's Leviathan Longpod, Peas Duke of Albany and Telegraph, French Beans Canadian Wonder and Ne Plus Ultra, Cucumbers Victory and Up-to-date, Mushrooms, and Radishes. These were tastefully arranged, Parsley being used as a groundwork (silver-gilt Knightian medal).

Mr. H. Eckford, Wem, sent several excellent new Peas, including Chieftain, Rex, Royalty, Monarch, Potentate, Memorial, and Heroine. Mr. M. Kneller, gardener to M. Portal, Esq., Basingstoke, staged a handsome brace of Cucumbers named Challenger.

The most conspicuous, and at the same time interesting exhibit, was that of Messrs. J. Veitch & Sons, and comprised hardy small fruits and Peas. The back of the stand was occupied by Currants Red Cherry, Black Naples, Victoria, White Dutch, White Transparent, White Crystal, and La Fertile. These were shown on the branches as grown, and were producing wonderful crops. Several of the varieties were also shown in dishes. Of Gooseberries, Green Gascoigne, Hedgehog, Golden Drop, Early Sulphur, Early Red Harry, Legerdemain, Green Overall, Early Green Harry, and Bright Venus were exhibited. Two Raspberries were staged, these being Superlative and Yellow Antwerp. Cherries were splendidly represented by Governor Wood, Black Tartarian, Bigarreau Napoleon, Belle de Montreuil, Elton, Nouvelle Royale, May Duke, Mammoth, Archduke, Bigarreau de Schrecken, Emperor Francis, and several others. The collection of Peas, comprising a large number of

varieties, was from seeds sown on April the 10th. Amongst the most noticeable were Peerless, Gladiator, Veitch's Main Crop, Exhibition Marrow, Alderman, Telephone, Masterpiece, Veitch's Perfection, Stratagem, Chelsonian, and The Daisy (silver-gilt Knightian medal).

Mr. Empson, gardener to Mrs. Wingfield, Amptill, Beds, arranged a good collection of vegetables and fruits, comprising of the latter Grapes, Strawberries Waterloo, Gooseberry Golden Drop, Raspberry Superlative, Cherries Frogmore Bigarreau, and Fig Brown Turkey. Of vegetables there were Potatoes, Cabbages, Lettuces, Marrows, Beans, Peas, Carrots, Tomatoes, Cucumbers, Cauliflowers, Turnips, Onions, and others (silver Banksian medal).

Melons and Peaches came from the Swanley College, while Tomato Temple Favourite came from Mr. G. Groves, gardener to General Owen Williams, Great Marlow. Mr. J. Hudson, gardener to Messrs. de Rothschild, sent Bigarreau Napoleon and Black Tartarian Cherries. These fruits were gathered from very old trees against a wall, planted about 1830. A few years ago the trees appeared to be worn out, then Mr. Hudson, by way of experiment, laid in some young shoots, the results being large, handsome, shapely fruits from the new life that had been imparted to the trees. The grower is to be congratulated on the success of his experiment, and for the results of which he was awarded a silver Banksian medal.

Mr. G. Wythes, Syon House, sent fruits of Melon Champion. Mr. B. Ashton, gardener to Lord Howard, Glossop Hall, staged Melon Baron Howard. Mr. David Kemp, gardener to Wilberforce Bryant, Esq., Slough, sent good examples of Nectarines Pineapple and Humboldt. Mr. G. A. Farine showed fruit of black Raspberry Farine. From Mr. H. W. Ward, gardener to the Earl of Radnor, Longford Castle, Salisbury, came Pea Longford Queen. Mr. C. Papworth, gardener to J. Lyon, Esq., Caterham, sent fruiting branches of seedling Raspberry Papworth Prolific. Currants in excellent condition and variety were staged from the Royal Horticultural Society's Gardens at Chiswick. Most of the leading Red and White varieties were represented.

Cauliflower Burghley Pet was staged by Mr. R. Gilbert, gardener to the Marquis of Exeter, Burghley. Mr. A. Gray, Hertingfordbury Park, sent haulm and pods of a Pea named Parish Councillor that had been grown in fields.

FLORAL COMMITTEE.—Present: W. Marshall, Esq. (in the chair); with the Rev. G. H. Engleheart, and Messrs. J. Fraser, H. Herbst, G. Stevens, H. B. May, J. H. Fitt, J. Jennings, J. W. Barr, E. Beckett, C. Blick, J. T. Bennett Poë, C. J. Salter, and J. Laing.

Messrs. R. Wallace & Co., Colchester, staged an effective group of hardy flowers, in which varieties of *Calochortus* were the principal feature. In the exhibit were fine blooms of *Hemerocallis aurantiacus* (silver Flora medal). Miss McDonald, Northgate Nursery, Chichester, sent excellent blooms of yellow Carnation Mrs. W. Bright. From Messrs. Jas. Veitch & Sons, Chelsea, came excellent spikes of *Eremurus Bungei*, a pan of the beautiful *Begonia carinata*, and *Streptocarpus Gem* and *La Reine*. Messrs. Dobbie & Co., Rothesay, sent examples of the new annual *Arnebia cornuta*. An interesting little group of *Begonias* came from Messrs. John Laing & Sons, Forest Hill, which included well grown examples of *Distinction*, *Lady Renals*, *Crown Princess of Roumania*, *The Honourable Mrs. Reid*, *Mrs. Laing*, and *Mr. F. Bostock*. In the group was a fine plant of *Streptocarpus Laing's Multiflora*. G. A. Farini, Esq., Forest Hill, sent a plant of *Begonia Farini's Striped*. Mr. H. Middlehurst, Liverpool, staged blooms of a large single seedling *Chrysanthemum*.

Messrs. Sutton & Sons, Reading, staged a collection of flowers of *Nemesia strumosa* Suttoni. From Mr. Anthony Waterer, Woking, came flowers of *Spiræas* Anthony Waterer and *Margaritæ*. Messrs. W. L. Lewis & Co., Southgate, sent a plant of *Pancratium collinum*. Several new and other plants were sent by Messrs. F. Sander & Co., St. Albans, including examples of *Dipladenias* and *Sonerilas*. The same firm also sent a plant of perpetual flowering Carnation Pink Beauty.

A large and diversified collection of Sweet Peas were staged by Mr. Henry Eckford, Wem, Shropshire, the exhibit including many charming varieties (silver Banksian medal). From Messrs. Barr & Son, Covent Garden, came hardy flowers, large and varied in quantity, and of good quality (silver Banksian medal).

Mr. H. Becker, Jersey, sent flowers of border Carnation Jersey Maid, and from Messrs. W. Cutbush & Sons, Highgate, came plants of tree Carnation La Villette. Mr. Charles Turner, Slough, sent superb examples of Carnation blooms, including amongst others *Lady Nina Balfour*, *Favourite*, *Germania*, *George Cruikshank*, *Tom Sayers*, *Mrs. Matthews*, *Primrose League*, *Corunna*, and *Louis Napoleon* (silver Banksian medal). Mr. John Forbes, Hawick, Scotland, sent fine spikes of *Delphiniums* in variety.

From Messrs. E. F. Fairbairn & Sons, Carlisle, came plants of *Godetia* E. F. Fairbairn. Messrs. Daniels Bros., Norwich, sent blooms of new seedling Ivy-leaf *Pelargonium*, *Queen of Roses*, and also a stand of blooms of a new *Godetia*, *Marchioness of Salisbury*. Mr. J. Douglas, Bookham, sent flowers of Carnation Miss Audrey Campbell, Haye's Scarlet, Lady Ridley, Grace Darling, and Madame Lecarlier. Messrs. Paul & Son, Cheshunt, sent flowers of Rose Bacchus and others, and a spike of *Phlox* Miss Pemberton.

ORCHID COMMITTEE.—Present: H. J. Veitch, Esq. (in the chair); and Dr. Masters, with Messrs. J. O. Brien, De B. Crawshay, H. J. Chapman, C. Pilcher, E. Hill, W. Cobb, S. Courtauld, J. Douglas, T. B. Haywood, and H. Williams.

Messrs. W. L. Lewis & Co., Southgate, arranged a small group of

Orchids, amongst which were noticed *Eria Clarki*, *Cattleya citrina*, *Lælia tenebrosa*, *Cynorchis grandiflora*, *Dendrobium thyrsiflorum*, and *Cypripediums* in variety. Messrs. F. Sander & Co., St. Albans, showed Orchids in splendid condition and great diversity. Particularly prominent were *Cattleyas*, *Lælias*, *Lælio-Cattleya* D. S. Brown, *Cypripediums*, *Cirrhopetalum picturatum*, *Dendrobiums*, *Lycaste Dyeriana*, *Catasetum Christyanum*, and *Odontoglossums* (silver Banksian medal). J. Gurney Fowler, Esq., Woodford, sent blooms of *Lælia tenebrosa* Glebeland's variety.

The group of Orchids arranged by Messrs. Hugh Low & Co., Clapton, was very bright and beautiful. *Cypripediums*, *Oncidium*, *Aërides*, and *Odontoglossums* were conspicuous (Banksian medal). Mr. H. J. Chapman, gardener to R. I. Measures, Esq., Camberwell, showed *Masdevallia Coradelli*, *Lælio-Cattleya Schilleriana*, *Vanda tricolor superba*, and *Cattleyas* in variety. Only two Orchids were staged by Messrs. J. Veitch & Sons, Chelsea, these being *Cypripedium Dominionum albicans* and *Dendrobium porphyrogastrum*. A plant of *Lælia tenebrosa* came from J. F. Allcock, Esq., Northchurch, Herts; Mr. W. H. White, grower to Sir Trevor Lawrence, Dorking, sending a very interesting collection of *Masdevallias*. Mr. Johnson, gardener to G. Marshall, Esq., Grimsby, staged several handsome *Cattleyas*, and a very fine pan of *Epidendrum vitellinum majus* (silver Banksian medal).

De Barri Crawshay, Esq., Sevenoaks, showed *Brassia verrucosa* in splendid condition, and a spike of *Odontoglossum crispum*, Mrs. De B. Crawshay. Orchids of botanical interest came from Mr. E. Hill, gardener to Lord Rothschild, Tring, while Mr. W. Buckell, gardener to M. S. Cooke, Esq., Kingston Hill, sent spikes of *Cattleya gigas*.

CERTIFICATES AND AWARDS OF MERIT.

Arnebia cornuta (Dobbie & Co.).—This plant grows to a height of about a foot, and carries yellow blooms, on each petal of which is a rich velvety brown blotch. Fig. 4, page 29, sketched at the Drill Hall, represents the flowers and foliage (first-class certificate).

Begonia carminata (J. Veitch & Sons).—This is the result of a cross between *B. coccinea* and *B. Dregei*. The habit of flowering is very pleasing. The blooms are rose coloured (award of merit).

Begonia Mr. F. Bostock (J. Laing & Sons).—A fine double scarlet variety of erect habit (award of merit).

Brassia verrucosa (De Barri Crawshay).—This Orchid is too well known to need any description here (award of merit).

Calochortus luteus concolor (R. Wallace & Co.).—At the base of this yellow-flowered variety are dull crimson markings (award of merit).

Calochortus macrocarpus (R. Wallace & Co.).—This is an old sort, though rarely seen, with silvery purple flowers (award of merit).

Carnation Mrs. W. Bright (Miss McDonald).—This is a large scentless variety with yellow blooms (award of merit).

Godetia Marchioness of Salisbury (Daniel Bros.).—This is a new free-blooming variety with scarlet blooms, each having a broad silvery edge (award of merit).

Hemerocallis aurantiacus (R. Wallace & Co.).—This is a superb form of the Day Lily. The colour is rich orange-yellow, and the flowers measure upwards of 6 inches across (first-class certificate).

Lælio-Cattleya D. S. Brown (F. Sander & Co.).—This bigeneric hybrid is very handsome. It is from a cross between *Cattleya Trianae* and *Lælia elegans*. The sepals and petals are deep purplish rose. The lip is rich crimson-purple, with a yellow throat (award of merit).

Melon Epicure (R. Mortimer).—This is exceedingly handsome, and of superb flavour. The flesh is firm, juicy, and of a very pale green colour (award of merit).

Melon Nugget (R. Mortimer).—This is a very handsome variety with medium sized fruits. The flesh is bright scarlet, and of a rich luscious flavour (award of merit).

Miltoia vevillaria Constance Wigan (Sir F. Wigan).—This is a grand flower. The lip is broad and pure white in colour, the sepals and petals being delicate rose (award of merit).

Rose Haileyburya (Paul & Son).—This is a Hybrid Perpetual with sweetly-scented, good shaped flowers of a rich crimson colour (award of merit).

Streptocarpus multicolor (J. Laing & Sons).—This variety is very floriferous, and carries blue flowers of large size that have dark markings in the lower parts (award of merit).

Vanda tricolor superba (H. J. Chapman).—This is a great improvement on the type in all ways (award of merit).

DRY ROT IN POTATOES.

My first acquaintance with "dry rot" was in 1844 on the alluvial or warp land abutting on the Ouse (Yorkshire) near where the River Wharfe pours in its spasmodic floods. Two forms of "rot" were then recognised by Potato growers: 1, Dry rot, which affected the sets, sometimes causing their decay, so that no growth appeared above ground, while in other cases the tops pushed through the soil and collapsed when a few inches high. 2, Wet rot, a disease that infested the tubers in the ground in autumn, causing them, in some instances, especially in the wet part of the fields, to be scarcely worth taking up, while many of the apparently sound tubers at lifting time rotted in the pies, which were of considerable proportions, large tracts of land being under the Potato crop, alternating with Wheat—that one year and Potatoes the next. That was the farmers' practice, but the small growers grew Potatoes on

the same ground year after year, sometimes taking two crops of early Potatoes on the same ground, one—an early crop—Ashleaf from large sets, and a second crop from small sets which produced the "seed" for another year. As all the land was not required for "seed," Turnips were grown on the other part of the land. Now two things happened in 1845, and put an end to this system of culture:—1, The Potato disease fungus (*Phytophthora infestans*) became rampant, and we lost all our stock of Ashleaf Potatoes, and nearly all that of York Regents. 2, The Turnips—both Red Globe and Yellow Bullock—were eaten up by the commonly called slime fungus (*Plasmodiophora brassicae*).

Many times since 1844 both dry and wet rot have infested the Potato crops, and invariably when (a) the sets have been diseased to commence with; (b) where the land was rich in organic matter, as

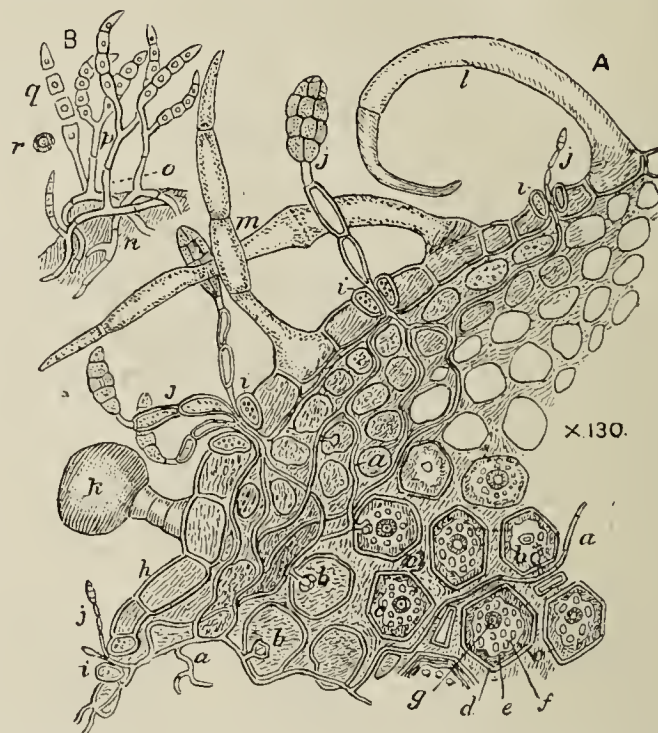


FIG. 5.—SECTIONS OF POTATO TISSUE AFFECTED WITH CURL AND DRY OR WET ROT FUNGI.

A, tissue affected with curl fungus (*Macrosporium commune* var. *solani*); a, mycelial hyphae; b, haustoria in invaded cells; c, perfect cells; d, cell wall (cellulose); e, protoplasm; f, starch grains; g, nucleus; h, epidermal cells; i, stoma; j, conidiophores of curl fungus; k, gland; l, simple hair; m, jointed hairs. B, dry or wet rot fungus (*Fusarium solani*); n, mycelial hyphae; o, outgrowths; p, conidiophores; q, conidia; r, spore.

heavily manured garden ground and the warp or alluvial soils adjacent to our tidal rivers; (c) on land recurrently cropped with Potatoes.

In 1869 I was struck with the coincidence of the dry and wet rot of Potatoes in the Mersey valley (on the Cheshire side), with those of the Humber valley (Yorkshire side), and was not then acquainted with the cause, apart from the cultural one, of the diseases, nor that they were one. In 1873 our garden Potatoes at Grinkle Park were affected with both dry and wet rot, our favourite Lapstone being worst, and that year our Tomatoes were affected by a similar disease (see page 481). The examination of these, the Potatoes and the Tomatoes, proved conclusively—1, "Curl" was distinct from dry and wet rot; 2, Dry rot and wet rot were the same thing. "Curl" was produced by the curl fungus (*Pleospora herbarum*, conidial condition *Macrosporium solani*, fig. 87, page 481), the collapse fungus prevalent in 1894 in various parts of England being the same. To this I will direct attention on a future occasion. Dry rot and wet rot were the product of *Fusarium solani*, a fungus with three conditions, which will be described and figured. Now, all these things are not new. Kühn failed to detect any trace of fungi, as I did in Mr. Arabin's Tomato plants, while Hallier and Reinke, with Berthold, found fungoid growths, and Schenck connected curl with *Pleospora herbarum* or *P. polytrichia*, thus confirming the views of Hallier. But a difficulty arises—namely, the harmonising of the views of the observers, for Reinke's and Berthold's *Verticillium atro-album* cannot belong to the same fungus as Hallier's and Schenck's *Sporidesmium* (*Macrosporium*) *solani*, yet the two are sometimes associated, hence the confusion by observers and the bewilderment of cultivators. This is not pleasant reading, but it is far less distasteful than writing on matters interfering with the classification of authorities, which renders work of this kind extremely unpalatable and the labourer unpopular. Facts, however, are stubborn things, and it is necessary to give a verdict according to the evidence when questions of vital importance to cultivators come up for judgment, being bound by no tie but that of truth—nature as revealed by the microscope. These are:—1, There is "curl" disease separate. 2, Dry rot and wet rot, the same, distinct from "curl." 3, "Curl" and dry rot are often associated in the same plant. 4, In addition to those we may find slime fungus and bacteria in wet rot. This will give an idea of the difficulty of assigning to these bodies their proper position as regards cause and effect. It is necessary, however, that this be done, and I now have the pleasure to lay before the readers of the *Journal of Horticulture* the section of a bit of Potato tissue with both curl and rot (dry and wet) fungi (fig. 5).

Fig. 5.—Section of Potato tissue affected with curl and dry or wet rot fungi.

The section *A* is from living tissue or that diseased, yet not wholly destroyed; but *B* is from dead matter from the same plant. Which of these fungi is the cause of the disease—that is, producing the collapse of the Potato crops in Cheshire and other parts of the country at the present time? Both! Nothing of the kind. The presence of carrion crows does not imply that they killed the carcass on which they are feeding, but they are there in consequence of death by natural causes or the injuries inflicted by some other agent; therefore, we must look closely, examine carefully, and obtain evidence leading to a correct judgment. In this case the disease is not produced by curl fungus, for it is in the part above ground, in the living but impaired tissue, while the dry rot fungus is on the stem and wholly below ground, and present in all its various conditions. The plant, however, presents all the symptoms of curl disease, and well it may, as it is also attacked by the fungus producing it, yet it has no connection whatever with dry rot fungus to which we will now proceed definitely.

In the illustration (fig. 6, *C*) is shown a Potato top, half natural size, as sketched on June 6th, 1895. The leaflets curled upwards, the whole haulm being more or less discoloured. On the stem was a diseased patch (*s*), encircling it, and cutting off the supply of nutriment, accounted for the cessation of the growth, curling, drooping, and collapse of the haulm. Taking a transverse section (*t*) through the diseased part, and subjecting it to a power of five diameters (*u*), certain growths appeared from the discoloured part externally, the brownish matter being mainly confined to the vessels (vascular tissue) surrounding the hollow part (*v*). On further examination, and a power of 260 diameters, the section of stem and the fungoid growth being in the same sketch as the Potato top, have been reduced half, showing sufficient for all practical purposes, that enlargement was brought to bear upon the fungus appearing at (*w*), and behold it was Reinke's and Berthold's *Verticillium atro-album*, now called *Diplocladium solani*, syn. *D. lycopersici* (*D*). Still further prying, our old enemy the "dry rot" fungus, *Fusarium* (*Fusiporium* of old times) *solani*, syn. *F. lycopersici* (*E*) came into view, and lastly in the most decayed part of the tissue, the resting spores or "fruits" of the *Fusarium*, this term being manifestly inapplicable, as the "fruit" only should give the generic definition, which in this case is *Hypomyces solani*, from the seed or spore of which (*F*) issues the germ tube entering the Potato plant, and producing dry rot or wet rot, according to time of year, in Potatoes and the "drooping" disease in Tomatoes. The resting spores or fruits (*x*) are formed of a single septa or cell (as common in some *Algæ*) some unknown sexual union taking place, at least in some cases, for the resting spores are of two kinds, the mature (*y*) sometimes only producing one growth (germinal tube or pro-mycelium) (*y1*), which entering a Potato or Tomato stem below ground gives rise to the *Verticillium* or *Diplocladium* stage (*D*) about fifteen days in warm weather, twenty-one to twenty-eight or thirty in cold weather after entering the Potato plants, always when the mycelium has become firmly seated in the vascular tissue of the plant, and able, if need be, to ascend the stem without destroying the cellular or epidermal tissues, or at any rate be capable of forming resting spores in the attacked part, for be it understood that the fungus has not matters all its own way, the plant resisting, and sometimes is able to throw off the enemy, as in the case of the plant figured, which we will allude to presently. But sometimes two growths issue from a resting spore or fruit (*z*), the one (*z2*) being a pro-mycelium or germ tube, septate, and every septa capable of producing a new cell or continuing the growth if detached; the other (*z3*) strikes for the air (understand the fruits always germinate in the soil, in moist dead tissue, or on the ground), and produces the *Diplocladium* stage, the conidia of which are septate, or consist of two conidium or spores, and these are scattered by the wind, and falling on a suitable nidus germinate, and give rise to their and the *Fusarium* stage (*E*). So also the germinal tube entering a Potato or a Tomato stem below ground gives rise to the *Diplocladium*, which is followed in about a week by the *Fusarium* stage, and that in turn by the *Hypomyces* or resting spores, which tide the fungus over the winter or indefinitely. The *Fusarium* can only produce *Fusarium*, and its resting spore, or the germinal hyphæ from it, can only give rise to *Diplocladium*. I hope I have made the life history of dry rot fungus in Potatoes and drooping disease in Tomatoes quite clear.

But there is another phase of the subject that requires careful consideration—namely, the dry rot from planting diseased sets. This is a common cause of collapse when the plants are a few inches high, as in the engraving. If the sets are cut through before planting they will be found to contain a number of reddish streaks, especially at the thread end, where the woody bundles are situated, and these pass through the Potato (which is simply an underground stem thickened into a tuber), and up these threads the mycelium or hyphæ makes its way. If the plant has sprouted up these sprouts the hyphæ passes, and when near the surface of the soil breaks through the cellular tissue and pushes outgrowths, first the *Diplocladium* (*D*), and then the *Fusarium* (*E*), while within the vascular system the "fruits" (*F*) are formed. Should the fungus mycelium destroy the cells all round the stem it is all over with the plant. But Nature is strong, especially in the struggle for existence, and it heals over the wound by occlusion, throws on the external wall a coating of silica—a dirty barrier that no fungal growths can penetrate. It puts forth a root (*a*) into the soil, forms a tuber (*b*) out of a shoot or stem, and repeats it at *c*, this having leaves at its eye end. Such tubers are of no use for food; they are everything to the plant—essential to its perpetuation. The top dies, but the tubers (*b*, *c*) remain—the fungus is foiled.

Gardeners take advantage of this in the case of drooping disease in Tomatoes and earth up the plant, for it pushes roots freely from the stem, and thus, despite the fungus, they secure a good crop of fruit in some cases, but not always, for the fungus may have mycelia in the stem above the point of first attack, and then it breaks out here and there from the stem and sometimes from the fruit, being given all kinds of names, such as blotch, spot, stripe, and rot. The spores of both *Diplocladium* and *Fusarium* are spread far and wide, but usually do not germinate on living Potatoes or Tomatoes. This is conditional on their being perfectly healthy and fortified in the epidermal cells with silica, lime, magnesia, and iron; but they will grow on dead or decaying tissue, of which there is no lack on both Potatoes and Tomatoes, and once in the mycelium will grow and produce the *Fusarium* stage and the resting spores. All is mistake about its being a saprophyte, but it leads an endophytic life, hence it is fostered by decaying matter, the *Diplocladium* being followed by the *Fusarium*, and that by the resting spores in the soil or on any decaying vegetable matter, even on humus and manure or even very rich soil.

The soil, therefore, and the dead plants are the source of the evil. Affected plants should be burned—haulm of Potatoes, tops of Tomatoes. Then disinfect the soil by dressings of quicklime, using 1 peck per rod as a preventive measure, and double that quantity in case of attack slightly, and four times in bad cases. Dusting quicklime (air-slaked) on plants is an excellent dressing for either Potato or Tomato crops, for that will make an end of any dead or decaying tissue, drying it up and hardening the epidermis of the living parts, but the thing is to get the lime into the soil so as to destroy the fungus, and into the plant so as to enable this to place it in the woody fibre, on the cell walls, and especially on the epidermis. The lime should be applied freshly slaked—hot—in March for Potatoes, and a month or six weeks before use for compost intended for Tomatoes, one-tenth not being too much for rich composts, mixing thoroughly. Thorough cleanliness should be practised in the houses, not being afraid of using hot lime-wash in Tomato structures, while every precaution should be taken to



FIG. 6.—DRY ROT FUNGUS IN POTATOES.

C, infested Potato top; *s*, stem girdled by fungus; *t*, transverse section of stem, half natural size; *u*, the same enlarged five diameters; *v*, vascular tissue; *w*, point of breaking forth of fungal outgrowths. *D*, *Diplocladium solani*, first stage of fungus from mycelial hyphae. *E*, *Fusarium solani*, second stage of fungus, which is somewhat ousing and often accompanied with bacteria. *F*, *Hypomyces solani*, final or resting stage of fungus; *x*, formation of resting spore; *y*, mature; *y1*, single growth from resting spore; *z*, resting spore pushing two growths; *z2*, ordinary pro-mycelium; *z3*, pro-mycelium producing *Diplocladium solani*. Recuperation of Potato plant from above attacked part; *a*, root; *b*, tubes from a shoot; *c*, tuber-like shoot with growing leaf eye, both capable of resting and of reproducing or continuing the plant.

plant only sound sets of Potatoes, treating them with freshly slaked lime before planting, especially cut ones.

In the case of the drooping disease infesting the part above ground in Tomatoes, the plants should be pulled up and burned, removing as much of the root portion as possible from the soil, and use quicklime freely for disinfecting the soil. Stone lime is much better than chalk lime, being much stronger, it being essential that it be freshly burned, enough water only used to slake it, and apply while hot and floury.—G. ABBEY.

ROSE SHOWS.

CRYSTAL PALACE.—JULY 6TH.

ROSARIANS mustered in very strong force on Saturday last to take part in the annual show of the National Rose Society. For some time previous to the event speculation ran very high as to what the show would be like, some persons asserting it would be a failure, while others were confident that it would prove a brilliant success. As a matter of fact neither section proved to be the correct one, as it may better be placed in the category of medium. The arrangement was entirely different to what was the case last year on the same occasion, as in the present only one end of the centre transept, with one side of the square in the centre, was devoted to the queen of flowers, whereas last year both ends of the transept were requisitioned.

Taking this into consideration we are of the opinion that, from a numerical point of view, this year was considerably behind its predecessor. It is possible that there were almost as many feet of tabling, but several of these were unoccupied, while in other cases the boxes had been placed some distance apart apparently to utilise the space. This diminution may very easily be accounted for by the weather, which for some time has been the reverse of favourable to Roses and rosarians, and the murmurings anent it have been numerous and persistent. Had it not been for the cooler weather that has been pretty generally experienced the chances are that the show would not have been nearly so good as it was.

Looking now at the display as regards quality, a very wide range was covered, for while hundreds of really superb examples were shown, so also were there hundreds of decidedly weak flowers staged. This state of affairs cannot be said to have been confined to any one section in particular, but was general, though perhaps on the whole the Hybrid Perpetuals were the best. Nurserymen and amateurs were alike in difficulties, and despite the excellent quality of many of the boxes staged, it would have been difficult to find one absolutely perfect, but perhaps no one would look for absolute perfection in any one large exhibit. The class for seventy-two distinct varieties, the first prize in which is the champion trophy and a gold medal, though only bringing five exhibitors, was provocative of very keen competition, the pointing for first and second only showing a difference of four points. As will be seen by the subjoined report, Mr. B. R. Cant secured the coveted honour from Mr. Frank Cant. In the amateurs' trophy class for thirty-six single trusses, Mr. E. B. Lindsell of Hitchin thoroughly deserved the high position accorded to him, as his exhibit was decidedly superior to any other staged in the class.

The arrangement of the show was not by any means so good as it might have been, as there had been apparently little or no effort made to make the various classes run consecutively. As a consequence of this one class had to be rejudged, while in another it was asserted by exhibitors that their flowers had never been examined. Such occurrences as these are unfortunate, if nothing more, and might, with a little care, be greatly minimised, if not entirely overcome. It was regrettable, too, that the judges were late in commencing their duties, but perhaps this was excusable when it is remembered that there were upwards of sixty appointed to award the prizes in sixty-one classes. We append the names of the prizewinners in the principal classes.

NURSERYMEN'S CLASSES.

The blue ribbon class was for seventy-two distinct, single trusses, only five exhibits being staged. The stands were remarkably close, and gave the Judges a great amount of trouble to arrive at a decision. Mr. B. R. Cant was, as has been said, first with a stand of freshly coloured blooms. The varieties were—Back row: Gustave Piganeau, Duchesse de Morny, Earl of Dufferin, Heinrich Schulteis, Xavier Olibo, Madame de Watteville, Comtesse d'Oxford, Mrs. J. Laing, Madame Crapelet, Marie Finger, Maurice Bernardin, Souvenir d'un Ami, Mons. E. Y. Teas, Boieldieu, Alfred Colomb, White Lady, Ulrich Brunner, Marchioness of Dufferin, Duke of Fife, Caroline Testout, Marie Baumann, Lady Mary Fitzwilliam, Susanne Marie Rodocanachi, and Her Majesty. Middle row: Marquise de Litta, Beauty of Waltham, Mrs. Sharman Crawford, Henry Pereire, Boule d'Or, Charles Lefebvre, Marchioness of Londonderry, Marie Verdier, Marchioness of Downshire, Dupuy Jamain, Luciole, Duke of Edinboro', Innocente Pirola, Sultan of Zanzibar, Madame Gabriel Luizet, Victor Hugo, Jeannie Dickson, A. K. Williams, Maréchal Niel, Dr. Sewell, Catherine Mermet, Horace Vernet, Souvenir de S. A. Prince, and Dr. Andry. Front row: Prince Arthur, Marquise de St. Amand, Comte de Raimbaud, Countess of Rosebery, Duke of Connaught, Margaret Boudet, Camille Bernardin, Comtesse de Nadaillac, Crown Prince, Ernest Metz, Fisher Holmes, Marie Van Houtte, Alfred Dumesnil, The Bride, Jean Soupert, Madame Cusin, Duke of Wellington, La Fraicheur, Captain Hayward, La France, Etienne Levet, Merveille de Lyon, Reynolds Hole, and Ethel Brownlow. Mr. F. Cant was a splendid second, only a few points dividing the two stands. Amongst the best in this were Captain Hayward, Comtesse de Nadaillac, Horace Vernet, Duchess of Albany, Ernest Metz, La Boule d'Or, Fisher Holmes, Souvenir de Paul Neyron, A. K. Williams, Alfred Colomb, and Comtesse de Ludre. Messrs. Harkness & Sons, Bedale, were a capital third with a box of fine blooms. Conspicuous were Mrs. Sharman Crawford, Princess of Wales, Etoile de Lyon, Fisher Holmes, Maréchal Niel, and Comtesse de Ludre.

For forty trebles, distinct, Mr. Frank Cant was first with superb blooms. Etienne Levet, Caroline Testout, Gustave Piganeau, The Bride,

Her Majesty, Alfred Colomb, Ethel Brownlow, Marie Baumann, Niphetos, Susanne Marie Rodocanachi, Merveille de Lyon, Marchioness of Dufferin, Duke of Connaught, Marguerite de St. Amand, Reynolds Hole, Mrs. J. Laing, Salamander, Boieldieu, Baroness Rothschild, Kaiserin Augusta Victoria, Madame George Paul, Souvenir d'un Ami, Heinrich Schulteis, Horace Vernet, Souvenir de S. A. Prince, Auguste Rigotard, Madame de Watteville, Victor Hugo, Pride of Waltham, Duke of Fife, Jeannie Dickson, Marie Verdier, Catherine Mermet, Comtesse de Ludre, Innocente Pirola, A. K. Williams, Madame Cusin, Comte Raimbaud, Fisher Holmes, and Comtesse de Nadaillac. Mr. B. R. Cant was a capital second, his finest examples being of Duke of Fife, Comtesse de Nadaillac, Mrs. John Laing, Ulrich Brunner, Heinrich Schulteis, and Catherine Mermet. Messrs. Harkness & Sons were a good third.

For forty-eight, distinct, single trusses, Messrs. D. Prior & Sons were accorded the first position. Most of the blooms were fresh and clean, but a few rather weak ones were noticeable. The varieties represented were—Back row: La France, Duchess of Bedford, Marchioness of Dufferin, Comtesse d'Oxford, Maréchal Niel, Horace Vernet, Mrs. J. Laing, Gustave Piganeau, Lady Mary Fitzwilliam, Victor Hugo, Merveille de Lyon, Louis Van Houtte, Jeannie Dickson, Ulrich Brunner, Niphetos, and Alfred Colomb. Middle row: Susanne Marie Rodocanachi, Pride of Waltham, Duke of Wellington, Caroline Testout, A. K. Williams, Baroness Rothschild, Reynolds Hole, Madame Eugène Verdier, Bruce Findlay, Madame Delville, Annie Wood, François Michelin, Charles Lefebvre, Heinrich Schulteis, Prince Arthur, and Her Majesty. Front row: Duchesse de Morny, Duke of Connaught, Countess of Rosebery, Abel Carrière, Etienne Levet, Star of Waltham, Marie Verdier, Marie Baumann, Mrs. Paul, Constantine Fretiakoff, Ernest Metz, Xavier Olibo, Marquise de Castellane, Sultan of Zanzibar, Mary Bennett, and Mons. E. Y. Teas. Mr. H. Merryweather was second, his best being Susanne Marie Rodocanachi. Gustave Piganeau, Duke of Fife, Viscountess Folkestone, Marie Baumann, Horace Vernet, and Marie Van Houtte. Messrs. J. Burrell & Co. were a good third. Mrs. Paul, A. K. Williams, Xavier Olibo, and Madame Gabriel Luizet were the best here.

Mr. J. Mattock, New Headington, Oxford, was first in the class for twenty-four distinct, single trusses, there being six competitors, each staging in good form. The flowers were even and the colour exceptionally good. Back row: Her Majesty, Comte Raimbaud, Heinrich Schulteis, Ulrich Brunner, Ernest Metz, Horace Vernet, La France, and Dupuy Jamain. Middle row: Reynolds Hole, Mrs. John Laing, Duchess of Bedford, Comtesse de Nadaillac, Charles Lefebvre, Duchesse de Morny, Victor Hugo, and Madame Hoste. Front row: Comtesse d'Oxford, Charles Darwin, Innocente Pirola, Gustave Piganeau, Merveille de Lyon, A. K. Williams, The Bride, and Duke of Connaught. The second prize went to Mr. S. Tressider, Cardiff, who showed Duchesse de Morny, A. K. Williams, Duke of Wellington, and Duchess of Bedford. Messrs. Townsend & Sons, Worcester, were a fair third.

In the class for twenty-four distinct trebles Messrs. G. & W. H. Burch, Peterborough, were placed first with handsome examples of Her Majesty, Charles Lefebvre, Marie Baumann, Charles Darwin, Jeannie Dickson, Mons. E. Y. Teas, Dr. Andry, Duke of Fife, Marchioness of Dufferin, Xavier Olibo, Marie Rady, Senateur Vaisse, Horace Vernet, Mrs. John Laing, Duchess of Bedford, Innocente Pirola, Exposition de Brie, Gustave Piganeau, Earl Dufferin, Madame de Watteville, Fisher Holmes, Madame Hoste, A. K. Williams, and Etienne Levet. Messrs. D. Prior & Sons were a fair second, and Messrs. Townsend & Sons third.

In the class for eighteen bunches, distinct, not more than seven trusses in a bunch, Messrs. Paul & Son, Cheshunt, were first. Their best comprised Susanne Marie Rodocanachi, Bacchus, Mrs. Paul, Captain Christy, La France, and Alfred Colomb, and Mr. G. Mount, Canterbury, was a good second with fresh blooms.

AMATEURS' OPEN CLASSES.

In the class for thirty-six single trusses, premier honours were awarded to E. B. Lindsell, Esq., Hitchin, who staged an excellent stand, consisting of—Back row: Gustave Piganeau, Madame Eugène Verdier, Charles Lefebvre, Merveille de Lyon, A. K. Williams, Mrs. John Laing, Ulrich Brunner, Marchioness of Londonderry, Earl of Dufferin, Mrs. Paul, Susanne Marie Rodocanachi, and Her Majesty. Middle row: Duchess of Bedford, Souvenir d'Elise, Dupuy Jamain, Caroline Kuster, Alfred Colomb, Gustave Luizet, Duke of Wellington, Duchesse de Morny, Fisher Holmes, Comtesse de Nadaillac, Madame Hausmann, and Mrs. S. Crawford. Front row: Dr. Navett, Marie Verdier, Madame Bernardin, Etoile de Lyon, Duke of Connaught, François Michelin, Dr. Andry, Abel Carrière, Prince Arthur, Innocente Pirola, Louis Van Houtte, and Catherine Mermet. In this exhibit a superb example of Her Majesty was worthy of a special word of praise, the flower being well nigh perfect. The second prize fell to the Rev. J. H. Pemberton, Havering-atte-Bower, Essex, for flowers not nearly so good as the former; and Mr. C. J. Salter, gardener to T. B. Haywood, Esq., Woodhatch Lodge, Reigate, followed with third.

In the amateurs' class for forty-eight distinct single trusses E. B. Lindsell, Esq., was a splendid first with a grand exhibit. The specimens were fresh and clean, some being large, but a few were small. Back row: Ulrich Brunner, Captain Christy, Etienne Levet, Marchioness of Londonderry, Horace Vernet, Susanne Marie Rodocanachi, Marie Finger, Duke of Wellington, Her Majesty, Earl Dufferin, Madame Gabriel Luizet, Ernest Metz, Dupuy Jamain, Alfred Colomb, Louis Van Houtte, and Mrs. J. Laing. Middle row: Marie Baumann, Duke of Orleans, Francisca Kruger, Marie Verdier, The Bride, Mons. E. Y. Teas, Madame Hoste, Duke of

Edinburgh, La France, Madame Hausmann, Comtesse de Nadaillac, Star of Waltham, Innocente Pirola, Camille Bernardin, Anna Ollivier, and Beauty of Waltham. Front row: Le Havre, Duchesse de Vallombrosa, Madame Victor Verdier, Pride of Waltham, Duke of Connaught, Heinrich Schultheis, A. K. Williams, Etoile de Lyon, Xavier Olibo, Princess of Wales, Comte Raimbaud, François Michelin, La Rosière, Souvenir d'Elise, Mrs. Sharman Crawford, and Merveille de Lyon. W. Drew, Esq., Ledbury, was a good second. Ernest Metz, Duchess of Bedford, Marie Rady, Mrs. John Laing, and Earl of Dufferin were especially noticeable. Mr. Mease, gardener to A. Tate, Esq., Leatherhead, was third.

J. Gurney-Fowler, Esq., South Woodford, was first for twenty-four distinct blooms with—Back row: A. K. Williams, Madame Eugène Verdier, Marie Rady, Her Majesty, John Stuart Mill, François Michelin, Duchesse de Caylus, and Ulrich Brunner. Middle row: Harrison Weir, Mrs. John Laing, Earl of Dufferin, Baroness Rothschild, Prince Arthur, François Levet, Charles Lefebvre, and Duchess of Bedford. Front row: Susanne Marie Rodocanachi, Madame de Watteville, Horace Vernet, Merveille de Lyon, Dr. Andry, The Bride, Reynolds Hole, and Star of Waltham. W. Boyes, Esq., Derby, occupied the second place with a stand less creditable; and the third prize fell to Rev. A. Foster Melliar, Sproughton Rectory, Ipswich.

The Rev. J. H. Pemberton was a decided first for twelve blooms of one variety, his exhibit being composed of good examples of A. K. Williams. H. V. Machin, Esq., Worksop, was second with Her Majesty; and W. Drew, Esq., Ledbury, third with blooms of the same variety.

For Growers of Less than 2000 Plants.—Mr. J. Gutteridge, gardener to W. C. Romaine, Esq., The Priory, Windsor, was a good first for twenty-four distinct blooms with—Back row: Heinrich Schultheis, Alfred Colomb, Mrs. John Laing, Etienne Levet, Her Majesty, Charles Lefebvre, Madame Gabriel Luizet, and Horace Vernet. Middle row: Marie Finger Countess of Rosebery, Etoile de Lyon, Victor Hugo, Francisca Kruger, Marie Baumann, Maréchal Niel, and Duke of Teck. Front row: Innocente Pirola, A. K. Williams, Le Havre, Comtesse de Nadaillac, Camille Bernardin, Dr. Andry, The Bride, and Gustave Piganeau. A. Slaughter, Esq., Steyning, followed as a close second; and the third prize fell to Rev. H. Berners, Harkstead Rectory.

For eighteen trusses, distinct, first honours were awarded to James Parker, Esq., Oakfield, Hitchin, who staged blooms of—Back row: Her Majesty, Louis Van Houtte, Etienne Levet, Merveille de Lyon, Grand Mogul, and Madame G. Luizet. Middle row: Duke of Connaught, Baroness Rothschild, Earl Dufferin, Innocente Pirola, Charles Darwin, and Duke of Bedford. Front row: John Stuart Mill, Crown Prince, Mrs. John Laing, Fisher Holmes, Victor Hugo, and Reynolds Hole. Edward Mawley, Esq., Rosebank, Berkhamstead, was a close second, his exhibit including good blooms of Comte Raimbaud, Mrs. John Laing, Star of Waltham, Charles Lefebvre, and Dr. Andry. E. M. Bethune, Esq., Horsham, followed with third.

For nine single trusses of one variety premier honours fell to Rev. H. Berners with creditable blooms of Madame Gabriel Luizet; A. Slaughter, Esq., claimed the second place with Charles Lefebvre; E. M. Bethune, Esq., taking third with Captain Christy.

Open to Divisions C and D, and Class 7.—The first prize for eight distinct kinds, three trusses of each, fell to E. B. Lindsell, Esq., Hitchin, for excellent blooms of Her Majesty, Earl Dufferin, Mrs. John Laing, Alfred Colomb, Caroline Kuster, Ulrich Brunner, La France, and Souvenir d'Elise. Alfred Tate, Esq., was a creditable second; and the third award fell to Rev. J. H. Pemberton.

For twelve bunches of Roses, distinct, to occupy a given space, the Rev. J. H. Pemberton took the highest award, his exhibit being composed of Edith Gifford, Horace Vernet, Comtesse de Nadaillac, A. K. Williams, Grace Darling, Marie Van Houtte, Belle de Bordeaux, Bouquet d'Or, Anna Olivier, Marie Baumann, Caroline Kuster, and Mrs. John Laing. H. V. Machin, Esq., was a fine second.

For Growers of Less than 1000 Plants.—For nine distinct single trusses, M. Whittle, Esq., was first with Her Majesty, Louis Van Houtte, Marie Baumann, Mrs. J. Laing, Madame Hoste, E. Y. Teas, Baroness Rothschild, Marie Verdier, and Margaret Dickson. The Rev. H. B. Byron, Hythe, was second, with well shaped flowers, especially Marie Baumann; J. Parker, Esq., Oxford, being third; and C. Jones, Esq., Hucclecote, Gloucester, fourth.

G. C. Burnand, Esq., Reigate, was first for six trebles, distinct, with Duke of Edinburgh, Merveille de Lyon, Ulrich Brunner, Baroness Rothschild, Général Jacqueminot, and Madame Gabriel Luizet. M. Whittle, Esq., was a fair second; J. Parker, Headington, Oxford, third; Mr. O. G. Orpen, Colchester, being fourth.

For Growers of Less than 500 Plants.—J. Bateman, Esq., Archway Road, N., was first for nine single trusses, with Charles Lefebvre, Her Majesty, Ulrich Brunner, Mrs. John Laing, Countess of Rosebery, Gabriel Luizet, Beauty of Waltham, Mrs. George Dickson, and Susanne Marie Rodocanachi. H. Foster, Esq., was a good second; and H. P. Landon, Esq., Brentwood, third. For six single trusses, distinct, E. R. Smith, Esq., Muswell Hill, was a good first with Heinrich Schultheis, Marie Baumann, Louis Van Houtte, Mrs. John Laing, Etienne Levet, and Susanne Marie Rodocanachi. The Rev. G. E. Jeans, Shorwell Vicarage, Isle of Wight, was second; and W. D. Freshfield, Esq., Reigate, third.

For four distinct varieties, three blooms of each, Mr. A. Evans, Oxford, was first with Horace Vernet, Catherine Mermet, Marie Baumann, and Her Majesty. Mr. D. Freshfield, Reigate, was second, and Miss Denton, Windsor, third.

Open to Divisions E and F.—O. G. Orpen, Esq., was a decided first in the Harkness cup class for twelve blooms with Merveille de Lyon, Ulrich Brunner, Innocente Pirola, Dr. Sewell, Ernest Metz, Comtesse de Panisse, The Bride, Alfred Colomb, Kaiserin Augusta Victoria, Catherine Mermet, Souvenir d'un Ami, and A. K. Williams. P. G. C. Burnand, Esq., Reigate, was a creditable second, having good blooms of Lady Helen Stewart and Baroness Rothschild, and M. Whittle, Esq., Leicester, followed with third. In this class there were no less than ten exhibitors.

Jas. Parker, Esq., Oxford, was first for six blooms of one variety with Her Majesty; Samuel Price, Esq., Derby, was second with Mrs. John Laing; and Dr. Tucker, Swanley, third with Her Majesty.

Extra Amateurs' Classes.—C. E. Shea, Esq., Foot's Cray, was first for six distinct single trusses with splendid flowers of Duchesse de Morny, Dr. Andry, Gusave Piganeau, Heinrich Schultheis, Sénateur Vaisse, and Marie Baumann. F. W. Campion, Esq., Reigate, was second, and F. Dennison, Esq., Birmingham, third. For six single trusses the prizes went to Messrs. R. W. Bowyer, S. Price, R. F. Hobbs, in the order named. The piece of plate offered by E. Mawley, Esq., for six single trusses was won by K. H. Gifford, Esq., Streatham, E. R. Smith, Esq., being second, and R. H. Langton, Esq., Hendon, third.

In the class for twelve, distinct, single trusses, Mr. Hodgson was a good first with Général Jacqueminot, Earl of Dufferin, La France, Louis Van Houtte, Mrs. J. Laing, A. K. Williams, Madame Gabriel Luizet, Duke of Connaught, Viscountess Folkestone, Victor Hugo, Fisher Holmes, and Prince Camille de Rohan. A. Beyfus, Esq., Norwood, was second; and H. W. Dewes, Esq., Beckenham, third. The Rev. J. H. Pemberton was first in the class for six single trusses of new Roses with Mrs. Sharman Crawford, Duke of Fife, La Frâicheur, Marchioness of Londonderry, Marchioness of Downshire, and Mrs. Harkness; E. Mawley, Esq., being second; and J. Bateman, Esq., third.

TEA AND NOISETTE SECTION.

Nurserymen's Classes.—There were five competitors for twenty-four Teas and Noisettes, distinct; Mr. F. Cant, Colchester, was accorded the premier position. The Bride, Madame de Watteville, Niphetos, Madame Cusin, Souvenir d'Elise, Comtesse de Nadaillac, Innocente Pirola, Ernest Metz, Souvenir de S. A. Prince, Ethel Brownlow, Maréchal Niel, Hon. Edith Gifford, Maman Cochet, Souvenir de Paul Neyron, Jean Ducher, Corinna, Rubens, Madame Angèle Jacquier, Marie Van Houtte, Bridesmaid, Francisca Krüger, and Cleopatra were staged all in good condition. Mr. B. R. Cant, Colchester, was second; and Messrs. D. Prior & Sons, Colchester, third.

For eighteen Teas or Noisettes, distinct, Mr. J. Mattock was first, with Comtesse de Nadaillac, Souvenir de S. A. Prince, Ernest Metz, Innocente Pirola, Catherine Mermet, Souvenir d'Elise, Maréchal Niel, Ethel Brownlow, Niphetos, Francisca Krüger, Madame Hoste, Souvenir de Thérèse Levet, Souvenir d'un Ami, Hon. Edith Gifford, Madame Cusin, The Bride, Madame Berard, and Adam, all in good form. Mr. H. Merryweather, Southwell, was a good second with small but clean and fresh blooms. Messrs. J. Burrell & Co., Howe House, Nurseries, Cambridge, were third. There were eight competitors in the class.

For eighteen treble Teas, distinct, Mr. F. Cant was first with Comtesse de Nadaillac, Souvenir de S. A. Prince, Ernest Metz, Madame de Watteville, The Bride, Maman Cochet, Innocente Pirola, Catherine Mermet, Souvenir d'Elise, Cleopatra, Francisca Krüger, Marie Van Houtte, Caroline Kuster, Souvenir d'un Ami, Niphetos, Ethel Brownlow, Rubens, and Madame Cusin in splendid condition. Messrs. D. Prior & Sons were a fine second, and Mr. B. R. Cant a good third.

Amateurs' Open Classes.—For eighteen Teas and Noisettes in the Tea and Noisette trophy class, O. G. Orpen, Esq., was a good first with—Back row: Ernest Metz, Innocente Pirola, Madame Cusin, The Bride, Souvenir d'un Ami, and Souvenir de S. A. Prince. Middle row: Catherine Mermet, Princess of Wales, Anna Ollivier, Devoniensis, Francisca Krüger, and Madame Hoste. Front row: Ethel Brownlow, Edith Gifford, Madame Lambard, Maréchal Niel, Madame Bravy, and Marie Van Houtte. The Rev. A. Foster Melliar was a close second, and the Rev. H. Berners followed with third.

O. G. Orpen, Esq., was again first for twelve Teas or Noisettes, with Innocente Pirola, Ernest Metz, Sappho, Catherine Mermet, Madame Hoste, Comtesse de Nadaillac, Madame Cusin, The Bride, Madame de Watteville, Marie Van Houtte, Media, and Souvenir d'un Ami; E. M. Bethune, Esq., followed with second; and the Rev. H. Berners, third. For eight distinct Teas or Noisettes, three trusses of each, O. G. Orpen, Esq., was first with Catherine Mermet, Comtesse de Panisse, Innocente Pirola, The Bride, Rubens, Marie Van Houtte, Madame Bravy, and Souvenir d'un Ami; the Rev. A. Foster Melliar was second, and H. V. Machin, Esq., third. O. G. Orpen, Esq., was again first for nine single Teas or Noisettes of one variety, with Francisca Kruger, Rev. A. Foster Melliar was second with Comtesse de Nadaillac, and Rev. H. Berners third with Madame Hoste.

For Growers of Less than 500 Plants.—Conway Jones, Esq., Gloucester, was a good first for twelve Teas or Noisettes, for a stand containing Anna Ollivier, Miss Ethel Brownlow, Francisca Kruger, Catherine Mermet, Cleopatra, Madame de Watteville, Niphetos, Ernest Metz, The Bride, Marie Van Houtte, and Comtesse de Nadaillac; the second prize fell to James Parker, Esq. The premier prize for six Teas or Noisettes fell to R. H. Langton, Esq., Hendon, for Madame de Watteville, Innocente Pirola, Ernest Metz, Catherine Mermet, Madame Cusin, Ethel Brownlow, Madame Bravy, Cleopatra, and The Bride; A. Evans, Esq., was second; and Mr. J. Gutteridge third.

For Growers of Less than 200 Plants.—For nine Teas or Noisettes Jas. Parker, Esq., was first with Madame Hoste, Comtesse de Nadaillac, Catherine Mermet, Marie Van Houtte, Innocente Pirola, The Bride, Princess of Wales, Perle des Jardins, and Souvenir de S. A. Prince. T. A. Washbourn, Esq., Gloucester, followed with second, and W. D. Freshfield, Esq., Reigate, third. For six distinct blooms Rev. F. R. Burnside, Derby, and G. W. Cook, Esq., North Finchley, were awarded equal first for good blooms, George Moules, Esq., Hitchin, following with third.

Open to Divisions 2 and 3.—Conway Jones, Esq., Gloucester, was first for four Teas, distinct, three trusses of each, with Edith Gifford, Ernest Metz, Niphetos, and Comtesse de Nadaillac. R. H. Langton, Esq., was second, and W. Boyes, Esq., Derby, third.

For six single trusses of one variety A. Evans, Esq., was first with Marie Van Houtte, W. D. Freshfield second with the same kind, and Edward Mawley, Esq., third with Souvenir de S. A. Prince.

Extra Amateurs' Classes.—The premier prize for nine bunches of Teas or Noisettes fell to James Parker, Esq., who staged Catherine Mermet, William Allan Richardson, Edith Gifford, Madame Lambard, Etoile de Lyon, and others. For six Teas or Noisettes R. W. Bowyer, Esq., Hertford, was first with Princess of Wales, Catherine Mermet, Comtesse de Nadaillac, Mrs. James Wilson, Maman Cochet, and Innocente Pirola. K. H. Gifford, Esq., was second, and W. J. Pegge, Esq., Beeston, Notts, third.

OPEN CLASSES.

In the open class for twelve Hybrid Teas Mr. Frank Cant was first with a splendid stand of Auguste Guinoisseau, La France, Viscountess Folkestone, Lady Mary Fitzwilliam, Caroline Testout, Kaiserin Augusta Victoria, Duchess of Albany, Danmark, Germaine Caillott, Grace Darling, and La Fraîcheur. Mr. B. R. Cant was second, and Mr. G. Prince third. There were nine competitors in this class.

For twelve single trusses of any one yellow Rose other than Maréchal Niel Mr. G. Prince was first with Comtesse de Nadaillac, Mr. J. Mattock second with the same variety, and Mr. F. Cant third with Marie Van Houtte. Mr. G. Mount, with Merveille de Lyon, was first for twelve blooms of any white Rose, Mr. Prince being second with Kaiserin Augusta Victoria, and Mr. B. R. Cant third with Merveille de Lyon. Messrs. Townsend & Sons were first in the class for twelve trusses of any crimson Rose with A. K. Williams, Mr. B. R. Cant being second with Gustave Piganeau, and Mr. G. Mount third with Ulrich Brunner. Equal first prize was accorded Mr. B. R. Cant and Mr. G. Mount in the class for twelve blooms of any dark Rose, each staging Fisher Holmes; Messrs. G. & W. H. Burch were third with Horace Vernet. Mrs. Sharman Crawford won the premier position for Messrs. A. Dickson and Sons in the class for twelve trusses of any light Rose, Messrs. D. & W. Croll being second with Mrs. John Laing, and Mr. F. Cant third with the same variety. There were eleven competitors in this class.

In the class for twelve single trusses for any Rose other than a Tea or Noisette, Mr. F. Cant was first with Her Majesty, Messrs. Paul and Sons second with the same variety, and Mr. B. R. Cant third with Marchioness of Dufferin. Mr. B. R. Cant was first for twelve Teas or Noisettes with Madame Cusin, Mr. F. Cant being second with Madame de Watteville, and Mr. J. Mattock third with Ernest Metz. For twelve single trusses of Maréchal Niel Messrs. D. Prior & Sons were first, and Messrs. Townsend & Sons second.

For twelve trusses of any new Rose Messrs. A. Dickson & Sons were a good first with Mrs. R. G. Sharman Crawford, Mr. Frank Cant was second with Marchioness of Londonderry, and Messrs. Paul & Son, Cheshunt, third with Jeannie Dickson. The first prize for twelve new Roses fell to Messrs. A. Dickson & Sons, Newtownards, Co. Down, Ireland, with Helen Keller, Marchioness of Londonderry, Captain Hayward, Mrs. R. G. Sharman Crawford, Shamrock, Marchioness of Downshire, La Fraîcheur, Mavourneen, Muriel Grahame, Lady Moyra Beauclerc, Tom Wood, and Avoca. Mr. B. R. Cant was second, and Frank Cant third. For three single trusses of any new seedling Rose or distinct sport, Messrs. A. Dickson & Sons received cards of commendation for Countess of Caledon and Muriel Grahame, the former a deep rose-coloured variety of great promise, and the latter a good creamy white.

Premier Blooms.—Four blooms were selected as being the best in the show, and all were undoubtedly superb specimens in every way. The premier Hybrid Perpetual in the nurserymen's exhibit was Her Majesty from Mr. B. R. Cant, and the best Tea Comtesse de Nadaillac, staged by Mr. Frank Cant. In the amateurs' section Her Majesty, shown by E. B. Lindsell Esq., was again in the front, the Tea or Noisette being Maréchal Niel from the Rev. A. Foster-Melliar.

GARDEN ROSES.

Nurserymen's Classes.—Messrs. J. Cooling & Sons were first for thirty-six bunches of garden Roses, distinct, not less than three trusses to a bunch. This was a charmingly fresh exhibit, composed of Bardou Job, Madame Falcot, Laurette, L'Idéal, W. A. Richardson, Madame C. Guinoisseau, The Pet, and others. Messrs. Paul & Son were second; and Mr. F. Cant third. For eighteen bunches of garden Roses, distinct, not less than three to a bunch, Messrs. Townsend & Sons were first with Céline Forestier, White Moss, and Madame Charles as their best. There was only one entry in this class.

Amateurs' Classes.—The first prize for eighteen bunches of garden Roses fell to H. V. Machin, Esq., for an exhibit in which were Gloire des Polyantha, Bennett's Seedling, The Pet, L'Idéal, and others. Alfred Tait, Esq., Leatherhead, was second; and O. G. Orpen, Esq., Colchester, third. For twelve bunches of Roses suitable for buttonholes,

Mr. J. Mattock was first with Isabel Sprunt, Rubens, L'Idéal, Gustave Regis, The Bride, William Allan Richardson, and others. Messrs. Townsend & Sons were second; and Mr. Evans third. Messrs. Paul and Son, Cheshunt, gained premier honours for nine bunches of single flowered Roses; amongst others were Rugosa alba, Moschata alba, Lucida, Rosa Rugosa, Macrantha, and others.

For a display of Roses, arranged on a given space, Mr. J. Mattock, Oxford, was first with an effective exhibit: Messrs. Townsend & Sons, Worcester, being second.

MISCELLANEOUS EXHIBITS.

Turning from the competitive to the non-competitive exhibits we find many plants other than Roses. In this section again, as in the other, numbers were not generally so large as has been the case on previous occasions, but on the whole the quality was excellent. One of the most conspicuous stands in the show was composed of Crimson Rambler Rose from Mr. C. Turner, Slough, who also staged some fine Carnations. Adjacent to these, and forming a distinctly pleasing, though direct contrast, were numerous bunches of Violas from Messrs. Dobbie & Co., Rothesay, N.B., and Orpington, Kent. Neither in this nor in the other cases will space permit of our giving the names of the varieties staged, but here many of the leading ones were shown in splendid condition. Mr. Wm. Rumsey, Joynings Nurseries, Waltham Cross, arranged a very handsome stand of Roses, comprising clean, shapely specimens of many of our well known sorts.

Hardy flowers in splendid varieties were sent by Messrs. J. Cheal and Sons, Lowfield Nurseries, Crawley, Sussex; while beautiful Calochorti came from Messrs. R. Wallace & Co., Colchester; Messrs. G. Jackman & Sons, Woking, Roses and hardy flowers; Mr. W. E. Tidy, Brockhampton Nurseries, sending Sweet Peas. Vieing with the Roses for brilliance of colouration were the Begonias, double and single, from Messrs. J. Laing & Sons, Forest Hill, who exhibited them in their customary excellent manner. A group of Caladiums and several boxes of Roses also came from this source.

DISS.—JULY 2ND.

THIS show was held on July 2nd in a field adjoining the residence of Mr. S. L. Cocks, who hospitably entertained exhibitors and judges to luncheon. Several showers occurred in the morning, but the afternoon was fine, and there was a good attendance. Roses were well shown in all classes.

In the open class for thirty-six the three Colchester nurserymen were represented, Mr. B. R. Cant being an easy first with a very fine stand. The most noteworthy and striking bloom in it was a very fine specimen of the new Tea, Golden Gate, and I apprehend that many of the spectators made a note of the name. Other fine Roses in the stand were White Lady, Ethel Brownlow, Madame Cusin, Her Majesty, Dr. Sewell and Abel Carrière (both very fine this year), and Captain Hayward. Mr. Frank Cant was second, having good specimens of Madame de Watteville, Madame Cusin, Her Majesty, and Mrs. John Laing. W. D. Prior & Sons were third with inferior blooms.

Class 2 is the Frere Memorial challenge cup for twenty-four (amateurs). This was won somewhat easily last year by Mr. Orpen, and he retained it this year after a close struggle (two points) with Rev. A. Foster-Melliar. The winning stand contained eleven good Teas, among them a very fine bloom of Madame Hoste, which gained the medal. Mr. Orpen was also fortunate enough to gain the H.P. medal with a good bloom of Grand Mogul in the same stand. Mr. Foster-Melliar's best blooms were Maréchal Niel, Caroline Testout, and Madame de Watteville. There were no other competitors in this class, which has generally resulted in a duel, but is none the less (perhaps all the more) keenly fought.

In class 3, twelve Roses, Rev. H. A. Berners was first with a good Charles Lefebvre and Merveille de Lyon, Mr. Harrison being second with weaker flowers. Class 4, twelve Teas, generally, too, sees a good fight between the best of the East Anglian amateurs, but it was not much of a contest this time, for Mr. Berners, last year's champion, is evidently "off colour," and Mr. Orpen had put all his best Teas into his cup stand. Mr. Foster-Melliar was therefore first, Mr. Orpen second, and Mr. Berners third. Three others competed, but there was nothing particularly noteworthy in any of the stands.

In the local classes Mr. D. Warnes of Eye was easily first in twelve, but the only comment to be made on the others was the well known difficulty of judging really bad Roses. Mr. B. R. Cant showed a fine stand of garden Roses, not for competition, and close by was a lavish display of Calochortus by Messrs. Wallace of Colchester, which alone was worth the entrance money to see. Six varieties of C. venustus were shown, a vase or two of each, but I must say that a novice would not find it very easy to distinguish between vesta, purpurascens, pictus, and roseus, especially if a little overblown. Oculatus is quite distinct, and so of course is citrinus, which has a yellow instead of a white ground. Calochortus splendens, and its variety atrovioleacea, were also shown, but how very inferior this species is, with an entire absence of that pattern and tracery which makes venustus such a marvel.

HARDY FLOWERS.

The Diss show has for some years been celebrated for its display of hardy perennials, which were well to the fore on the present occasion. Rev. F. Page-Roberts, the energetic Hon. Secretary, was first in the open class for thirty-six, beating Mr. Jacobi, nurseryman, Ipswich, who also showed a very excellent but rather crowded stand. What I wanted to see was my old friend essaying to swarm up the stem of his Eremurus

robustus, as depicted last year in the Journal; but I suppose there was no room in an ordinary tent for a spike of it. Rev. E. Farrar of Rickinghall was first in the amateur class with a good collection. A tent was set apart for decorations, and Mrs. Orpen was well first in dinner tables, using lavender blue and pale yellow Sweet Peas mixed with Grasses. Miss Howe of Palgrave was second, and I confess I do not like a mat of coloured material in the middle of the table, especially if it be bright yellow, and am surprised to see that this colour is very taking with many judges.

Then to the bouquets, for I heard a terrible rumour. Mrs. Orpen had dared to use "green Roses" for this purpose, and had, therefore, to take second place to a somewhat common but good mixture of Sweet Peas and Ferns shown by Miss Howe. I found on inspection that it was a true bill, and was much surprised to see how good (and I thought fairly effective) the green Roses were mixed with other Tea buds; but they were particularly good examples of this monstrosity (the green Rose), the rosettes being neat and well shaped.

For buttonholes there was a good competition, Mrs. Orpen winning easily with *Polyantha* Rose buds.

Fruit and vegetables were well shown, and this spirited little society seems likely to keep its head well above water—at all events as long as Mr. Page-Roberts holds the helm.—W. R. RAILLEM.

BROCKHAM.—JULY 3RD.

WHEN on Tuesday the rain came down in torrents it seemed little likely that any show on the following day that was purely a Rose show could be anything but a failure. Nevertheless, the Brockham Rose show, held at Oak Dene in the Holmwood, near Dorking, was a success.

At Oak Dene the show was held in 1886, when it was invited there by its late owner and occupier, Mr. W. Cattley. Since then the property has changed hands. Mr. and Mrs. Perkins invited the Committee there this year, and treated them, and all connected with them, with much courtesy and hospitality. The gardens show many signs of extensive improvement. Indeed, it is scarcely possible to speak too highly of such a garden. There is not an atom of stiffness or formality about it. The lawns are all on a slope and full of curves, and lest the "bedding out" should appear formal you at once come on a beautiful rockery, full of natural charm and filled with plants brought from all parts, and thriving as plants will in such places. Mr. King, the gardener, has been here nine years, and the whole place does him infinite credit and his nine under gardeners.

Fortunately the day was fine, and a large company were present at the garden party on the lawn in front of the house, where the band of thirty members of the Worcestershire Regiment, stationed at Aldershot, under the leadership of Mr. Evans, L.R.A.M., played a selection of popular music.

The Rose Show was in the field below, close to the cricket ground, in a large tent, and was decorated with pot plants of *Lilium longiflorum*, *Gloxinias*, Palms, and others by Mr. Appleby of the Box Hill Nurseries, who also showed a box of twenty-four very fine Roses. Messrs. Geo. Paul & Son, moreover, showed no less than twelve boxes of blooms from their well-known nurseries at Cheshunt, and amongst these were the following new Roses:—Haileybury, Alan Cheales, Bacchus, Clio, Capt. Hayward, Duke of Fife, Duchess of Fife, Mrs. Sharman Crawford, Violet Queen, Marquise de Litta, and Clara Watson. Messrs. Paul also showed the new garden Rose, *Alister Stella Gray*, raised by Mr. A. H. Gray of Bath.

For the twenty-four of any kind there were three competitors for the gold and silver N.R.S. medals. Mr. Tate won the first, and Mr. Cuthell the second prize. Mr. Tate's Roses were shown in this order—First row: Ulrich Brunner, Her Majesty, Comte Raimbaud, Madame de Watteville, Horace Vernet, Mrs. Jno. Laing, Charles Lefebvre, Marie Verdier. Second row: Heinrich Schultheis, Etienne Levet, Innocente Pirola, Reynolds Hole, Susanne Marie Rodocanachi, Princess of Wales, Jeannie Dickson, Marie Baumann. Third row: Fisher Holmes, Madame Gabriel Luizet, Alfred Colomb, Hon. Edith Gifford, Duchess of Bedford, Ethel Brownlow, Jean Soupert, and Baroness Rothschild. A very beautiful box. Mr. Cuthell's Roses, which were also good, were these:—Ulrich Brunner, Her Majesty, Marie Rady, Charles Lefebvre, Duchesse de Morny, Merveille de Lyon, Paul Neyron, Madame Gabriel Luizet, Mrs. Jno. Laing, Le Havre, Gloire de Lyonnaise, Comtesse d'Oxford, Baroness Rothschild, A. K. Williams, Heinrich Schultheis, Marquise de Castellane, Viscountess Folkestone, Camille Bernardin, Marie Finger, Mons. E. Y. Teas, Princess Mary of Cambridge, Ed. Morren, and Ferdinand de Lesseps. Mr. Mortimer was the third competitor.

Mr. Tate also won the first prize (silver medal N.R.S.) for twelve Teas, with Innocente Pirola, Madame Cusin, Jean Ducher (cut three days before, and the best Rose in the show), Ernest Metz, Comtesse de Nadaillac, Mrs. J. Wilson, Francisca Kruger, Ethel Brownlow, Etoile de Lyon, Hon. Edith Gifford, The Bride, and Madame de Watteville. Mr. Cuthell won the second prize (bronze medal N.R.S.) with *Maréchal Niel*, Hon. Edith Gifford, Caroline Kuster, Marie Van Houtte, *Alba rosea*, *Souvenir d'un Ami*, Innocente Pirola, Princess of Wales, Anna Ollivier, Belle Lyonnaise, *L'Ideale*, and The Bride. Mr. Mortimer also showed a box of twelve.

Three exhibitors competed for the six trebles. Mr. Cuthell took first prize with Ulrich Brunner, Merveille de Lyon, The Baroness, Paul Jamain, Her Majesty, and Paul Neyron. Mr. Tate had the second prize with Alfred Colomb, Her Majesty (grand), Augustine Guinoisseau, La France, Earl of Dufferin, and Marie Baumann. Four competed for the twelve Roses of any kind. Mr. E. Horne took the first prize (gold

medal N.R.S.) for a fine box, containing Madame Victor Verdier, Madame Bravy, Pierre Notting, Ulrich Brunner, Duchesse de Morny, Marie-Baumann, Madame Eugène Verdier, Jean Soupert, Brightness of Cheshunt, Camille Bernardin, Abel Carrière, and Fisher Holmes. Mr. Perkins took second prize; and Mr. Jno. Ayscough the third. Mr. Perkins and Mr. Horne also took first and second prizes (medals) for nine Teas, and repeated the operation in the same order for four triplets, for which there were five competitors.

For six of any kind Mr. Poland, with one of the best stands in the show, took first prize, and also won a first for four Teas, including a fine *Souvenir de Thérèse Levet*. There were seven competitors for the members' open classes. Mr. Perkins with Innocente Pirola won the class for Teas, and Mr. Perkins with Madame Gabriel Luizet, and Mr. Horne with François Michelin, the first and second for Hybrid Perpetuals.

Garden Roses were a feature of this show, and they were well staged and effectively exhibited. For twenty-four varieties Mr. Cuthell had first prize for *Macrantha*, Red Damask, Hebe's Lip, Crimson Rambler, Boule de Neige, Coupe d'Hébé, Anna de Montravel, Madame C. Worth (Rugosa), *Polyantha* Mignonette, Madame Geo. Bruant, Maiden's Blush, Madame Guinoisseau, Crested Moss, Lucida, Caroline Regnet, Scarlet Sweet Briar, *Viridiflora* (Green Rose), and Aimie Vibert. Mr. Tate's box, in error, only contained eighteen varieties. It was fine, and received a prize. Bardou Job was very conspicuous, and Marquise de Salisbury. Mr. H. P. Sturges received an extra prize for his box. For twelve garden Roses Mr. Perkins and the Hon. H. D. Ryder won the first and second prizes.

Miss Perkins was the only competitor for a dinner table decoration, and deserved the prize for a centre vase with four corner glasses containing Spanish Iris, Grasses, Ferns, and Smilax. Three ladies competed for the unmarried ladies' basket, and the two prizes were carried off by Miss Eileen Blake, and Miss Eva Tate. The buttonhole exhibition this year was good, each of the five competitors showed good taste. Miss Perkins and Mrs. Perkins won the two prizes, while Miss E. Perkins was commended.

The best Rose in the show was Jean Ducher in the box of Mr. Tate's Teas, cut on the previous Sunday.—A. B. ALEXANDER, *Shedfield Vicarage*.

NORWICH.—JULY 4TH.

THIS show was held in grounds belonging to J. J. Colman, Esq., M.P., near to Trowse Station, under very pleasant circumstances, no rain falling, and a general sense of refreshment, after a good shower on the previous evening, being in evidence on the earth and in the air. Roses were fairly shown, but there was a lack of competition in the principal amateur classes, where the H.P. standard was weak.

In class 1, open, forty-eight Roses, Mr. Merryweather of Southwell was pretty plainly first, some of his blooms being fine. Her Majesty, Ella Gordon, Horace Vernet, and Comte Raimbaud were among the best. Mr. B. R. Cant was second, having good examples of Gustave Piganeau, Duchesse de Morny, and White Lady. Mr. Frank Cant was third with smaller blooms.

In class 2, thirty-six (amateurs), there were only two competitors, which was a pity, for this is a good prize, and the whole schedule is framed on a liberal scale, and ought to attract the leading amateur growers. Rev. A. Foster-Melliar was a somewhat easy first, but the standard was not high in size or quality, and, as hitherto seen in East Anglia, amateurs have been considerably stronger in Teas than Hybrid Perpetuals. His best bloom was Horace Vernet, a good candidate for the medal. Miss Penrice of Whitton was second, her best bloom—labelled Comtesse de Choiseul—taking the medal as best Hybrid Perpetual.

In Class 3, twenty-four Roses, Rev. A. L. Fellowes of Beighton was first, his blooms being fresh and clean, but rather rough, and too much crowded; Mr. D. G. Warnes of Eye was second; and Mr. T. C. Blofeld third. Mr. Blofeld was first for twelve Roses, and the next class was an open one for twelve new Roses, eight varieties. Mr. B. R. Cant was first, his best being perhaps Marquise de Litta; Mr. Frank Cant second, showing a seedling of his own, a whitish H.P. of fair promise in shape and substance.

For eighteen Teas, open, Mr. Frank Cant was first with a good stand, Comtesse de Nadaillac and Ethel Brownlow (very good this season) being among his best. Mr. B. R. Cant was second with smaller blooms; and Mr. Merryweather third with bright and clean flowers, but rather "dressed" too much. In twelve Teas (amateurs) Rev. A. L. Fellowes was first, his most noteworthy bloom being an unusually fine example of Madame de Watteville, which gained the medal. It had unfortunately a split centre, but was a grand flower; a fine example of Maman Cochet was also in this stand. Mr. Foster-Melliar was second, having a good *Maréchal Niel*, and a fine and unusually perfect specimen of Madame Willermoz. Mr. J. Christie of Framingham was third.

For twelve of one sort H.P. Mr. Fellowes was first, as usual, with La France; Miss Penrice and Mr. Fletcher being second and third with Gabriel Luizet. For six of a sort Mr. Foster-Melliar was first with Ulrich Brunner in good condition, and Mr. Blofeld second with Gabriel Luizet. Twelve Teas of a sort saw Mr. Fellowes again to the fore with Marie Van Houtte, and Colonel Rous second with small *Maréchal Niels*. In six Teas of a sort Mr. Foster-Melliar was first with fine *Maréchal Niels*, one of which was the runner-up for the medal. Mr. D. C. Warnes of Eye was second with poor specimens of Ethel Brownlow. In eighteen trebles of Roses, open, Mr. B. R. Cant was first, having good examples of Susanne Marie Rodocanachi and A. K. Williams; and

Mr. Merryweather second with Her Majesty as his most noteworthy triplet. This is another Rose which has evidently done well in the dry weather.

In twelve trebles (amateurs) Mr. Foster-Melliard was a good first with some good triplets, Le Havre being one of the best. Mr. Fellowes was second, and Miss Penrice third. Mr. William Paul of Waltham Cross sent a large exhibit of Roses, not for competition; among these the pretty little Tea Rose Marquise de Salisbury, with its quaintly rolled petals, attracted some attention, but the new China Duke of York was not seen to advantage.

In hardy perennials the competition was not strong, though the flowers were good. Mrs. Petre of Westwick House was first in the large class, closely followed by Mr. Page Roberts; and in the class for twenty-four bunches Col. Rous was first, and Mr. Farrar second.

A collection of decorations shown by Messrs. Daniel Bros. attracted my attention in the Rose tent, and among them was a handsome shower bouquet of Tea Rose buds. These were particularly perfect and of an unusual colour. I did not know the Rose, and eventually, after the manner of our craft, gave one of them a pinch. Horror! they were artificial! I fled to other tents, and do not think some particularly fine-looking fruit, Grapes, Peaches, and Strawberries, were artificial too; but not being a judge with a "tasting order," or even liberty to pinch, I must cautiously decline to commit myself on the matter. —W. R. RAILLEM.

WESTMINSTER.—JUNE 9TH.

THE Drill Hall on Tuesday last was the scene of the Rose exhibition held under the auspices of the Royal Horticultural Society. Several classes were provided for amateurs only, whilst others were open. Though the competition in many of these was not keen, the exhibits were of a fair average quality. In the open classes the chief prizewinners were Mr. Frank Cant and Mr. B. R. Cant, both of Colchester, who in several instances ran each other closely for premier honours. Hybrid Perpetuals were the best in quality, many of the Teas not being first-class. Below is appended a list of the principal prizewinners.

In the amateurs' class for twenty-four single trusses the premier award was gained by Mr. E. B. Lindsell, Bearton, Hitchin, for blooms of good quality throughout, and consisting of—Back row: Ulrich Brunner, Horace Vernet, Marchioness of Londonderry, A. K. Williams, Charles Lefebvre, Her Majesty, Comte de Raimbaud, and Susanne Marie Rodocanachi. Middle row: Duchess of Bedford, Gustave Piganeau, Duke of Connaught, Alfred Colomb, Mrs. John Laing, Earl Dufferin, Dupuy Jamain, and Duke of Wellington. Front row: Marie Baumann, Fisher Holmes, Countess of Rosebery, Duke of Orleans, Reynolds Hole, Comtesse Bernardin, E. Y. Teas, and Marie Verdier. Mr. C. J. Salter, gardener to T. B. Haywood, Esq., Reigate, took second place, his blooms not being so uniformly good as those of the former.

In the open class for twenty-four distinct trusses Mr. Frank Cant, Colchester, gained first prize for a good exhibit, consisting of—Back row: Duchess of Bedford, Susanne Marie Rodocanachi, Captain Hayward, Eugène Verdier, Etienne Levet, Marchioness of Londonderry, Gustave Piganeau, and Augustine Guinoisseau. Middle row: Alfred Colomb, François Michelin, Earl of Dufferin, Charles Lefebvre, Marchioness of Dufferin, Horace Vernet, and Her Majesty. Front row: Marie Baumann, Mrs. John Laing, Jean Soupert, Kaiserin Augusta Victoria, Victor Hugo, Comtesse de Ludre, A. K. Williams, and Duchess of Albany. The second prize fell to Mr. B. R. Cant, Colchester, in whose stand were several fine blooms.

Mr. J. Davies, gardener to J. G. Fowler, Esq., Woodford, was a good first in the amateur class for twelve trusses, his chief blooms being Horace Vernet, A. K. Williams, Charles Lefebvre, J. D. Pawle, Duchess of Bedford, Star of Waltham, Marie Baumann, Silver Queen, Charles Darwin, and Her Majesty. Mr. O. G. Orpen, Colchester, followed as a creditable second.

Mr. B. R. Cant, Colchester, was to the front in the nurserymen's class for twelve trusses, gaining first prize with Marchioness of Dufferin, Victor Hugo, Marie Finger, Gustave Piganeau, Duchesse de Morny, Dupuy Jamain, Jeannie Dickson, A. K. Williams, Horace Vernet, Duke of Fife, Comte de Raimbaud, and Reynolds Hole. Mr. George Mount, Canterbury, took second place.

Mr. R. H. Langton, Hendon, was first for six single trusses with capital examples of Ulrich Brunner, Her Majesty, La France, Gustave Piganeau, Merveille de Lyon, and A. K. Williams. The second prize fell to Mr. K. H. Gifford, Streatham.

Mr. C. J. Salter was a good first for six trusses of one variety with creditable blooms of A. K. Williams. The Rev. J. H. Pemberton, Romford, was second with the same variety.

For twelve distinct varieties, three trusses of each, first honours fell to Mr. B. R. Cant for blooms of Her Majesty, Alfred Colomb, Lady Mary Fitzwilliam, Jeannie Dickson, La France, Charles Lefebvre, Marchioness of Dufferin, Gustave Piganeau, Horace Vernet, Duchesse de Morny, A. K. Williams, and Mrs. John Laing. Mr. George Mount took second place, his exhibit including good examples of A. K. Williams, Gustave Piganeau, Duke of Edinburgh, Mrs. John Laing, and Alfred Colomb. For twelve of one variety Mr. B. R. Cant was an easy first with fine examples of Gustave Piganeau, Mr. G. Mount being second with Fisher Holmes.

The premier amateurs' prize for twenty-four Teas was gained by Mr. O. G. Orpen, who staged good blooms of—Back row: Maréchal Niel, Innocente Pirola, Maman Cochet, Elise Fugier, Comtesse de Nadaillac, Souvenir d'un Ami, and Ernest Metz. Middle row: Anna Ollivier,

Madame Cusin, Rubens, The Bride, Francisca Krüger, Marie Van Houtte, and Catherine Mermet. Front row: Madame de Watteville, Ethel Brownlow, and Souvenir de S. A. Prince. The second prize fell to Mr. H. V. Machin, Workson.

Mr. Frank Cant, Colchester, was a good first in the open class for twenty-four Teas, with well formed flowers of—Back row: Ethel Brownlow, Innocente Pirola, Ernest Metz, Souvenir de S. A. Prince, Madame de Watteville, The Bride, Catherine Mermet, and Medea. Middle row: Comtesse de Panisse, Madame Hoste, Madame Cusin, Maréchal Niel, Comtesse de Nadaillac, Rubens, Cleopatra, and Madame Hippolyte Jamain. Front row: Madame Caroline Kuster, Niphetos, Maman Cochet, Hon. Edith Gifford, Corinna, Amazon, Souvenir d'Elise Vardon, and Bridesmaid. Second honours fell to Mr. B. R. Cant, for blooms slightly inferior.

Mr. Frank Cant was again first for twelve varieties, three trusses of each, with Ernest Metz, Rubens, Corinna, Souvenir de S. A. Prince, The Bride, Madame de Watteville, Catherine Mermet, Honourable Edith Gifford, Ethel Brownlow, Comtesse de Nadaillac, Madame Cusin, and Innocente Pirola. As in the former case, Mr. B. R. Cant was second. In the open class for twelve single Teas of one variety, Mr. Frank Cant was first with The Bride, and Mr. B. R. Cant second with Ernest Metz.

In the amateurs' class for six Teas, not less than four varieties, Mr. R. H. Langton was first with Hon. Edith Gifford, Marie Van Houtte, Princess of Wales, Souvenir d'un Ami, and Comtesse de Nadaillac. Mr. C. J. Grahame, Croydon, followed with second. For six single trusses of any Tea Rose Mr. R. H. Langton claimed first honours with blooms of Innocente Pirola; and Mr. O. G. Orpen took second place with Souvenir d'un Ami.

HITCHIN.—JULY 10TH.

THE fifth annual summer exhibition of the Hitchin and District Horticultural Society was held on Wednesday in glorious weather. Several large tents were provided for the exhibits, but considerably less space would have sufficed, and it must have been discouraging to the Executive to see much of the space so sparsely occupied. Roses were the principal feature of the show, the quality of these being good throughout, and in several classes the competition was keen, while in others there were but few exhibitors. The chief prizewinners in the open classes were Messrs. Harkness & Sons, Bedale, Yorks, and Messrs. G. & H. W. Burch, Peterboro'. Below is a list of the successful exhibitors.

The premier prize for forty-eight distinct blooms fell to Messrs. Harkness & Sons, the stand containing many superb flowers, which were as follows—Back row: Her Majesty, Comtesse de Ludre, La France, Alfred Colomb, Heinrich Schultheis, Marie Baumann, Queen of Queens, Gustave Piganeau, Captain Hayward, Mrs. John Laing, Général Jacqueminot, Comtesse d'Oxford, Star of Waltham, Viscountess Folkestone, Ulrich Brunner, and Countess of Rosebery. Middle row: E. Y. Teas, Dupuy Jamain, Souvenir d'un Ami, Fisher Holmes, Duke of Edinburgh, Jean Ducher, Charles Lefebvre, Auguste Rigotard, Etienne Levet, Edward Audrey, Duke of Fife, Horace Vernet, Pride of Waltham, Comte de Raimbaud, Susanne Marie Rodocanachi, and Charles Darwin. Front row: Madame Gustave Luizet, Barthelemy Joubert, A. K. Williams, Merry England, Duke of Teck, Francisca Krüger, Sir Rowland, Prince Arthur, Beauty of Waltham, Reynolds Hole, Duchess of Bedford, Duchesse de Morny, Victor Hugo, Sénateur Vaisse, and Margaret Dickson. The second award fell to Messrs. G. & W. H. Burch, and the third to Messrs. Paul & Son, Cheshunt.

For twelve dark Roses of one variety Messrs. Harkness were again first with superb examples of Horace Vernet; Messrs. G. & W. H. Burch were second with blooms of the same variety, and the third place was occupied by Messrs. Paul & Son, who staged Alfred Colomb.

Messrs. Paul & Son claimed premier honours for twelve light Roses of one variety with Star of Waltham; Messrs. G. & W. H. Burch were second with Marchioness of Dufferin, and Messrs. Harkness & Sons took the third place with La France.

In the amateurs' section for twenty-four single blooms Mr. E. B. Lindsell, Hitchin, was first with creditable examples of—Back row: Horace Vernet, Mrs. John Laing, Duke of Edinburgh, Alfred Colomb, Heinrich Schultheis, Earl Dufferin, Her Majesty, and A. K. Williams. Middle row: Marie Baumann, Duchess of Bedford, Gustave Piganeau, Charles Lefebvre, Ulrich Brunner, Beauty of Waltham, Dupuy Jamain, and Prince Arthur. Front row: Dr. Andry, Le Havre, Abel Carrière, Marie Finger, Sir Rowland Hill, Duke of Orleans, Caroline Kuster, and Madame Victor Verdier. Mr. James Barker, Hitchin, was a good second, his stand containing a superb flower of Innocente Pirola.

Mr. E. B. Lindsell took first prize for twelve Teas with Comtesse de Nadaillac, Innocente Pirola, Francisca Krüger, Etoile de Lyon, Catherine Mermet, Caroline Kuster, Souvenir d'un Ami, Niphetos, Princess of Wales, and Souvenir d'Elise; the second award falling to Mr. James Barker.

For twelve distinct blooms Mr. George Moules, Hitchin, was a capital first with good examples of Marie Baumann, Charles Lefebvre, Countess of Rosebery, Alfred Colomb, Dr. Andry, Le Havre, Duke of Wellington, Horace Vernet, Mrs. John Laing, Reynolds Hole, La France, and A. K. Williams. Mr. W. Times, Hitchin, followed with second honours; and Mr. W. Kingston, Bedford, was third.

For nine distinct blooms Mr. A. F. Albon, Hitchin, was first with Dupuy Jamain, Alfred Colomb, Duke of Wellington, Horace Vernet, Fisher Holmes, Susanne Marie Rodocanachi, A. K. Williams, Madame Gustave Luizet, and La Rosière. For six Teas Mr. W. Kingston,

Bedford; was first with Madame Hoste, Souvenir de S. A. Prince. Catherine Mermet, Souvenir d'Elise, The Bride, and Ernest Metz. Mr. George Moules was a close second; and Col. Fyler, Hitchin, followed with third.

The first prize for six distinct blooms was won by Mr. H. Hunt, Hitchin, who staged good flowers of Barthelemy Joubert, Mrs. John Laing, Dr. Andry, Her Majesty, Xavier Olibo, and Susanne Marie Rodocanachi. Mr. C. Norris, Hitchin, came second, and Mr. Leonard Moules, Hitchin, third. The competition in this class was very keen.

The first prize for six blooms of one variety fell to Mr. E. B. Lindsell for Alfred Colomb, and Mr. James Parker was awarded second for flowers of Charles Darwin. The first prize for six Teas of one variety fell to Mr. James Parker. For six single trusses in an extra class Mr. G. P. Clark, Hitchin, was first; and Mr. John Cooper, Hitchin, second.

The premier prize for six stove and greenhouse plants was won by Mr. A. Titmuss, gardener to W. Tindall Lucas, Esq., Hitchin, the exhibit including *Asparagus plumosa*, *Maranta zebrina*, *Croton variegatus*, and *Aspidistra lurida variegata*. For six exotic Ferns Mr. J. F. Parsons, gardener to W. Spencer, Esq., Codicote Lodge, was first with good examples, Mr. A. Titmuss following with the second award. Mr. J. Farrow, gardener to W. Hill, Esq., Hitchin, was a good first for six Gloxinias; Mr. James Upchurch, gardener to F. Lucas, Esq., Hitchin, second; and Mr. W. Millard, gardener to W. Ramson, Esq., Hitchin, third.

In the open class for thirty-six bunches of hardy flowers the premier prize fell to Messrs. Paul & Son, Chestnut, whose exhibit was very effective, and contained, amongst many others, blooms of *Gaillardia grandiflora*, *Hemerocallis fulva*, *Phloxes Le Soliel* and *Eclairer*, *Linum flavum*, *Scabiosa caucasica*, *Campanula carpatia alba*, *Helenium pumilum*, and *Geum miniatum*. The Rev. William Crouch, Sandy, was second with a showy collection; and Messrs. Harkness & Sons took the third place.

DO LEAVES ABSORB MOISTURE?

"W. D., Turnford," appears to have made a close and altogether a creditable study of vegetable physiology. He has told us much about roots and their appendages, also how they absorb and what they absorb from the soil. He has also told us a little about the leaves of plants and the gases they obtain from the atmosphere. Will he oblige by an expression of opinion on leaves imbibing, absorbing, or taking in water?

The reason I ask this question is that I not long ago heard a lecturer, who enjoys a reputation as a scientist, say they did not, and could not, take in water in any form from the atmosphere, and that the freshening of flaccid leaves resulting from syringing and providing a close moist atmosphere was wholly attributable to the water or atmospheric moisture preventing evaporation from their surfaces, and that the leaves revived, so to say, from an accumulation of moisture in them as supplied by the roots.

I could see the force of the learned gentleman's observations, but not, I fear, the whole force. Naturally the moisture would arrest evaporation, and the leaves would freshen in consequence, but then when I take a flaccid leaf off a plant and place it under water in a saucer, leaving the stalk end above the water, the leaf freshens. Could this freshening occur if it did not take in any water? It seems to me it must have obtained some in some way, and I think if it had been tested before and after immersion by delicate scales there would have been a difference in its weight.

The subject seems to be an interesting one, and as, like many another working gardener, after paying for boots of various sizes, I have had little left for books, I must appeal to the good nature of "W. D." and others who have books at command to enable them to help in the matter. The lecturer alluded to is a man of mark. I am only—A GREENHORN.

PREPARING YOUNG VINES FOR PLANTING.

I HAVE read with much interest the articles which have appeared in the Journal on "Express Grape Growing," including the controversy between Mr. W. Innes and Mr. John Thomson, and in a letter from the latter on page 495 I notice he speaks of Mr. Innes' "straw-like" Vines. I have recollections of an article, with an illustration, appearing in your pages a few years ago on "Preparing Young Vines for Planting," from the pen of Mr. D. Thomson, Drumlanrig. I think it might prove interesting and instructive to your readers if the same could be reproduced while the interesting discussion is going on.—JOHN SMITH.

HAVING very recently superintended the planting of some Vines prepared by two different methods, I am led to send you a few words on this subject. Probably there is not a system or method in the whole round of horticultural practice so obstinately stereotyped as that of preparing young Vines for planting as practised by the trade and the majority of private growers; nor is there anything in which there is more room for a change that would be advantageous in all respects. As long as I can remember, and probably before that time, the practice has been to shift Vines intended for "planters" into 10-inch pots, and sometimes into a larger size, growing and trying to ripen them to the length of 7 feet, or more than that. Such pots are much larger than necessary to produce the best possible description of "planting Vines." The evils of this large pot system are almost invariably aggravated by most careless and inefficient drainage, a too rich soil, and the application of bottom heat. This combination of circumstances produces long-jointed wood, that may look strong, but really is not so when condition

is not reckoned by mere bulk. The roots thus produced are long, thick, and fibreless; having been surfeited in their infancy they are anything but greedy feeders when placed in their permanent feeding quarters. Other unfavourable conditions to which the young plants are subjected are that they are grown in too crowded a way, and sometimes turned out of doors too early in the autumn, where the process of maturing is never perfected. Yet another injurious ordeal is forced on the victims by, in many cases, placing them for the winter in some shed, where the soil is allowed to get dusty and dry, causing the destruction of any fibry roots they may have formed.

Am I wrong in saying that all this is irrational practice, and not in keeping with this age of advanced horticulture? The method that my own experience and observation lead me to recommend as a departure from this stereotyped one is not to shift the plants into pots larger than



FIG. 7.—VINE FOR PLANTING.

6 or, at the very utmost, 7-inch sizes, not to plunge them in bottom heat, not to put any animal manure into the soil, and to use a light rather than a heavy loam; but after they have established themselves in the pots to feed them at the surface with some approved manure, now so easily obtainable. These conditions, in conjunction with efficiently drained pots, will not be productive of long and strong fibreless roots, but instead a pot full of roots of a very different sort, the top growth being short-jointed, stout, and well filled with material available for a good start when the planting time has come. Then as to top growth, the extreme length aimed at is quite superfluous. At the utmost 4 feet of a right character is ample length.

Material points gained by this lesser pot and bulk of plant are ease in packing and lightness in transit, besides the more restricted space in which a given number can be grown; and I am not more thoroughly persuaded of anything, after a lengthened experience, than that such Vines as I am recommending are much superior for planting to those reared in the old fashion. In 1874, for instance, I planted a range of vineries with canes that I reared from eyes the previous season, all of which were grown in 6-inch pots, and their height restricted to 3½ feet—

the point from which I wanted them to start into their permanent growths. These were rigid and upright, having prominent buds like Peas, and when turned out of their pots, it appeared as if they had used every particle of soil, and when washed free from it looked like mops. They started into growth rapidly and with vigour. The permanent Vines were planted 12 feet apart, and brought away with three canes each. A good many temporary Vines were planted and restricted to one cane that was prepared for fruiting the following year, when they were cropped to 14 feet of their length. All who saw this house of Vines agreed that they were wonderful young canes. The permanent Vines were allowed to hold a few bunches to each limb, and the supers fourteen bunches of no mean proportions each, and which they brought to fine maturity. The sorts were chiefly Black Hamburgs, with a few Gros Colman. After that season the supers were removed, all but one Black Hamburg; this bore splendidly the following year, it continues to do so still, and to show clearly where it was cut back to the first year.

In recommending this departure from the old stereotyped practice of preparing Vines in large pots with rich soil and useless lengths of growth for planting, I am doing so because I am thoroughly convinced of its being more convenient, less laborious, and productive of far finer Vines for the purpose they are intended.

I send you with this a sample of a Vine washed out of a 6-inch pot, and leave you to judge of the correctness of what I am recommending from the sample, which, as compared to a number of Vines I saw turned out of 11-inch pots last week, has six times as many rootlets. There is no greater mistake nor delusion than the big pot and long rod system for planting Vines; what we should seek for are a multitude of roots and concentrated growth.—D. THOMSON, *Drumlanrig*.

[We have pleasure in acceding to the request of our correspondent, and are of the opinion that the article will prove useful.]

PANSY AND VIOLET SOCIETY.

JULY 6TH.

THE third annual exhibition of this Society was held at the Palace on the 6th inst., and proved superior to its predecessors in almost every respect. But it would be well in future for the Executive of the Pansy Society to secure sufficient space for their exhibits to be staged properly. The present show was crowded and cramped, so that justice was not done either to the blooms or their exhibitors. Neither could the public appreciate the show as they would have done had the classes been more clearly defined.

The open classes were all well filled, and the competition keen. Mr. S. Pye, Garstang, secured the gold medal for the best collection of Pansies and Violas. A very meritorious exhibit in every respect. Florizet, Blush Queen, Iona, Waterloo, Tara, Lemon Queen, Charmer, Cristiana, and Queen of the Year were very conspicuous in the Violas. The Pansies in both types were largely shown, and well represented by large, well coloured flowers, the Show varieties making a pleasing change.

In the class for forty-eight Fancy Pansies, distinct, Mr. John Sutherland, Lenzie, was placed first, his stands being very fresh throughout and the blooms of first-rate quality. The best flowers were John Miller, Princess May, Geo. Stewart (a grand flower), Tamworth Yellow, Marmion, and Jeannie Sutherland. Mr. M. Campbell, Blantyre, secured second honours. The best blooms were Agnes Mabel, Mrs. D. Johnstone, Mrs. W. Watson, and Betsy Kelly. The third prize was awarded to Mr. J. Smellie, Busby, whose flowers were rather smaller. Lieut. W. Isaac, Mrs. J. Smellie, David Russell, and John Taylor were most noticeable. Mr. Alex. Lister, Rothesay, was in the fourth place.

A very strong team of exhibitors competed for twenty-four blooms, distinct. Here Mr. Lister reversed the order of the day by securing first honours with a well diversified stand. Celtic Gem, Mrs. W. Watson, Mrs. D. Johnstone, and Jessie Gillespie were excellent. Mr. John Smellie carried off the second honours. W. H. Clarke, Mrs. W. Steel, and Marmion were the best flowers. The third prize fell to Messrs. Paul & Co., Bridge of Weir.

Twelve Fancy Pansies brought out a very strong team of exhibitors, but Mr. J. Smellie proved the victor with a very heavy dozen; Tamworth Yellow, Mrs. Stirling, and Mrs. W. Watson were grand. Mr. Alex. Lister took second place by a point or two, while third position was secured by Mr. M. Campbell. In the class for twelve blooms, one variety, Mr. J. Smellie was placed first with a fine stand of Marmion; second, Mr. Alex. Lister with Colonel M. R. G. Buchanan; third, Messrs. Paul & Co. with Geo. Stewart. For twelve unnamed seedlings Mr. Lister was easily first, followed by Messrs. Smellie and Paul & Co. in the order named. Only one class was provided for Show Pansies, which brought out some good quality blooms. Mr. Smellie secured first place, his J. T. Howard, Mrs. J. Wilson, Mrs. Jas. Hunter, and Mrs. Brown were best. Mr. Lister was a close second, while Mr. Campbell was third with weaker flowers.

The competition in the Viola classes was exceptionally keen, and must have given the Judges considerable trouble. In the class for twenty-four sprays, six blooms each, eight competitors faced the Judges. Mr. Smellie was placed first with a well-arranged stand, Lemon Queen, Border Witch, and White Duchess were excellent. Messrs. Cheal and Sons, Crawley, Sussex, secured second honours, their stand being well arranged. Lemon Queen, Goldfinch, Countess of Kintore, and W. Neil were excellent. Mr. J. Nicholson, Sewardstone, just lost to Messrs.

Cheal by a single point. This exhibitor's spraying was a little weak. Fourth, Mr. S. Pye.

In the class for twelve sprays Messrs. Paul & Co. were first with a capital display, Countess of Hopetown, Edina, Mrs. C. F. Gordon, and Iona being most conspicuous. Messrs. Cheal & Sons were again close up to the northerner for second place. Mr. Smellie third. For six sprays of rayless Violas Mr. A. J. Rowberry, Woodford, was easily ahead, his flowers being fresh, and splendidly arranged. Mr. Baxter, Woking, was placed second with a very creditable stand, while third honours fell to Mr. Pye.

In the class for six sprays of the miniature type Mr. A. J. Rowberry led off easily, Mr. J. Nicholson second, Mr. Bruce Cook, Chingford, third. Six sprays Viola seedlings brought out a strong team, Mr. Rowberry being clearly ahead, followed by Messrs. Smellie and Pye in the order named.

Class 13, a basket of rayless Violas growing, only called out three entries, Mr. Pye securing the first honours with a fine fresh basket, Messrs. Cheal & Sons were second with a smaller basket, while Mr. Bruce Cook came third with a much weaker arrangement. The amateurs' classes were well filled, and the lists show a large increase in the number of exhibitors, while the quality of the Violas was decidedly superior to those exhibited in the open classes.



FRUIT FORCING.

Pines.—Starting Suckers from the Early Summer Fruiters.—As the suckers will soon be ready to take from the plants, the necessary provision for starting them must be made at once, so that plants may have the benefit of the undiminished solar heat in developing growth for as long a period as possible. Suitable means are a fermenting bed in a low house or pit, the heat being steady at about 90° six inches from the surface, but a few degrees higher may be allowed at the start. The suckers should be taken from the parent plants, and then directly placed into 5 or 7-inch pots, according to the size of the suckers, supplying water to settle the soil about them. Good fibrous loam torn up by hand is the most suitable, which should be firmly embedded in the pot and about the suckers, and will tend to cause speedier root action and sturdier growth. For a week or ten days keep the house or pit rather moist and close, shading effectually, and admit but little air, sprinkling through a fine rose once or twice a day, according to external influences. As soon as growth takes place more ventilation with less shade is desirable, which must be proceeded with gradually until growth is well decided, and the plants are inured to the sun, when ordinary treatment should be given.

Treatment after Rooting.—Once the plants are started they must not be allowed to become root-bound, but the growth accelerated as far as is consistent with sturdiness, consequently there must not be any delay in shifting into larger pots immediately the roots have taken to the soil, and before they become matted together at the sides of the pots. The size of the pots should be in accordance with the requirements of the plants. For Queens and Black Jamaicas 10-inch pots are suitable, and for other sorts 11 or 12-inch pots, using fibrous loam, but more lumpy than for suckers, adding a sprinkling of bonemeal, and to prevent worms entering the pots a little soot or wood ashes may be sprinkled over the drainage.

Strawberries in Pots.—Early runners for layering in pots are best furnished by early planted runners of last year. The plants will afford the strongest, best runners for layering that are not overcropped and well supplied with water. The plants should have shown blossoms, because runners from fruitful plants always turn out better than those from fruitless, strong-growing plants. The runners may be layered into small pots, turves, or into the fruiting pots. All three plans are good. In any case it is essential that the first runners, which give the best plantlets, should be selected, and that they be induced by free watering to emit roots speedily, so that they may by judicious after attention develop into sturdy plants and form good crowns. If layered into the largest pots they need not be detached until thoroughly established. Runners layered in 3-inch pots or turves should, as soon as rooted well, be detached and stood in a shady place for a few days preparatory to shifting them into the fruiting pots. These may be 5-inch for very early forcing, 6-inch for succession, and 7-inch for late work or strong-growing sorts.

For very early forcing Stevens' Wonder has proved of great excellence, and Royal Sovereign first-class for setting, swelling, good size, and high quality. Of the older sorts La Grosse Sucrée and Vicomtesse Hericart de Thury are good all round, setting, swelling, and finishing fine glossy fruit. Noble sets well and finishes off a heavy crop of somewhat dull-looking fruit; it and Auguste Nicaise, a brighter-looking fruit than Noble, and of even larger size, are good for second early forcing. President and Sir Joseph Paxton are still amongst the best. Lucas, Gunton Park, British Queen, and Dr. Hogg give successional and late fruit unsurpassed for size, crop, and quality.

The pots should be clean inside and outside, have a large crock in each, and three or four of lesser size with some smaller still, as to form about an inch of drainage. This should be secured with the rougher parts of the compost rammed tightly down. Turfy loam, strong rather than light, must form the staple of the compost. Break it up roughly, adding a quart of steamed bonemeal and a similar proportion of soot and wood ashes to every bushel of soil. If these are not available the advertised fertilisers answer equally well, following the instructions accompanying them. Let the compost be moderately dry when used, for if wet it will shrink after potting, leaving the sides of the pot.

Bring the soil in the pot up to the required height, ram it firmly, and finish so that the base of the crown will be about half an inch below the rim, which must be left clear for watering, allowing a little more for the larger size of pot. Stand the pots on a hard base in an open sunny situation, but sheltered from strong winds, with sufficient space between them to allow of the full exposure of the foliage. Give water as required, and sprinkle the foliage for a few days after potting. If this be followed each evening it greatly assists the plants. When the roots are working freely in the soil copious supplies of water will be needed, and always give sufficient to moisten the soil through to the drainage. The plants must not be allowed to flag, and the soil ought not to be soddened by needless waterings. Remove all weeds and runners as they appear.

Melons.—*Second Crops.*—When old plants are in good health and free from red spider, blossoms will show freely on the laterals, even when the fruit is swelling, but these will not set unless syringing be discontinued, which is not advisable, so that lateral growth should be encouraged to secure fruit setting or showing when the present crop is advanced for ripening, and these will set freely with the drier atmosphere and be somewhat advanced when the fruit is cut. The plan is to cut away such old growths as are useless and concentrate fresh growth on the young fruit. A little of the old soil may be removed, lumpy loam supplied with a fourth of decayed manure. Give a good soaking of tepid water, and follow at once with equally warm liquid manure. If there is any red spider, remove the worst infested leaves, and sponge the rest with softsoap solution, 2 ozs. to a gallon of water.

The plants not having the fruit set when the first crop is cut, but being healthy and vigorous, should be treated as if they had fruit swelling, encouraging growth, and when they show fruit keep the air drier and ventilation freer. They will set and swell a crop more quickly than young plants, but if they are exhausted with the first crop and attacked by red spider they would be best rooted out. In that case thoroughly cleanse the house or pit, and remove the old soil, supplying fresh. After giving the bed a good watering where part only of the soil is taken away, fresh plants may be put out. Keep them close, moist, and shaded, and they will soon become established, and show fruit so as to ripen for a late supply; but such structures must have artificial heat, as Melons in late September are apt to suffer in quality should the weather prove moist and cold.

In succession houses give support to the fruits before they become heavy, letting the tables slant so as not to hold wet, and place slates beneath the fruits of the plants in pits and frames, raising them above the foliage on small inverted flower pots as the swelling advances. Fertilise the flowers daily until sufficient fruits are set of about equal size on a plant, then remove all the flowers, and reduce the fruits to three or four on a plant, according to its vigour.

Shading is most needed on bright weather succeeding a dull moist period, but it should only be had recourse to for preventing flagging. Melons are benefited by a slight shade when ripening, especially when the plants from indifferent health do not supply moisture to the fruit freely. Repot any plants requiring it, and keep them sturdy by placing them near the glass. Look well after canker. It often arises from damp, and the remedy is a drier atmosphere or freer ventilation, and rubbing quicklime into the affected parts.

Stopping and Removing Growths.—When the fruit is set and swelled to the size of an egg the laterals may be pinched to one leaf, and if this results in too much foliage, so that the leaves on the primary shoots are crowded or shaded by them, thinning must be resorted to, removing a little at a time in preference to a large quantity all at once, the latter giving a check unfavourable to the fruit swelling, not unfrequently causing it to cease. In that case the rind becomes hard, and sometimes cracks. The plants should be gone over at least once a week, and in the case of vigorous plants twice, for stopping and the removal of superfluous shoots, the principal leaves being fully exposed to light and air.

Melons never ought to lack moisture at the roots, always supplying water before the foliage flags, as a check often has serious consequences. Over-watering is even worse, therefore do not afford a supply until the soil is becoming dry, but before flagging takes place, when a thorough watering must be given. Plants swelling their fruit will need water once a week, even those with a large extent of root space; others with lessened rooting areas require it twice a week, and plants in boxes every alternate day or oftener, and those in pots will need water or liquid manure once or twice a day. When setting or ripening the fruit it will be sufficient to keep the foliage from flagging.

During setting withhold water from the foliage, also when the fruit is ripening. In the swelling stage syringe well at closing time, sprinkling plants in frames when they are closed for the day. Admit a little air constantly when the fruit is setting and ripening. In frames it is always a good plan to provide a little ventilation at night, increase it early in the morning of bright days, or when 75° is reached, keeping through the day at 80° to 90°, and closing sufficiently early to run up to 95° or 100°, and before night admit a chink of air at the top of the house

or back of the frame. Melons like plenty of heat. This will now be maintained without having recourse to much artificial heat; it will suffice if the night temperature does not fall below 65°, and is maintained at 70° to 75° by day.

THE FLOWER GARDEN.

Watering Flower Borders.—It has been absolutely necessary to use the watering pot rather freely. At the same time it is possible to overdo this, especially where watering takes the form of a thorough drenching with cold well or spring water every evening. Where possible all the water used should be first warmed by exposure. A mulching of either fine well-decayed manure, leaf soil, spent tan, grass from the mowing machine, or cocoa-nut fibre refuse is particularly desirable in the case of moisture-loving plants. The least that can be done is to keep the surface well loosened. Herbaceous borders, more especially where many of the rank growing kinds of plants have not been divided and replanted of late years, are suffering badly from the drought. If possible give a thorough soaking of water, and then mulch freely.

Dahlias.—These have grown remarkably fast, and an early display should result. One strong branching stem will give more fine flowers than will several all springing from the roots. The plan of placing one strong central stake to each, with three outside stakes in the case of plants that are to give show blooms, is a good one. Reserve one side growth for each of these stakes, and pinch out the rest. All Dahlias pay for liberal treatment. Dry weather favours the rapid increase of earwigs, and there is every likelihood of these becoming very troublesome this season. Anticipate this by commencing trapping at once. The old fashioned plan of filling small flower pots with hay and inverting these on the top of the stakes, destroying all that collects in them, answers well, and so does that of placing lengths of Broad Bean stalks among the plants, blowing out and destroying all that take refuge in these.

Pansies.—These, as well as Violas, are disposed to flower with the greatest freedom; but this must not be allowed if a good display is desired during August and later. It is quite young plants in good moisture-holding soil that give the best class of flowers in the longest succession, and these should be given a mulching of some kind, and have their flowers and buds frequently removed.

Pinks.—Fine, dry weather has been favourable to the production of good, clean flowers. It is the young plants that give the finest blooms, but they are naturally had in greater profusion from clumps two and three years old. Some, therefore, should be propagated every season. The old white is still very popular; but Mrs. Sinkins has largely replaced it, and this, in its turn, will have to give way to Her Majesty. Side shoots or pipings root readily. In most localities the best plan to pursue is to prepare beds in shallow frames placed at the foot of a north wall. Where this has been tried and failed, try what can be done with the aid of a very gentle hotbed. Let the surface consist of about 3 inches of fresh loam with leaf soil and sharp sand added. Short side shoots will require little or no further preparation, and will root better than any shortened with a knife. Dibble in 2 inches or less apart each way, fix them firmly, water, shut down closely, and shade from bright sunshine. Coloured as well as white varieties may be increased in this way.

Carnations.—It is a mistake to keep these long in pots or boxes, as they ought to be planted out early. A foot apart each way is none too much space to allow for each plant. Water them occasionally till strongly rooted. This season maggots of what appears to be one of the Tephritis or leaf-miners have attacked the hearts of seedling Carnations, quite ruining the centres. They ought to be searched for and destroyed, and the plants dusted occasionally with soot and lime. Border Carnations should be staked early, and tying up in great bundles avoided.

Wallflowers and Stocks.—The former ought not to be left standing thickly in seed beds, as they cannot be kept too sturdy. Dibble them out in nursery beds 6 inches apart in rows 9 inches apart. Side shoots of choice varieties may be rooted in hand-lights. German Wallflowers raised early, and properly treated, may be kept dwarfier, and three or four spikes obtained by stopping now. The present is also a good time to sow seeds of the Brompton Stocks. Sow the seeds in boxes or pans, stand in a cool place, and keep shaded and moist till the seedlings appear. The latter to be duly pricked out on good ground, if possible, where they are to flower. It pays well to winter a portion of the plants in 5-inch pots, planting out in the spring.

THE KITCHEN GARDEN.

Potatoes.—Heavy rains have fallen soon enough to save the later varieties of Potatoes, but many of the earlies and second earlies had ceased top growth, and the crops, such as they are, are sufficiently matured for lifting. There should be no waiting for the haulm to die away or protuberation to commence, as the tubers will keep well if lifted before the skins are hard set. An early clearance gives a good opportunity for cropping the ground in close succession with Strawberries, Turnips, Lettuce, Endive, Spinach, and Winter Greens generally.

Turnips.—Ground newly cleared of second early Potatoes ought to be in admirable condition for a crop of Turnips. There should be no delay in sowing the seeds, as a good supply of roots is indispensable during the winter. Snowball, Green-topped Stone, Orange Jelly, Yellow Petrouski, Veitch's Red Globe, and Chirk Castle Black Stone are all suitable for present sowing. If birds are troublesome either just moisten the seeds with petroleum or else damp them and then roll in red lead. Allow good room, drawing the seed drills 15 inches apart, and be fairly

liberal with the seeds, an early thinning being given if the seedlings come up too thickly.

Cabbage.—Those few who were in a position to cut Cabbage early last spring had good reason to congratulate themselves. Others probably might have been equally successful if they had followed the same line of culture. The varieties that are the most reliable, notably Ellam's Dwarf Spring, Matchless, and Wheeler's Imperial, require to be sown not later than the second week in July in the more northern localities, and in the Midlands and South from a week to a fortnight later. A second sowing may be made from a fortnight to three weeks later. If the latest-raised plants fail to become large enough for putting out in the autumn they will yet be very acceptable for planting in the spring.

Leeks.—When these are about 12 inches high planting ought to be proceeded with. Leeks are exceptionally hardy, and may, therefore, be grown on cold exposed borders with advantage. In any case the ground ought to be freely manured and deeply dug. Very good Leeks can be had by simply dropping the plants into holes 6 inches to 9 inches deep, formed with an ordinary dibber, a watering being sufficient for fixing the roots. They may be disposed 12 inches apart each way.

Other Winter Crops.—It is not yet too late to plant Broccoli. There is little likelihood of too many Veitch's Self-protecting being grown, but plants should have the benefit of good, moderately firm ground. Late-raised and late-planted Snow's Winter succeeds the best, and this forms a good succession to early or second early Peas. The rest should be planted on firm good ground, that newly cleared of Strawberries or Peas answering well. Arrange the rows midway between the old Strawberry lines, and the plants 2 feet apart in the rows. Late-planted Borecole, Brussels Sprouts, Savoy, and Chou de Burghley should have the benefit of good, somewhat firm ground, and may be arranged more closely together than those put out earlier.

Beans.—Broad Beans are badly infested with black aphids this season. These may be got rid of by topping, and any not so removed will disappear if freely syringed with clear water. Runner Beans not staked must be kept closely stopped, or otherwise the haulm will soon be a confused mass. Keep the pods closely gathered from the dwarf or kidney Beans, or else cropping will soon cease. Thin out the later sowings freely, and mould up the rows. Now is a good time to sow on a warm border.

Tomatoes.—These have started remarkably well. Remove all superfluous growths, and which includes most or all of the side shoots, but do not cut off the older leaves on main stems. Some varieties are much addicted to the production of coarse central flowers, and unless these are pinched out unshapely fruit will follow. Keep the leading growths closely trained, not topping them till three or four clusters of fruit are showing. In very dry positions water should be given occasionally, and in all cases a mulching of short, well-decayed manure would be beneficial.

THE BEE-KEEPER.

APIARIAN NOTES.

WE have had some refreshing showers with a little thunder, and wish for more. The dead calm which, as a rule, has prevailed since the 21st December continues. Bees have had a week of comparative idleness, and not until the dullness clears away do I expect any honey gathering. Super work is at a standstill, many hives remaining unsupersed, and unless the honey flow begins soon hives will only be supersed in prospect of a Heather yield. The Heather in some places, owing to the dry weather, is fine, and early—which, to get full advantage of, bees should be taken to it before July is out.

TAKING BEES TO THE HEATHER.

Although my hives are neither supersed nor prepared for moving, a few minutes spent on each hive is all the time necessary to do so. The outer wrappings will be put past for winter, retaining one piece of sacking for each hive, to be loosely hung round the live, surmounted by an oilcloth. Of course, inside the super protectors and over supers are from 3 to 4 inches of warm packing, which if removed when in transit to and from the Heather secures ample ventilation from the floor upwards, prevents bees being stifled to death on the journeys, and incipient foul brood, which soon develops into a virulent form. Overheating and chilling, through brood spreading, supersing over open crowns, and crowding bees in too little space, are the causes of so much foul brood.

When at the Heather bees breed excessively if the weather is fine, consequently they require pollen both for present and future use, and that is one of the reasons hives filled from Heather sources are in prime condition for spring breeding. But sugar syrup is better, being more healthful than Heather honey for bees during winter. Fix hives thoroughly so that bees cannot escape, and ventilate so that the hive cannot rise in temperature above the normal. In addition to free ventilation hives should be provided with double air space than the bees occupy.

BEES EATING AND PUNCTURING FRUIT.

"Alpha" (page 8) is not the first who has asserted bees eat fruit. Bees suck the saccharine from fruit only when the skin is broken. If "Alpha" or any other person will cite one case or give proof of bees breaking the skin of any fruit I shall be greatly surprised.—A LANARKSHIRE BEE-KEEPER.

SEASONABLE NOTES.

THE past ten days have been unfavourable for honey production, heavy showers and a low temperature prevailing the whole of the time. White Clover is now in full bloom, but during that time the bees have not reaped any benefit from many acres of Clover that are within a short distance of their hives. Several strong stocks have already commenced to kill off the drones—a sure sign that stores are getting short. On July 6th the temperature was high, and the sun shining brightly throughout the day has caused the busy workers to store a considerable surplus, illustrating the fact that by keeping all stocks strong they will reap full benefit from the fine weather when it comes.

This should be the aim of all bee-keepers, no matter what class of hive they have in use, and should the fine weather continue for another fortnight they will no doubt make great headway, and strong colonies will to a certain extent make up for loss of time. Still, it is now too late in this district, even with the most favourable weather, to be anything more than a fair average season.

Those who are working for comb honey should lose no time in making a thorough examination of all stocks. All finished sections should be removed, for if allowed to remain in the hive many days after being sealed over they will soon become discoloured, owing to the bees constantly running over them. The space may be filled with empty sections in which a piece of guide comb had been previously placed. I am not an advocate for using full sheets of comb in sections, as the midrib even in the thin super foundation is always much more prominent than in the naturally made comb, but for exhibition purposes it is an advantage to use full sheets.

If honey is coming in somewhat freely, and the first crate of sections is nearly full and partly sealed over, it will be advisable to give another crate of sections, placing them underneath the former. The bees will then rapidly draw out the combs and fill them with honey, the top crate of sections being sealed over at the same time. These, as soon as properly sealed, should be removed, and the space filled with the most forward sections from the lower crate, which should again be filled with empty sections, always keeping the most forward ones on the top.

By working on this system valuable time is saved, and a much larger surplus may be obtained than is possible if only one crate is used, as during the honey flow, if the weather is favourable, a strong colony will store honey in supers much faster than it can be sealed over.—AN ENGLISH BEE-KEEPER.

TO CORRESPONDENTS

All correspondence should be directed either to "THE EDITOR" or to "THE PUBLISHER." Letters addressed to Dr. Hogg or members of the staff often remain unopened unavoidably. We request that no one will write privately to any of our correspondents, as doing so subjects them to unjustifiable trouble and expense.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Bee subjects, and should never send more than two or three questions at once. All articles intended for insertion should be written on one side of the paper only. We cannot reply to questions through the post, and we do not undertake to return rejected communications.

Book on Botany (E. H.).—Hooker's "Botany," published by Macmillan & Co., will suit you. It may be had from any bookseller for 1s.

Zonal Pelargoniums Sporting (B. Gibbons).—We have seen several examples of plants similar to the one with white and scarlet flowers of which you send a photograph. The scarlet variety Vesuvius is particularly given to sporting, and has in this way given rise to distinct forms, such as White Vesuvius, Salmon Vesuvius, and Striped Vesuvius. These freaks of Nature cannot be precisely accounted for. Delay has occurred in answering your letter through an accidental misdelivery.

Chrysanthemum Edwin Molyneux (*Inquirer*).—Blooms of this Japanese Chrysanthemum with green centre and thinness of petals are generally the result of "taking" the buds too late. Hundreds of this type of flower are yearly seen in England, the result of the reason stated. The best blooms are obtained from buds formed from the 10th to the 30th August. Plants should be raised from cuttings inserted in December or January, and grown on without check. This variety does not require a large pot, one 9 inches in diameter affording sufficient root space.

Violette Hative Nectarine (*B. T.*).—The fruit sent, which is very fine, also the leaves and stone, agree with great exactitude to the *Fruit Manual* description of the above variety, which is as follows:—"Fruit, large, roundish ovate. Skin, yellowish green in the shade, dark purplish red, mottled with brown, next the sun. Flesh, yellowish green, deep red next the stone, rich, sweet, and vinous. Stone, roundish, deep reddish brown, and deeply furrowed. Flowers, small. Glands, kidney shaped." This Nectarine has also been invested with the following names—no small testimony to its merit:—Aromatic, Early Bruguon, Early Violet, Hampton Court, Large Scarlet, Lord Selsey's Elruge, New Scarlet, Violet, and Violette Musquée.

Diseased Tomato Leaves (*A. G. Grove*).—The blackish spots on the leaves bear the conidia of *Macrosporium cladosporioides*. This *Macrosporium* differs from the typical condition of *Macrosporium* in that the conidia are not vertically, but club-shaped, olive brown, and semi-pellucid. It causes the leaves to curl inwards, and is very interesting, as it is one of those so-called saprophytes that has taken to a parasitic mode of life. The spores on the microscope slide from a minute section were enormous, and as these will, if finding a suitable medium, vegetate and reproduce the disease, the plants should be sprayed with Bordeaux mixture, or be dusted with anti-blight, anti-mildew powder, or some of the fungicides in the market, but for some unaccountable reason not properly advertised.

Beetles in a Vinery (*T. Smith*).—This is one of the Lamellicon beetles, *Phyllopertha horticola*, which seems to be abundant this season. It is rather destructive to the blossoms of various shrubs and trees, and also feeds on immature fruit. It might possibly attack Grapes, though we are not aware that this offence has been charged to it; but it is much complained of as an infestor of Roses, also of Strawberries while in bloom. Most likely the insects flew into the house by day; it would not be a species to be introduced with the manure you mention, the larva or grub feeds on the roots of plants in and near gardens. Some people take quantities of them after dark by shaking shrubs on which they have settled. Sulphur applications, soapy solutions, and various odorous compounds have been used to keep them off plants.

Bending Down the Tops of Onions (*Alfred G. Grove*).—It is not advisable to bend down the tops of Onions until the bulb is well developed, and only then to induce the ripening, which it accelerates by checking the growth and preventing the assimilation of matter in the leaves, on which the growth of the bulbs depends. In the case of no bulb formation, thick-necked Onions are sometimes given a gentle bend down or twist just below the leaves with the object of checking their growth and causing them to bulb. If yours are forming bulbs it would be best to let well alone, otherwise they may be gradually bent down, but it is a matter that requires care and is not always successful, as thick-necked Onions often refuse to bulb, and will burst at the side or below the bend rather than be forced into bulb formation. Firm ground and not too high feeding in the early stages are essential for securing fine specimens.

Diseased Apple Leaves (*Evesham*).—The leaves are a study. A section through the blackened patches gave an eelworm (*Tylenchus devastatrix*), another through the yellow a mite (*Phytoptus mali*), and a third through the black mould Apple scab fungus (*Fusicladium dentriticum*), and the form known as *Actinonema cratægi*. Such a complication we have not seen before on the Apple. Bordeaux mixture or dusting with anti-blight powder will destroy the first and last, as the antiseptic properties of these substances acts well against either, both of which are only skin deep and easily reached. The mite does not appear to have deposited eggs in the tissues, but seems to be living amongst the down on the under side. It has eight legs, is semi-transparent with faint purple shading, and one of the most interesting creatures this wondrous world affords. If any mites are found in the leaves they will have four legs, but we found no pustule or even hairs, and it may only be vagrant, as also is the eelworm. The fungus is the chief cause of the evil.

Management of Freshly Sown Tennis Court (*E. J. C.*).—The proper course to follow is to keep the grass mown, but not very early or closely, it being preferably cut over with the scythe, set at about the same height as for mowing field grass, cutting it down evenly, and after clearing off the crop roll well in the course of a day or two. The mowing will cause the grass to come finer, though apparently rougher at first, letting light down to the bottom, and so securing a good growth there, this being accelerated by the rolling, which causes the grass to "tiller"—that is, branch and spread close to the ground. Thus by keeping the grass moderately close the coarser varieties gain no undue advantage, but are made to push more growth, so that they help to form a good sward quickly without over-growing and smothering the finer grasses. If the weather proves very dry, merely removing the top of the stronger-growing grass will be all that is required, this being readily done by switching over with the scythe early in the morning. The thing is to aim at an even growth of the grass, cutting down as required to effect this, yet not so bare or close as an

ordinary lawn; and if the machine be used, as it may after being cut over once or twice with the scythe, it should be set about an inch or little more higher than for ordinary lawn mowing. If the weather be dry set even higher, merely removing the bents or irregular growths, and towards the end of summer, or when the weather becomes moist, roll well and keep regularly mown. When growth has ceased for the season give the tennis court a dressing of thoroughly decayed manure, which, being in the condition of mould, and spread evenly on the surface, will soon be washed in by rains, acting as a protection for the roots and inducing them to push freely so as to form a close surface, which in the following spring will start away early, and being kept well mown and rolled produce a thick velvety turf during the summer, being available for use early in the season.

Names of Plants.—We only undertake to name species of plants, not varieties that have originated from seeds and termed florists' flowers. Flowering specimens are necessary of flowering plants, and Fern fronds should bear spores. Specimens should arrive in a fresh state in firm boxes. Slightly damp moss, soft green grass, or leaves form the best packing, dry wool the worst. Not more than six specimens can be named at once, and the numbers should be visible without untying the ligatures, it being often difficult to separate them when the paper is damp. (*T. S.*).—1, *Campanula garganica*; 2, *C. pusilla alba*; 3, *Dianthus serrulatus*; 4, *Sedum spurium*. (*B. B.*).—1, *Veronica hybrida*; 2, *Tradescantia virginica*; 3, *Veronica spicata*. (*A. A.*).—1, *Armeria maritima*; 2, *Aconitum napellus*; 3, *Sedum ibericum*; 4, *Veronica incana*. (*P. N.*).—*Campanula rhomboidea*. (*H. S.*).—1, *Oncidium longipes*; 2 and 3, specimens dead. (*Jun.*).—*Vanda coerulescens*. (*Grateful*).—1, send when in flower; 2, *Phalaris arundinacea*; 3, *Veronica spicata*; 4, *V. s. alba*; 5, *Cistus ladaniferus*; 6, will be named in our next issue. (*Ross-shire*).—1, *Corydalis lutea*; 2, *Pelargoniums* are florists' flowers that can only be named by comparison; 3, *Dianthus atro-rubens*; 4, *Sempervivum*, but a description of the plant is necessary to determine the variety; 5, *Geranium maculatum*; 6, *Tradescantia virginica*.

TRADE CATALOGUE RECEIVED.

Mr. S. B. Levick, Longueville, near Sydney.—*Chrysanthemum List*.

COVENT GARDEN MARKET.—JULY 10TH.

OUTDOOR fruit in heavy supply. Prices ruling low.

FRUIT.

	s.	d.	s.	d.		s.	d.	s.	d.		
Apples, Nova Scotia, per barrel..	10	0	to	21	0	Currants, per half sieve ..	2	0	to	3	9
„ Tasmanian, per case ..	5	0	11	0	Grapes, per lb. ..	0	6	2	0		
Cherries, per half sieve ..	2	6	5	0	Lemons, case ..	10	0	15	0		
Oobs, per 100 lbs. ..	0	0	0	0	Peaches, per dozen ..	2	0	8	0		
					St. Michael Pines, each ..	2	0	6	0		
					Strawberries, per lb. ..	0	2	0	6		

VEGETABLES.

	s.	d.	s.	d.		s.	d.	s.	d.		
Beans, Kidney, per lb. ..	0	6	to	0	0	Mustard and Oress, punnet	0	2	to	0	0
Beet, Red, dozen ..	1	0	0	0	0	Onions, bushel ..	3	6	4	0	0
Carrots, bunch ..	0	3	0	4	0	Parsley, dozen bunches ..	2	0	3	0	0
Cauliflowers, dozen ..	3	0	6	0	0	Parsnips, dozen ..	1	0	0	6	0
Celery, bundle ..	1	0	1	3	0	Potatoes, per cwt. ..	2	0	4	0	0
Coleworts, dozen bunches ..	2	0	4	0	0	Salsafy, bundle ..	1	0	1	6	0
Cucumbers, dozen ..	1	6	3	0	0	Seakale, per basket ..	0	0	0	0	0
Endive, dozen ..	1	3	1	6	0	Scorzoneria, bundle ..	1	6	0	0	0
Herbs, bunch ..	0	3	0	0	0	Shallots, per lb. ..	0	3	0	0	0
Leeks, bunch ..	0	2	0	0	0	Spinach, bushel ..	1	0	1	6	0
Lettuce, dozen ..	0	9	1	6	0	Tomatoes, per lb. ..	0	3	0	4	0
Mushrooms, punnet ..	0	9	1	0	0	Turnips, bunch ..	0	3	0	6	0

AVERAGE WHOLESALE PRICES.—OUT FLOWERS.—Orchid Blooms in variety.

	s.	d.		s.	d.		s.	d.		s.	d.
Arum Lilies, 12 blooms ..	3	0	to	4	0	Orchids, dozen blooms ..	1	6	to	12	0
Asparagus Fern, per bunch ..	2	0		4	0	Pansies, various, dozen ..	1	0		2	0
Bouvardias, bunch ..	0	6		1	0	bunches	1	0		2	0
Carnations, 12 blooms ..	2	0		4	0	Peas, Sweet, doz. bunches..	2	0		4	0
dozen bunches..	4	0		8	0	Pelargoniums, 12 bunches ..	6	0		9	0
Cornflower ..	1	0		2	0	Primula (double), doz. spys.	0	6		1	0
Eucharis, dozen ..	4	0		6	0	Roses (indoor), dozen ..	1	0		2	0
Gaillardias, doz. bunches..	2	0		3	0	Moss, per dozen ..	1	0		2	0
Gardenias, dozen ..	3	0		4	0	Tea, white, dozen ..	1	0		2	0
Geranium, scarlet, doz.						Yellow, dozen (Niels)	3	0		6	0
bunches	4	0		6	0	Safrano (English),					
Lilac (French) per bunch ..	4	6		5	0	dozen.. .. .	1	0		2	0
Lilium candidum, 12 blooms	0	6		1	0	Yellow, dozen blooms	1	6		2	0
doz. bunches ..	9	0		15	0	Red, dozen blooms ..	1	0		2	0
lanceifolium, 12 blooms	4	0		6	0	various, doz. bunches	3	0		9	0
longiflorum, 12 blooms	3	0		4	0	Smilax, per bunch	5	0		6	0
Marguerites, 12 bunches ..	1	6		3	0	Stephanotis, dozen sprays	1	6		2	0
Maidenhair Fern, dozen						Tuberose, 12 blooms.. ..	0	4		0	6
bunches	4	0		6	0						

PLANTS IN POTS.

	s.	d.	s.	d.		s.	d.	s.	d.			
Arbor Vitæ (golden) dozen	6	0	to	12	0	Heliotrope, per dozen	..	4	0	to	6	0
Aspidistra, dozen	..	..	18	0	36	0	Hydrangeas, per dozen	..	12	0	42	0
Aspidistra, specimen plant	5	0	10	6			Lobelia, per dozen	..	3	0	4	0
Calceolaria, per doz.	..	..	4	0	6	0	Lycopodiums, dozen	..	3	0	4	0
Coleus, per doz.	..	..	3	0	6	0	Marguerite Daisy, dozen	..	6	0	9	0
Dracæna, various, dozen	..	..	12	0	30	0	" Yellow "	..	9	0	18	0
Dracæna viridis, dozen	..	..	9	0	18	0	Myrtles, dozen	..	6	0	9	0
Euonymus, var., dozen	..	..	6	0	18	0	Palms, in var., each	..	1	0	15	0
Evergreens, in var., dozen	6	0	24	0			" (specimens)	..	21	0	23	0
Ferns, in variety, dozen	..	..	4	0	18	0	Pelargoniums, per dozen	..	8	0	12	0
Ferns (small) per hundred	4	0	6	0			" scarlets, per					
Ficus elastica, each	..	..	1	0	7	0	dozen	..	3	0	6	0
Foliage plants, var. each	2	0	10	0			Rhodanthe, per dozen	..	4	0	6	0
Fuchsias, per dozen	..	..	4	0	9	0	Roses, per dozen	..	8	0	24	0
Geraniums, Ivy, per dozen	4	0	6	0								



HOME FARM POULTRY.

IN no branch of farm management is attention to details more important than the poultry; in none is there greater or more general carelessness. The truth of this has been forcibly impressed on us since writing the article on table poultry by a failure in Turkey rearing, about which we were consulted. Of fifty eggs placed under hens not one proved fertile. What could be the reason? The eggs were laid by the farm Turkeys, the hens had set well, and it was suggested to us that something mysterious—something peculiar to this season—was the cause. A little inquiry convinced us there was no mystery, and that the favourite but effete old Turkey cock ought long ago to have gone to the stock pot. We give all possible prominence to this case because of its importance.

To run an old male bird of any kind of poultry with its own progeny is to court failure. There may not be—in point of fact, there seldom is—such a want of fertility, but there always is deterioration in the offspring. As a general rule we would have a change of male birds every year, and of hens after the second year. It is a fact well known to scientific or, rather, observant poultry keepers, that close interbreeding renders chicks stunted and so tuberculous that they are absolutely unwholesome to eat. Another equally important reason for a change of hens is that after the second year the number of eggs falls off, and they consequently become less profitable, and, what is even more important to the home farmer, less reliable.

With closer general attention to detail, and as an outcome of a growing knowledge of cause and effect, we hope to see a much more systematic management of poultry. At the home farm certainly there should be separate yards and runs. The "all-round" fowl should find no place there. It sounds very well in theory to have a cross-breed affording excellent table birds and plenty of eggs. Within certain limits this is possible in degree, as, for example, by crossing such free layers as Minorcas, Leghorns, Spanish, Andalusians with an Indian Game cock. But while the table chickens from this cross are passable they are not of the best, and the tendency of the hens to become frequently "broody" renders them much less useful for egg production than pure-bred hens of any of the Mediterranean fowls.

For the home farm we would have separate yards of Dorking hens with Indian Game cocks for table poultry; of cockerels and pullets intended for the table; of Minorcas for the regular supply of eggs. By the separation of sexes in table chickens much finer birds can be had, and they can be kept much longer in high condition, the cockerels becoming really magnificent birds of superior quality.

Under this system it is obvious that selections for breeding and for table must be made early, so too must those of pullets for autumn and winter eggs. But where egg producers and table fowls are so managed there is no risk of the best laying pullets being taken for cooking. All the best Minorca pullets of March, April, and May broods are saved as a matter of course. The only risk is that enough of the early Game-Dorking pullets will not be saved to afford sittings of eggs for the earliest spring chicks next season. This is a matter to keep well in mind, as it is one in which so many fail, and these hints are given now in view of a special improvement next season. Let it not be overlooked that home farm poultry must be of the best. In table poultry mere size ought not to be regarded as

meritorious. We have that in Brahmas, but they are coarse birds with poor breasts. We have it too in the cross-bred Orpingtons, Wyandottes, and Plymouth Rocks; but it is size of legs, and not plump breasts. It is a deep-fleshed full breast and small legs that we breed for in crossing Dorkings with Indian Game. In doing this, refinement in colour of flesh and in form must have more attention.

At the competition of table poultry at the recent show of the Royal Agricultural Society at Darlington some of the prize-winning dead birds had dark-coloured flesh and coarse skins. This points to a want of careful selection, especially of the hens for breeding. The excellence of Lady Wilson's pair of Silver Grey Dorkings in flesh, colour, and form points the way to the desired improvement. Proof of this was afforded in the excellence of several pair of cross-bred birds by the same exhibitor. But not all Silver-Greys will answer; there must be selection of the best birds for breeding, and a close weeding out of every doubtful bird. Why not? It is by selection that the fancier develops the points of his fancy in any breed, and while we avoid his birds as unsuitable for our purpose, we may profitably adopt this point of his practice.

WORK ON THE HOME FARM.

In small dairies, more especially just now, there are difficulties from milk and cream turning sour so quickly, owing to the hot weather. In the midsummer number of the Royal Agricultural Society's Journal, Lieut.-Col. J. F. Curtis-Hayward gave one or two useful recipes of preservatives, which we quote. To keep cream or milk sweet for four or five days dissolve in a quart of hot water 1 oz. of boracic acid, or $\frac{1}{4}$ oz. of borax and $\frac{3}{4}$ oz. of boracic acid. This will suffice for 20 gallons of milk, or a tablespoonful of the solution to a quart (1 to 3200 parts).

He pointed out how frequently much stronger solutions are used wastefully, and at the risk of giving the cream a bitter taste. A form of jelly, which he describes, should also prove useful just now. It consists of $2\frac{1}{2}$ ozs. of gelatine steeped in 3 czs. of water, and dissolved in a solution of 1 oz. of mixed borax and boracic acid in a pint of hot water. This, when cool, forms a jelly which will keep any length of time. A tablespoonful of it dissolved will preserve a pint of cream from seven to nine days.

That was a sensible farmer, who, seeing his cows much worried by gad flies, drove them by day during very hot weather into an enclosure well shaded by overhanging branches of trees, keeping them well supplied there with plenty of green vetches and water, and only turning them out to grass at sunset. Anything that can be done now in this direction is entirely worth while, both to protect cows and cattle, and in the farmers' interests to prevent that falling off in condition, and in the milk yield, which is so common at this season of the year.

It is not every farmer that has a covered yard or commodious cow hovel to turn his cattle into, or they are decidedly preferable. All yards and buildings should have been cleared of manure long ago, yet we have actually seen the winter manure still in the yards in August. Farm affairs must be in a bad condition when work is so much in arrears. Depend upon it a thorough cleansing of winter quarters for live stock is an important factor in keeping them healthy and thriving when they go into them in autumn.

METEOROLOGICAL OBSERVATIONS.

CAMDEN SQUARE, LONDON.

Lat. $51^{\circ} 32' 40''$ N.; Long. $0^{\circ} 8' 0''$ W.; Altitude 111 feet.

DATE.		9 A.M.					IN THE DAY.				Rain.
1895.	Barometer at 32°, and Sea Level.	Hygrometer.		Direc- tion of Wind.	Temp. of soil at 1 foot.	Shade Tem- perature.		Radiation Temperature			
		Dry.	Wet.			Max.	Min.	In Sun.	On Grass.		
June and July.											
		Inchs.	deg.	deg.		deg.	deg.	deg.	deg.	Inchs.	
Sunday ..	30	29.760	65.2	58.0	W.	63.0	72.9	56.2	116.9	52.0	
Monday ..	1	29.699	64.8	59.2	S.	63.0	75.0	56.9	125.1	51.4	
Tuesday ..	2	29.559	59.2	55.2	S.W.	62.2	71.7	54.0	117.7	50.1	
Wednesday	3	30.129	60.2	54.1	W.	61.2	63.8	53.3	115.4	48.7	
Thursday ..	4	30.211	63.2	54.3	N.W.	61.2	70.1	51.2	118.4	46.4	
Friday ..	5	30.260	62.8	55.0	N.	61.0	69.8	52.4	110.9	49.0	
Saturday ..	6	30.265	66.1	54.9	N.	61.0	75.8	48.1	123.0	43.1	
		29.969	63.1	55.8		61.8	72.0	53.2	118.2	48.7	
										0.371	

REMARKS.

- 30th.—Sunny at times, but the greater part of the day overcast.
 1st.—Overcast morning, with occasional sun; rain from noon to 1.30 P.M., and frequent sunsh. no later. Lightning, thunder, and heavy shower at 9.30 P.M.; rain in night.
 2nd.—Alternate sunshine, cloud and sharp showers in morning; much bright sun in afternoon.
 3rd.—Overcast morning; generally sunny from about 2 P.M.
 4th.—Bright sun at times in morning; overcast afternoon, with spots of rain about 2 P.M., and a shower at 4.15 P.M.
 5th.—Bright early; generally overcast during day, but intervals of sun both in morning and afternoon.
 6th.—Bright, sunny, and pleasant, but at times cloudy.
 An average week, but rain rather short and nights rather warm.—G. J. SYMONS.

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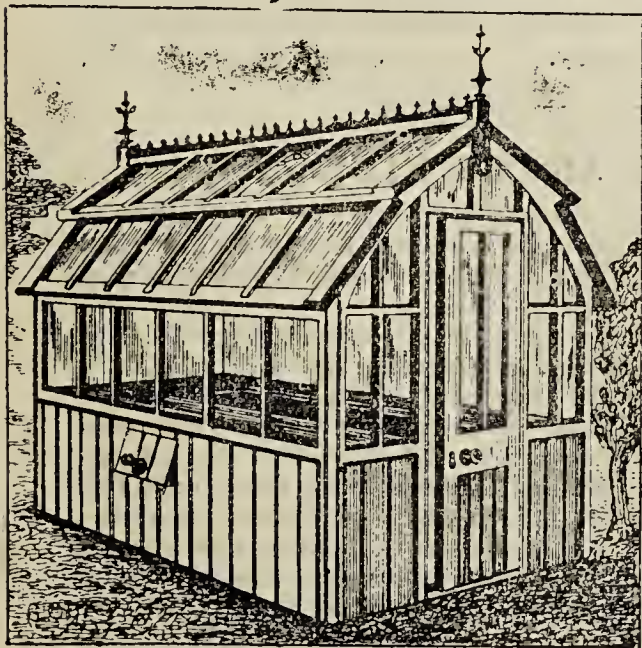
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Journal of Horticulture.

THURSDAY, JULY 18, 1895.

HARDY FLOWER NOTES.

A MID the din of the political warfare which
has entered almost every nook and corner
of our land it has been a welcome relief to work
among, to admire, and to study the flowers so
bright and so beautiful. They, at least, have
been unmoved by party shibboleths, and smile
upon us as we move among them, feeling all the
while their soothing and delight-giving charms.

With what lavishness, too, have these charms
been displayed. Clustered spires and whorled
heads; cups and bells and tasselled blooms;
feathery sprays and wax-like clusters; discs of
yellow, of white, of pink, or countless other
hues; balls of crowded petals; little globes with
thrust out stamens; tiny flowers in lace-like
masses. Who, alas! can hope in prose to speak
fittingly of all these marvellous forms and
colours? Indescribably beautiful are they, and
it is with a sigh of regret we feel how feeble is
the pen which seeks to tell their beauty.

Roses have been delighting us with their
blooms so perfect in contour, in colour, and in
perfume. Lilies, which to describe as wax-like,
is a vain attempt to depict in words their glossy
substance, have opened their cups or hung their
drooping turned-back flowers. Poppies have un-
folded their fragile petals to the rough wooing
of the winds or the more gentle amorous glances
of the sun, which made them sparkle and smile
in return. The Fleur-de-Lis in many kinds has
shown how fitly it has been named the Iris—the
Rainbow Flower—by the variety and beauty of
its colouring. Yellow and white, and purple
and coppery Mulleins have shot up spikes of
pretty flowers. Pyrethrums are over for the
time, but in their stead came Marguerites of
many kinds. Evening Primroses, which love not
the garish day, have looked sad and weary in
the bright sun, but when it began to draw
towards the hills behind which it sinks in a sea
of glory, they shook off their lassitude and
charmed us by their beauty in the evening
shades. Hardly a corner of the garden had no
some vision of beauty to reveal in these early
days of July, and so it is vain to dream of being
able to tell of all their charms.

Writing, however, as the day is over and the
dusk is nigh, one cannot but write of one of

NO. 2442.—VOL. XXIII., OLD SERIES.

the most beautiful of the Evening Primroses now in bloom, *Oenothera marginata*, and which has made me pause for a moment or two to go out and see it once more before night falls. Very pleasing it is to see these pure white flowers showing their snowy cups through the fast gathering gloom of the night. This beauty and purity they retain through the night and for some time during the following morning, and then they begin to close, to look dowdy, and to turn of a pinkish hue. It is when perfect a most beautiful ornament of the garden with its prostrate habit and jagged, pubescent leaves with a white midrib. The long-tubed flowers, about 4 inches across, are raised well above the plant, and have a pleasant odour which is likened to that of the Magnolia. We may suppose that this is intended to attract the night-flying insects so that the pollen may be conveyed to the pretty cross formed by the stigma. This charming Evening Primrose is said to have come to us in 1870 from the Rocky Mountains of Upper California, and it is also known as *O. eximia*. It is not hardy in every garden, or at least is not reputed to be so, but possibly this may be due to its not being properly established before winter sets in. For some years I was unsuccessful in establishing *O. marginata*, but it has now been growing for some time in a border facing west in light soil. As it survived even last winter here, and has greatly increased in size, it appears to have at last found a congenial spot, and self-sown seedlings are also coming up round about. It is increased by suckers from the roots, and also by cuttings and seeds, which are not freely produced.

The Camomiles are, as a rule, not very highly appreciated in gardens, but the lightness and want of clumsiness of the varieties of *Anthemis tinctoria* render them increasingly appreciated by those who do not care for the double flowers of many of the composites. I well remember seeing a fine picture formed by one of these in the delightful garden of the Rev. C. Wolley-Dod at Edge Hall a few years ago. I think the variety was the one named *pallida*, and, growing in front of a dark hedge which formed a most effective contrast and setting to the hundreds of bright flowers of the *Anthemis*, the scene was exceedingly beautiful. It formed only one of the many impressions made by the flowers in the Edge Hall garden, but it is an ineffaceable one, and led me to look upon this native Dyers' Camomile with more admiration than before.

In cultivation I have met with the typical yellow, the pale yellow, and the white varieties, but I am now speaking of the plant in order to mention the newer variety *A. t. Kelwayi*. Its place of origin is probably indicated by the varietal name of *Kelwayi*, pointing to its having been raised or first sent out by the firm of that name, to which growers of hardy flowers are indebted for so many fine Delphiniums, Pæonies, and other plants. As growing here, *A. t. Kelwayi* has larger, brighter, and better formed flowers than the typical *tinctoria*. The latter is probably so well known that it may be superfluous to say that it grows about 2 feet high, and has fine greyish foliage and yellow Marguerite-like flowers.

Looking through a seed catalogue in 1893 I observed a Woodroff offered under the name of *Asperula hexaphylla*, and recommended as being excellent for cutting purposes, and growing about 18 inches high. One can hardly have too many of these light and lace-like flowers, and a packet of seed was procured and sown. Having so many other seedlings the plants were allowed to remain in the seed pot until rather late in 1894 and then planted out. They did not consequently show their true character, and one then began to think that another of the many disappointments which await the raisers of unknown flowers from seed had to be endured. It is generally wise, however, to be slow in passing judgment upon seedling plants, and this *Asperula* had another year of grace afforded it. The result is that this year in a half-shady border this Six-leaved Woodroff has surpassed my first expectations, and has to be pronounced an acquisition. That this is warranted may be gathered from the fact that growing in the

garden it has been mistaken for *Gypsophila paniculata* by those who know the specially fine plant of that beautiful flower I have the good fortune to possess. It is not so tall, being when tied up about 2 feet in height; but in elegant habit it closely resembles it, while the small white flowers on the long stalks are as pure as those of my *Gypsophila* and much purer than the plants of *G. paniculata* as generally seen produce. The foliage is, of course, quite different, being like that of the other *Asperulas*, the narrow needle-like leaves being arranged in whorls of six round the stalks. The only thing I am doubtful about is the name, and for this I can find no authority. The seed has been offered in several catalogues, and the plant is worthy of being grown by those who like white flowers of this graceful habit.

Almost annually for some time I have made a complaint of want of success with the Madonna Lily—*L. candidum*. This want of success was made all the more galling by seeing it doing well in gardens close at hand. This is a common complaint about this Lily, and I suppose we have given up as hopeless any attempt to explain the cause of failure. This year, however, this chastest of Lilies has deigned to flower, and one is charmed to see its blooms, which are so beautiful that one feels inclined to think of and quote some of the many references made to it by the poets and the great writers of almost equally poetic prose. I must content myself, however, with dwelling in thought on the passages of exquisite beauty which describe or allude to this flower dedicated to the Virgin.

This mention of *L. candidum* leads one to make a remark on the flowering of the White Martagon Lily. I observe from a contemporary that this beautiful Lily, which does not generally flower well in the garden of the Rev. C. Wolley Dod, is blooming satisfactorily this year. Unlike *L. candidum*, *L. Martagon album* is always a satisfactory bloomer with me, and never fails to please one with its turned-back white flowers, so freely produced and frequently with fasciated stems. Why it does so well when *L. candidum* does so badly, is one of the many problems which puzzle us, but which after all are incentives to renewed effort in penetrating the mysteries and overcoming the difficulties which surround those who seek to derive profitable pleasure from their garden favourites.—S. ARNOTT.

DO PLANTS ABSORB NITROGEN?

ALTHOUGH the question opened by "Student's" query in your last issue (page 231) would demand a special article dealing completely with the absorption of nitrogen by plants, a short note may be of some service.

Briefly stated, plants have access to nitrogen in two conditions—i.e. (1) As free, uncombined nitrogen in the air; (2) In a combined state (as salts of ammonium, nitrates and organic compounds in the soil). A very large number of carefully conducted experiments have shown that the absorption and assimilation of nitrogen in a free state is confined to the lower orders of plants—mainly bacteria—and to leguminous plants among higher green vegetation. Wheat, Rye, Buckwheat, cruciferous plants, and many others not belonging to the Leguminosæ, always die of nitrogen starvation when grown in soil containing very little or no nitrogen, although they may be exposed to the air. Moreover, leguminous plants die under these conditions unless their roots are possessed of fleshy "nodules" (well seen on the roots of ordinary Broad Beans). It is from the combined forms that an ordinary green plant—Wheat, for example—obtains all the nitrogen it possesses, and this it takes up by means of its root-hairs from the ground.

In the soil the plant has access to nitrogen in (1) complex organic compounds, resulting from partial decay of vegetable or animal remains; (2) ammonium compounds (e.g., ammonium carbonate, sulphate; and also (3) nitrates, chiefly of sodium, potassium, magnesium, and calcium. It was formerly supposed that the ammonium compounds supplied plants with all the nitrogen necessary for growth, but definite experiments have shown that, although many green plants can be nourished by both organic compounds and pure ammonium salts, the results are in every way inferior to those experiments where the plants are supplied with nitrates to their roots. These facts, coupled with the knowledge

that both organic compounds and ammonium compounds soon give rise to nitrates in the soil, lead to the conclusion that plants absorb or take up their nitrogen from nitrates, and seeing that nitrate of lime is most abundant in the soil it is concluded that this substance is the main source of nitrogen for plants.

"Student's" difficulty lies in the assumption, or statement, that nitrate of lime is taken into the plant as such—that is, without any change. If this were true we should, as he remarks, expect to find the lime (neglecting the other bases, potash, soda, and magnesia), and nitrogen in something like the same chemically equivalent proportions as met with in nitrate of lime. This is found not to be the case. There is an excess of nitrogen and a deficiency of lime, as seen in the analysis quoted, and this has led to "Student's" query and suggestion that the nitrogen must have been obtained from other sources than nitrates. The latter view has been amply refuted by most careful experiments, and the explanation of the apparent discrepancy is that the nitrate of lime is split up and decomposed at the very threshold of entry into the plant—i.e., in the root-hairs and in the roots which are not included in the analyses given, which soon dry up and remain in the soil. The lime is thus separated and practically left in the soil, while the nitrogen enters into new combination, and helps to build up various more or less complex organic compounds. The ratio of the lime and other bases to the nitrogen in different plants grown even upon the same soil, and thus having equal access to nitrates, varies much.

The details of the chemical changes which nitrogen undergoes after entering the plant and where these changes take place are practically unknown yet. The changes are slow compared, for example, with those undergone by carbonic dioxide, and difficult to follow. Different kinds of plants, growing with equal access to nitrates in the soil, show very different results as regards their method of taking up and utilising these compounds. In some cases the nitrates can be readily detected as such in all parts of the plant; in others only in the stem, or perhaps only in the root, or in no part at all.—JOHN PERCIVAL.

WORKING WHILST WAITING.

IN connection with and in conclusion of the subject previously promulgated under the headings "How Gardeners are Made" and "Facing the Fact," an endeavour will now be made to formulate a scheme for the amelioration—a complete cure can hardly be hoped for—of the existing evil. Admitting the relevancy of the proverb, "Desperate diseases require desperate remedies," to the case in question, the necessity of submitting a powerful specific is alone worthy of consideration. Yet it is that in the strength of a measure or boldness of a scheme weakness sometimes lays, and such, I reluctantly feel, may apply in this case.

Criticism I would rather court than shun, and should readers take it up and writers throw it down, to be thrashed out, not of the *Journal of Horticulture*, but in its pages, provided that from the *débris* something more practical, perhaps less visionary, is constructed, then, indeed, will at least one end be attained, and neither time nor space be wholly barren of results. Some, at least, may be warned in time to pause and consider ere they rush in where too many eagerly look for the means of a dignified exit. In view of a possible arbitrary condemnation, unjustified by the advancement of a better plan, have I ventured on this digression; and, being fully conscious of the magnitude of this self-imposed task, I am further emboldened to ask the indulgence of those who may see more clearly yet not feel it more keenly than myself.

The primary consideration is the employment of that dreary time of waiting for those who are "out"—the bridging over of that rude break in the course of a gardener's life, weighing far more heavily on a man than the busiest of busy seasons. It is good for a man that he should not have the time to brood in silence over his troubles; and it is good for the world at large that it should still have the benefit of his matured experience through a temporary channel—a channel from which the storm-tossed one shall still keep in sight his land of promise—a permanent situation.

Such relief I can only see in the formation of an association, or, more properly speaking, an horticultural company, and it may perhaps economise space and more clearly express the idea by roughly outlining a prospectus of what I shall term the Horticultural Company, Limited. This company to be formed with a capital of, say, £50,000 in shares of £1 each. The objects of the company being:—

1, For the temporary employment of head gardeners of practical experience with unimpeachable testimonials as to character and ability.

2, For the purchase or renting on lease of suitable land and the erection of glass houses, if desirable, for the culture of such high-

class produce as may find a ready market; to be, as far as possible, non-competitive with local trade or market growers; the chief aim of the company in its business relations being to supply from its establishment or branches such produce as there is a demand for, or may be created, amongst the masses of our densely populated cities. Also for the supply of such things as the existent demand draws a considerable percentage of its supplies from foreign growers, if it is reasonably supposed that the highest skill combined with prudent management can successfully compete with them.

3, That head gardeners of the United Kingdom shall be invited to co-operate by taking shares in the company, and shall, as shareholders, have the preference in availing themselves of the temporary occupation it would give with the facilities afforded for a reinstatement into permanent situations.

4, That a board of directors be appointed from amongst our leading horticulturists with practical men as managers, and all means be employed in advertising for permanent situations, or otherwise, and charged to the working expenses of the company.

5, That all profits (if any) after paying, say, 5 per cent., to be applied to the benefit of the temporary employees in such way as may be deemed advisable, or to the further extension of the scheme.

Having given but the briefest outline of this scheme, and that but imperfectly drawn, though not hastily conceived, there is but little to add beyond the many and various details requisite to fill it in. Given these, by those qualified to do so—which I am not—the stern fact has to be faced, will the public at large put their pounds into such or a similar scheme, a scheme so comparatively dull to the glitter of a diamond mine or gold-prospecting company, and one, too, which is handicapped by a *soupeon* of philanthropy attached to it? Probably not. Anyway, that dire necessity for prompt action is not felt by them; it is so far as they are concerned a cipher, whereas to us it is the most prominent factor, indeed the only one which has prompted this crude attempt to deal with it, for having worn the shoe which pinches I may here say that I have no other interest in the matter beyond that fellow feeling for fellow sufferers which is all sufficient.

Truly it may be said of us—gardeners—that when we cannot dig, to beg we are ashamed. Sympathy may be accepted, but charity will never be sought for. The very suspicion of such a thing in any shape or form would be most offensive. Congenial and active employment to carry one over the chasm of "out" is wanted—urgently wanted. Is there any other means of providing this, and in such a manner that the man of middle age who has occupied a good position can have it, and still retain that dignity he is entitled to? I think not, only in co-operation.

In conclusion, we have on the one hand men of skill and experience capable, under organisation, of producing the many things which the teeming masses of Ironopolis would gladly avail themselves of. Fruits, flowers, vegetables, plants; are the Ironopolites glutted with these things? I think not, and have fain to be content with the dregs of the market. Truly, they have so little or know so little that ignorance is bliss—in a degree; but they have the inherent tastes for better things, and are waiting to be educated up to them. See that workman, black from the forge, how tenderly he tucks a Creeping Jenny under his arm, bought from the barrow, and note his knowledge of hardy plants is practically confined to this specimen, or the thousand and one things we could give him which he has not, and the work he could give us which we (those out) are waiting for. So might (may, I trust) the Horticultural Company, Limited, be the means of communication to the mutual benefit of those concerned.—INVICTA.

SOWING SEEDS OF HARDY FLOWERS.

BY the judicious expenditure of a few shillings on flower seeds, it is really surprising how beautiful our flower gardens and shrubberies may be made, provided due care and attention is bestowed upon the management of the young seedlings. I add this latter "saving clause" because many, especially our amateur friends, seem to think that when once the seeds are sown but little further trouble is necessary in order to transform their garden plot into a veritable paradise of flowers. Alas! no greater mistake could be made, for instances abound in which a small amount expended in seeds has produced infinitely better results than have been obtained in others where the outlay has been thrice as great.

This disparity between opportunity and result may frequently be accounted for solely by the amount of skill and attention bestowed on the management of the young plants. I therefore wish to particularly emphasise the importance of paying due care to this part of the work. Seed-sowing is work which claims some

attention during every month of the year; but just at the present juncture many annuals, biennials, or perennials may with advantage be sown to provide a display during the spring and summer months of next year.

Foremost amongst these may be mentioned those old but showy favourites Canterbury Bells. The improved forms known under the name of *Campanula medium calycanthemum* are extremely showy and beautiful, excellent alike for pot culture, shrubberies, or mixed borders. I sow the seeds in the open in drills about 9 inches apart, and as soon as the seedlings are large enough to handle conveniently they are pricked out in beds 6 inches apart each way.

Those intended for pot culture are then placed in 5-inch pots in October, and wintered in cold frames, the remaining plants being left in the bed through the winter, and planted when required early in the spring. *Antirrhinum*s are a splendid class of plants, which deserve to be far more generally grown. The tall growing varieties are well suited for covering dry banks, old walls, and stony places, and the dwarf ones are excellent for borders or even beds. The former succeed well if sown where required. I sow the seeds rather thinly, then cover with fine soil, and give a thorough watering through a rose; should the weather prove dry the watering is repeated at intervals till the seedlings are an inch in height, they are then able to take care of themselves if kept free from weeds.

The dwarf varieties I find it more convenient to sow in rows, prick out, and place in their permanent position either in the autumn or early spring. Foxgloves are another invaluable class of biennials for establishing in the wild gardens or extensive shrubberies. They thrive fairly well under the shade of large trees, and the flower spikes when cut with long stems make a bold display if arranged in large glasses. I raise a large number from seeds each year, as we find it almost impossible to have too many of them about the shrubberies.

I sow the seeds at the end of July or the beginning of August, prick the plants 6 inches apart when large enough, lift with a trowel, and set in their permanent quarters early in the spring. I should prefer to do this in the autumn but for the fact that the leaves are then falling from the trees, and in cleaning them up many of the Foxgloves would be destroyed if recently planted. When a shrubbery is once planted, the old plants last two or three years, and as many flower stems are left to ripen their seeds, plenty of young plants spring up each year, and form quite a thriving colony.

The *Silenes* are indispensable for spring bedding, their one weakness being that they flower a trifle too late, but this may be obviated to a great extent by early sowing. August or September is generally recommended as the best time for doing this, but I find it is too late for midland and northern counties, and since I have adopted the practice of sowing about the middle of July I manage to get the plants in full beauty during the last two weeks of May. I take the trouble, however, of pricking out all the young plants previous to planting them in the flower beds; it is rather a troublesome business where much bedding is done, but the labour is well spent, as by so doing sturdy plants, capable of withstanding severe winters, are obtained. *S. compacta* (pink), *S. compacta alba* and *S. compacta ruberrima* (deep pink) are all splendid varieties to grow.

The red, white, and crimson forms of Virginian Stocks are good early spring flowering plants, for which purpose the seeds may be sown during August or early in September, as the plants are not strong growers, nor do they branch. I prefer to sow rather thinly in drills, then lift in clumps, and plant into beds as early in the autumn as possible. When patches are required in borders, it is a good plan to sow where the plants are to remain.—D. W. C.

FLORAL FACTS AND FANCIES.—11.

INADVERTENTLY I omitted from my last article a rather notable member of the Pink tribe, the Sweet William, *Dianthus barbatus*, which possesses the name of London Tuft as well, because it was formerly so much grown in the metropolitan gardens. Vain would it be to inquire now what particular William, if any, was complimented by the flower's familiar name; nor does its significance help us, for it represents "gallantry," also "craft" or finesse. Some old authors call it the Cockscorn, but the true one is of the Amaranth kind, *Celosia cristata*, emblem of singularity and popery. Of this plant, Mr. Knight exhibited about sixty years ago an unusual specimen, with a flower 18 inches in width and 7 in height, of a purplish red, on a very thick stalk. This was raised under glass by special treatment.

Another Pink, which is a native plant, though its beauty gave it a place amongst garden flowers, is one of several that have been

called "Cockles." This is the *Agrostemma githago*, and its stateliness deserves the Latin title of "Crown of the Field," also the Corn Cockle, Corn Rose, or Rose Champion. It would appear that the wreathed or turbinated aspect of the flower suggested a resemblance between it and some species of shells; nor is it any wonder that its mode of growth made it an emblem of "gentility." The Darnel Grass has been sometimes styled the Corn Cockle, evidently by mistake, for its flower is not cockled.

Passing to a species not grown for show, but which, both in England and France, has served as a substitute for Asparagus and Spinach, we find that a meaning belongs to the green spike of the Good King Henry. It represents "goodness;" not an interesting plant perhaps, but goodness is not always attractive. If we ask, "What King Henry?" though some would link the plant with our Henry VI., founder of Eton College, the probability is that it commemorates Henry IV. of France, for centuries much beloved in that land. This plant, and other *Chenopodium*s, were also called Goosefoots from a fancied resemblance in the leaves of some species to the foot of that bird. To one of the tribe the Italians have given a significance of their own, and handing to anyone a twig of the Grass-leaved Goosefoot implies strong dislike or hostility towards that person.

Again, in the Solomon's Seal we have a remarkable illustration of a fancy, because the root so called, properly the underground stem, is supposed to bear the seal or impress of that famous monarch. Some have thought it was one of the names given to the common Lily of the Valley; but the true Solomon's Seal is a species of *Polygonatum*, several of which have certain peculiar marks on the joints, as Gerard the botanist remarked long ago. How far they resemble the seal of Solomon is doubtful. This is said to have been a five-pointed star, composed of five A's interlaced. Now the plant is valued because it cures bruises; that, however, according to tradition, was not its early use. Solomon cured insanity by administering it in the form of snuff, and after sneezing freely the patient regained his senses! The common Yarrow of fields and hedgerows, one of our wild flowers which flourishes alike in dry and damp seasons, has several allies that are patronised in gardens, being admired as edgings or useful for decorative purposes. The genus is named *Achillea*, after the celebrated hero of early Greece, who healed, we are told, some severe wounds by the juice of one of them.

This legend has made the Yarrow tribe a reminder of "war" or battle, but of the species most familiar, also called Milfoil, it was believed in some districts that a piece of it worn upon the person would cure the headache! Probably the association of the St. John's Worts with that Saint arose from the fact that several of the conspicuous wayside species came into flower about the time of his anniversary, and they were burnt on the fires usual on Midsummer Eve, because the plants were supposed to drive away evil spirits. The most favoured species was the perforated (*Hypericum perforatum*), since the oil of the dotted leaves was thought to heal the deepest wounds.

A similar repute seems to have belonged to *H. androsæmum*, for its name "Tutsan" was formerly *tuite-saine*, and "Parkleaves" may imply that it was planted about shrubberies and on banks, just as we now have the large-flowered *H. calycinum*, which is really a native of Scotland and Ireland; it possesses also the name of "Rose of Sharon," with no sufficient reason. One of the group, the square-stalked *H. quadrangulare*, bears the name of St. Peter's Wort. It would not have been surprising had some conspicuous tribe of rocky or stony places, the Saxifrages, for instance, been associated with this great apostle by the monks; but such is not the case. Still the Saxifrages have their legends; the bell-shaped, intensely white flowers of *S. granulata*, frequently to be seen in gardens with other pretty species, tell us that by the old doctrine of resemblances its knobbed roots were esteemed a cure for all sorts of swellings or gatherings in the human body.

The Mossy Saxifrage was also called Eve's Cushion, and the Irish species, *S. umbrosa*, was once St. Patrick's Cabbage, but the profusion of it exhibited about London gardens, where it defies town smoke and dust, gave it long since the name of London Pride. Symbols of "affection" are these plants, from their close attachments to the rocks or walls that afford them a home. Their relatives, the Stonecrops, are thought to represent "tranquillity," since their manner of growth usually secures them from rough treatment by winds, but the Houseleeks or *Sempervivum*s are supposed to suggest "domestic industry." One *Sedum*, however, is tall; this is the Orpine ("Midsummer Man" or "Livelong"), which maidens used to gather and put over their beds to discover by its movements whether their lovers would be true or false.

Very prevalent in Kent, doubtless in other English counties too, is the notion that it is unlucky to bring indoors the flowers of the Hawthorn, sickness or other trouble being likely to follow. This is singular, for this blossom is emblematic of "hope," and as

soon as it could be obtained our forefathers delighted to gather it. They hung the Hawthorn over their doorways, or they placed it in their apartments for its beauty and fragrance. One of our oldest poets, Chaucer, describes the maying parties in the fourteenth century, Hawthorn being prominent amongst the flowers brought home, and the Greeks carried branches of it at bridal festivities.

All the poets agree that no tree is so suitable for friends to sit near or under as a Hawthorn. How, then, can we explain this contradictory idea about its ominous character? I believe there has been somehow a transference to this species of the evil repute which attached to the Blackthorn or Sloe, a shrub not regarded with favour. Its flowering indicated what people called the "Blackthorn winter," a period of spring often cold and unsettled, more trying to the health than the depth of winter, and the plant represented "difficulty," perhaps because its blooming seemed to be an effort. From the Pimpernels, species of the Primrose tribe, we have an instance of plants so much liked that they received the Latin name of *Anagallis*, expressive of the fact that the sight of them gave pleasure, whether they were seen by waysides, along fields, or in gardens. The blue Pimpernel has long been a garden favourite, so, too, the little scarlet species that grows wild, and has received the name of the Shepherd's Weatherglass, being a correct indicator of the weather during the forenoon.—J. R. S. C.

DEATH OF MR. JOHN WILLS.

By the death of Mr. John Wills, which occurred on the 9th inst., a very remarkable man has passed away—a man who was a working gardener in the recollection of many of our readers, and who was eventually honoured with the personal friendship of the Prince of Wales. This was obtained during an international exhibition at Paris, in which His Royal Highness was closely interested, and which Mr. Wills supported during an entire season at great cost, and as he used to say in his genial manner, for the "glory and honour of Old England," and whatever may be said of him, this cannot be asserted—that John Wills was a "little Englander," and, moreover, he was invested with the Legion of Honour of France. At Versailles, in 1878, he accomplished a great feat, winning the grand prize of honour (a Sèvres vase, value 800 francs), as well as fifteen first prizes and one second in the sixteen classes in which he competed.

Mr. Wills, as all know, made himself famous as a floral decorator in London, and no undertaking in that line was too great for him; but before this he was for several years a genuine British gardener, and was as intimately acquainted with the practice of growing vegetables and fruit, and as proud to acknowledge it, as he was of his skill as an hybridiser in his early days and as a decorator during the subsequent period of his life. For some time prior to his death he, in consequence of gradually failing strength, practically retired from active professional duties, the business with which he was connected being conducted by his partner, Mr. Segar.

During his long and busy life Mr. Wills seldom for long worked in obscurity, and may be said to have been "before the public" for more than thirty years. He was born at Chardstock, Somersetshire, and his first gardening experience was gained at Cricket St. Thomas, the seat of Viscount Bridport, and he subsequently became a welcome guest of the family. He came to London a mere youth, without any introductions, and found employment in the neighbourhood of St. John's Wood, eventually finding a situation as gardener in the vicinity. He subsequently procured a situation near Sydenham, but left it and assisted in navy work in the formation of the grounds at the Crystal Palace. He was there, as he used to say, promoted to "artistic work" in the building, and spent about a month "scraping and polishing a bronze horse, as happy as a sandboy." But it was not gardening, and he wished to get back to the spade. In this he succeeded, as he found employment under Mr. Eyles in the formation of the Royal Horticultural Society's Gardens at South Kensington. There must have been some character in the then young man, for he attracted the attention of Dr. Lindley, who recommended him to Sir Philip Egerton as the successor of Mr. Robert Errington, who was gardener at Oulton Park for thirty years, and one of our most competent writers on hardy fruit, dying in 1860.

It was at Oulton Park that Mr. Wills, stimulated by the renowned Donald Beaton, commenced the crossing of various kinds of plants with the object of raising new varieties. He raised many; indeed, many hundreds, of which the world knew nothing, but some have survived, and are favourites in the London parks and various gardens to the present day. Amongst these, though it is by no means generally known that he was the originator, are the dwarf golden-leaved *Pelargonium* Robert Fish and the not less distinct Golden Harry Hieover. He was, if we mistake not, the originator of the present section of golden bicolors, which are traceable, we think, to his Beauty of Oulton, Beauty of Calderdale, and some others, which were sent to Chiswick in 1865, and won the gold medal offered by the Royal Horticultural Society for new varieties about that time. This was his first great prize, and he wore the medal throughout his life.

Mr. Wills was also the first person to effect an union between the Ivy-leaved and Zonal sections of *Pelargoniums*. After many failures he at last succeeded in raising the Ivy-leaved variety with large flowers, appropriately named Willsi, which may be said to be the progenitor of the beautiful single and double varieties now so extensively cultivated.

This first cross in the direction indicated gave him more trouble than any other. He applied pollen again and again, but without effect, but still persevered and succeeded at last in a remarkable way. After exhausting as he thought all orthodox methods he had recourse to a departure, and instead of applying the pollen dry he thought he would try it wet, and therefore swirled the truss of the pollen-bearing flowers in a water trough, at the same time without any hope of the plan succeeding. To his delight, however, it did succeed, two plants resulting, and it may be supposed when they flowered their raiser would enjoy some of the happiest moments of his life.

Whether the peculiar method resorted to was suggested by his syringing Vines when flowering for obtaining a good set of fruit, or whether the drenching of the *Pelargonium* pollen led to syringing the Vine flowers, we know not, but so far as we are aware, Mr. Wills was the first to advocate the latter method during a controversy in our columns in these words:—"Perhaps Mr. Whittle will think me mad when I tell him that for many kinds of Grapes the most proper time to syringe is when the Vines are in flower, for the purpose of causing them to set freely, especially Lady Downe's and Muscat of Alexandria."



FIG. 8.—MR. JOHN WILLS.

Another writer has claimed the method as his own, but that was subsequent to the publication of the words we have cited.

At the time when Mr. Wills was gardener at Oulton Park, which he left towards the end of 1865 to take charge of the gardens of Captain Le Gendre Page Starkie, also during the time he was at Huntroyde Park, he was on the contributors' staff of the *Journal of Horticulture*, and wrote voluminously on a variety of subjects. He was generally engaged in some controversy, and was beyond question a doughty literary warrior. He fought for *Viola cornuta* as a bedding plant against all comers, and would never admit defeat, which in fact he did not sustain on that subject, and perhaps very few others. He was the first to proclaim the fame of the Garston Grapes, and to describe the methods of Mr. Meredith. So zealous was he in acquiring knowledge that he would go any distance to see a notable feat in cultivation, and not rest satisfied till he got a mastery of the methods by which the results that he admired were brought about. This was what made his reports of famous gardens not only interesting but useful, for information could be gleaned from all of them.

He was not long at Huntroyde before he commenced telling the world of his plans for improving the gardens, and the methods he intended to adopt, and which he carried out. It was there that he conceived the idea of "stratified" Vine borders, and had to defend his practice against some of the best men of the day. This he did with great zest and evident enjoyment. He appeared to court opposition, and always met it with alacrity and in a good-humoured way. When he conceived a plan and felt it was right, neither labour, cost, adverse criticism, nor ridicule could turn him aside from its prosecution; nor was he, to use a well-understood term, a "kid-glove" gardener, but a worker, and seemed to be as happy in a drain as in crossing flowers, arranging plants, or in any other light duties of his vocation.

His determination to have work done well came out in his narrative of draining the Huntroyde Gardens, for this is what he wrote at the time:—

"When I drained the gardens, either from ignorance or some other cause the men would not put the pipes in the proper way, so I was obliged to jump into the drain and lay the pipes myself. It was only by these means that I was able to get the gardens drained thoroughly. I stuck to the drainers three weeks, until I had the whole of the kitchen

gardens inside the walls, 4 acres in extent, drained to my entire satisfaction. As the foundations of the walls were very deep, I found it necessary to go below them with my drains; I, therefore, had to put in drains 6 feet deep all round by the walls, and as I had a large quantity of old brickbats that had come out of some walls which had been pulled down, I had 18 inches of these laid on the pipes, and in such a manner that no two pieces should lie flat together—i.e., there was a space of an inch or more left between all the pieces. These, as well as the pipes, I laid myself for a length of drains altogether amounting to nearly a thousand yards. It was wonderful to see the improvement the draining made in the growth of everything that was planted in the gardens. The fruit trees soon lost their mossy appearance, and instead of their, in some cases, making long and sappy shoots, and in others dying prematurely, they have been steadily improving in appearance in every way, and are now perfect models, being literally covered with bloom buds."

This is cited to show that Mr. Wills was something more than an ornamental gardener; he was, in fact, severely practical in the days of his working career, and nothing pleased him better than doing or inspecting good work, and describing it for the benefit of his fellow men. He used to say that one of the most useful articles he ever wrote was describing a system of Horseradish culture, totally different from the plan generally adopted in gardens, to which article a leading position was accorded in our columns in 1867.

We have dwelt more particularly, and we think not inappropriately, on Mr. Wills as a gardener who co-operated with us, as he did most creditably and effectively, for some years. We do not remember when he came to London and joined Mr. Wimsett as a floral decorator. He was not very long, however, before he commenced business on his own account. He adopted a bolder and more picturesque style than had hitherto prevailed in arranging plants for effect, and in this work made himself famous. It was not uncommon for him at one time to have three "£500 jobs" in a week, and some of his decorations on ceremonial occasions cost a great deal more. Mr. Wills also exhibited extensively at the shows of the Royal Horticultural Society at South Kensington. On one occasion (1875) he produced something like a tropical forest, and another year an iceberg—a ponderous mass, composed of many tons of glistening ice. When the Westminster Aquarium, and as it was then called Summer and Winter Garden Society, was opened, Mr. Wills transformed the building into something like a floral paradise. He also organised costly shows, but the London populace did not respond in sufficient numbers to make the garden project a success, and it was abandoned. Imbued with great ideas, however, the active mind could not rest, and Mr. Wills conceived a method and prepared elaborate plans for making the Albert Memorial the central object in a new Crystal Palace; but the project was too big—except for him. He established a nursery company and horticultural emporium; but "companies" of this nature do not seem to flourish in our hard-headed and cold-hearted community. Mr. Wills was not cold-hearted, but warm—a man of bold enterprise and generous impulse—sanguine under all circumstances, and always firm in the belief that whatever might in his view go wrong at the moment, would be sure to come right in the end.

He acquired a nursery at Hammersmith and another at Anerley, also the services of one of the most successful raisers and growers of plants in the kingdom, Mr. C. F. Bause. And here he made a "hit," for Mr. Bause found some old *Dracæna* stumps on a rubbish heap. He thought if he could bring them round they would flower, and they did. He turned the pollen to account, and raised the finest collection of *Dracænas* in one "batch" the world had ever seen. In 1876 a grand centennial show was held in Brussels, and amongst the prizes was the large gold medal of 500 francs for twenty-five *Dracænas* "remarkable for their beauty, their novelty, and their culture." Those who were present at the contest will not forget the magnificent specimens of Mr. Linden, some of them, such as Youngi, Mooreana, and Baptisti, 8 feet high, and furnished to the base, some of the leaves being 4 feet in length, the grandest plants probably ever seen at any show. The Anerley plants were 2 to 3 feet high, but their "culture" was all that could be desired, their "beauty" unmistakeable, and their "novelty" indisputable. Yet the jury paused very long, till the excitement became intense, and it was not until manifestations of impatience found utterance that the verdict was cast for the Anerley plants. This was a great triumph, and another of the proud moments of Mr. Wills' life. He either gave Mr. Bause the fine medal or another of equal value, and we regret to hear that the bearer of it has been for some time in impaired health at his nursery home at South Norwood.

During recent years Mr. Wills has lived a quiet and more or less retired life, spending a good deal of time at his seaside villa at Worthing, where he loved to dispense hospitality to his friends. He took much interest in the gardening charities, especially, perhaps, the Orphan Fund, to which he gave £10 on each recurring birthday, and attended the committee meetings as long as he could. Mr. Wills, who had been ill for a long time, expired at his town residence, Onslow Gardens, South Kensington, in the sixty-fourth year of his age, leaving a widow but no family, and his remains were interred in the Brompton Cemetery in the presence of many friends on Saturday last.

Our engraving (fig. 8) is from a photograph taken when Mr. Wills was in the full vigour of ripened manhood, and it represents him as he was during the most active part of his London career.

Than the deceased horticulturist no person has done more to create interest in plants and flowers for decorating the homes of princes and people. This led to a great expansion in trade, and many persons who have been successful in growing plants for market during the past

twenty-five years owe much to the enthusiasm by which he was animated in that direction. This appears to be generally admitted, and therefore we are not surprised to hear of a suggestion that a tribute should be paid to his memory in some permanent form, such as a tombstone, the surplus to go to the Royal Gardeners' Orphan Fund, to which he was so closely attached, and which he supported so well.

PROFITABLE EMPLOYMENT OF GLASS STRUCTURES IN WINTER.

[Silver Medal Essay by Mr. GEORGE SUMMERS, Sandbeck Park, Rotherham.]

(Concluded from page 29.)

SPIRÆA JAPONICA.—This should be grown in quantity, as imported clumps can now be obtained very cheaply. The plants should be potted in 48's or 32's, according to size, as soon as obtained, which is usually in September, any good loam answering the purpose. A little frost will do them no harm. When first brought into the houses they should be placed in a temperature of 55°, and after they have commenced growing this may be increased 10°. The plants will grow rapidly, and it is a great advantage if they are allowed to stand in saucers of water. Prices of plants in pots range from 6s. to 8s. per dozen; but there is only a limited demand for these. In a cut state they average from 4s. to 6s. per dozen bunches, paying well at these prices.

EUPHARIS AMAZONICA.—If a healthy stock of these is procured in an establishment where there are vineries, as well as Tomato and other houses, I have found from experience they pay well, but they must be timed to bloom during the winter and early spring months, as in the summer they are unsaleable in quantity. The system under which I grow them is, as soon as a vinery is well covered with foliage the *Eucharis* plants are placed on the border, syringed two or three times during the day, and throughout the summer copious supplies of water are given almost daily. They are not shaded, only what is obtained from the foliage of the Vines. In September one of the houses is cleared of Cucumbers, the plants are kept on the dry side for a week or two previous to their removal, and are then placed in the Cucumber house, being stood on pots, as they are never plunged at any time. They commence blooming at once, the plants are then well watered, and fed occasionally with soot water, the result being a splendid crop of bloom.

From thirteen plants treated in this manner I gathered and sold ninety-six dozen blooms. Many of the spikes had eight flowers, which averaged 3s. 9d. per dozen. Many of the leaves measure 36 inches in length, and 7½ inches in breadth, and are dark green in colour. After flowering less water was given them for a short time, when they again had copious supplies of water, and flowered at Christmas. A similar course of treatment was again followed, with the result of another crop of bloom at Easter, but not nearly so many spikes as in the first crop. These plants are now growing under Cucumbers, but will shortly be removed to the vineries. Treated in this manner they pay well, as during the winter months the flowers are always in demand. Previous to growing these plants, which have been worked up from a few small bulbs obtained from another source, I destroyed two successive batches which were affected with the mite. The compost that I grow them in is chiefly loam, with a little rough peat, charcoal, and silver sand. During the winter the plants are grown in a temperature of from 60° to 70°.

MUSHROOMS.—These may be most successfully grown in Tomato and other houses during the winter. Prepare the manure in the ordinary way. "Mushrooms for the Million," by J. Wright, treats the subject admirably. If the house is span-roofed make up a bed on the ridge system, 3 feet wide at the bottom, 3 feet in height, and when finished off should be about 9 inches in width at the top. Insert the spawn at a temperature of 75°, but not until the heat of the bed has risen higher, and fallen to that figure. Case the bed with good garden soil, and cover with a few inches of short litter, keeping as near 60° as possible. It is not necessary to have manure freshly collected from the stables, as it may with advantage be stacked for six months previous to being used.

I commenced collecting all the manure I could obtain last January. This is thrown into a square heap, adding to it as the manure comes to hand. This will not be required before August, when the whole mass will be turned over and well watered, turning it six or eight times on alternate days. From manure treated in this manner last year we have been gathering good crops of thick fleshy Mushrooms, which realised much better prices than usual. There is a good demand for them. In one week my returns for them were 1s. 2d. per pound, and in another 1s. 3d. per pound. If manure can be obtained at a reasonable price, I consider this is one of the best paying crops that can be grown in the winter in houses in which Tomatoes and Cucumbers are the chief summer crops.

STRAWBERRIES.—These should be grown in houses in conjunction with Mushrooms, on shelves slung from the roof, but placed so that the drip from the watering does not fall directly on the Mushroom bed. The same temperature will suit both crops. The Strawberries should be placed on the shelves near the glass in December, the house being kept at a temperature of from 45° to 50° for a few weeks, to be increased to 60° when the plants are in bloom. After the fruit is set a higher temperature may be maintained, and the fruit will then be ready for market early in March, when good prices are usually realised. This year prices ranged from 6s. for firsts to 3s. for seconds. The varieties

that I prefer for market purposes are La Grosse Sucrée and Noble. The former I like the better of the two, as Noble is of indifferent flavour, although a very showy fruit. Vicomtesse Hericart de Thury is another good variety, small, but of exquisite flavour. Sir Joseph Paxton is grown extensively for market purposes in the south of England, but this variety is not a success with me, either planted out or in pots.

In the above notes I have, to the best of my ability, stated facts as to the profitable employment of glass structures in the winter. The figures quoted are actual prices obtained from salesmen in the open market, from which carriage, market tolls, and salesman's commission have to be deducted.

CARNATIONS AT CHELSEA.

AMONG the Carnations! It was to accomplish this object that steps were recently directed to the famous nursery of Messrs. James Veitch and Son, there to be rewarded by feasting the eyes on a display which for variety and good culture it would be extremely difficult to excel. Never was this charming flower so popular as at the present time, and everyone knows how new varieties such as Uriah Pike and others have taken the whole horticultural world by storm. There is little need to wonder at this, for in spite of the fact that in some localities the Carnation does not thrive satisfactorily, yet it is necessarily everyone's flower, and may often be found blooming in luxuriant beauty in many cottage gardens.

And again as a pot plant its qualifications are sufficient to recommend it to every florist, and though to grow it successfully a considerable amount of care is requisite, yet all this is amply repaid by a profusion of sweet flowers. These lines, however, are not written with the intention of giving hints or suggestions on Carnation culture, but simply to give an idea of what we saw and what others might see by paying a visit to the well-known Chelsea nursery.

"Yes, they are fine," remarked Mr. Weeks, the grower, in reply to our exclamations of praise; "but they would have been grand if the sun had not been so scorching hot." We could quite understand that, though well satisfied with the display as it was. Right in the centre of the nursery, in small beds surrounded by glass structures, are the Carnations grown, and from the good health of the plants and the abundance of flowers it is only natural to conclude that the position is a suitable one.

Much may be written about the display, but we must confine our attention to but a chosen few. "Many of the flowers are much smaller this year," remarked our guide, and, as our readers will gather, the drought is responsible.

First to come under our notice were the "selfs"—the most useful of all border Carnations, and in these the variety of bloom and diversity of colours were almost bewildering. On one bed was Duchess of Fife, of a delicate soft rose shade very similar to the well-known Miss Jolliffe. Further on was noticed the sturdy habit of Lady Mina Balfour, whose stiff stems were surmounted with large flowers of this charming variety. Florence grows profusely at Chelsea; it has a pleasing branching habit and cream coloured flowers. A contrast to the above is Ellen Newman, which produces large scarlet flowers of good substance. King of the Crimson is a fine dark variety, blooms profusely, and grows very freely. Particular attention was drawn to a large bed of Alice Ayres, which is undoubtedly one of the best for massing, being a good grower and carrying a multitude of white striped blooms. Amongst the pure whites Mrs. Fred is considered to be one of the best as a bedder, though a number of Mrs. F. Watts was also noted as being exceptionally fine, and though somewhat older than the former it has an excellent compact flower, and bears a good reputation for keeping well during the winter.

We could not help pausing to admire a bed of the bright scarlet Joe Willet, with its large flowers and sturdy habit, still holding its own as one of the best of its particular colour. Amongst other yellows were noticed Miss Audrey Campbell, a beautiful flower, and Duc d'Orleans, a little deeper in shade than the former. In addition to these Germania still upholds its reputation as one of the best of the yellow bedders. Miss Ellen Terry produces large white flowers, but is considered better for pot than outdoor culture.

Worthy of special mention is Mephisto, thought by some to be the best of the crimson, having a compact bloom of a bright and pleasing colour. King Arthur carries an immense scarlet flower, many of them being 5 inches across, and is also a free grower. Though not the largest, no more perfect bloom could be found than that of Hayes' Scarlet, the form and colour of which is exquisite. King of the Scarlets is also bright in colour and produces large blooms. Cantab, or the Scarlet Clove, as it is sometimes called, is noted particularly for its delicious scent. Cara Roma is of a pleasing purple shade, and bears a well formed flower, which does not split in the calyx.

Our attention was reluctantly turned from the selfs to the Picotees, and amongst them were noted as being particularly attractive, J. B. Bryant, a white with crimson edge; Brunette of the same colour, with edge much more heavy; and Gannymede, with an edge of deep crimson. Favourite is considered one of the best of the Picotees, being a free bloomer, with flowers edged with light rose. Edith D'Ombrain is somewhat similar, with edge of a rose shade, but much more heavy. Mrs. Sharpe is also a showy bloom of the same character.

Amongst the scarlet flakes Mr. Thomas' Scarlet Keel and John Ball were noticed as being the most effective. Thalia produces large flowers, and is reckoned amongst the best of the rose flakes; while Florence Nightingale and James Douglas are both fine purples.

Many bizarres were noticed in the collection, especially worthy of mention being True Briton, a bright scarlet, and Duc d'Aumale. To visit this show of Carnations means to tarry and admire, and much time might have been spent either in criticising or comparing, but in all cases there were points deserving of merit. In one instance it was the colour, in another the perfection of flower, and in another still the scent, and so on. Messrs. J. Veitch & Sons are to be much commended for their superb display, and it was with reluctant steps we turned away, thoroughly satisfied that we had been well repaid for our trouble.—H.



ROSE SHOW FIXTURES FOR 1895.

July 20th (Saturday).—Manchester.

" 23rd (Tuesday).—Tibshelf.

" 24th (Wednesday).—Chesterfield and Newcastle-on-Tyne.*

" 25th (Thursday).—Trentham.

Aug. 3rd (Saturday) and 5th.—Liverpool.†

* A show lasting three days. † A show lasting two days.

—EDWARD MAWLEY, *Rosebank, Berkhamsted, Herts.*

CRYSTAL PALACE SHOW.

ON page 38 you refer to the confusion existing in some of the classes in the above show, and that same confusion is perhaps responsible for an error in your report which affects me. Referring to class 16, nine distinct, you say Mr. Whittle was first; and class 18, for the same number of flowers, you say I was first. As a matter of fact the reverse was the case. I was placed first, with Mr. Byron second, in class 16; while Mr. Whittle was awarded first (I believe through an error in placing his box) in class 18. The reversal of position would be comparatively immaterial but for the fact that while class 16 is open to growers of not more than 1000 plants, class 18 is restricted to exhibitors possessing not more than 500, and as I took so large a part in the introduction of the re-casting of the schedule into these divisions I am vexed that, growing 560 trees, I am reported as showing in the division open only to those growing less than 500.—JNO. BATEMAN, *Highgate, N.*

P.S.—When the mistake in class 18 was discovered Mr. Edward Mawley gave considerable care and attention to the endeavour to rectify it, and finally decided that the best plan would be to give equal firsts to Messrs. Whittle and Foster, and labels were altered accordingly.

THE NATIONAL ROSE SOCIETY'S METROPOLITAN SHOW.

THE Crystal Palace exhibition of the National Rose Society was, with the exception of that held there in 1893—also a remarkably dry and forward year—the smallest metropolitan show that has been held by the Society since 1887. The total number of show blooms amounted to 5450, or about 550 less than the average number staged at the five preceding exhibitions. There were altogether seventy-eight exhibitors, staging between 302 exhibits. Of these stands, nine came from Scotland, five from Ireland, and two from Wales. The number of exhibits sent by the twenty-three English counties represented at the show were as follows:—Essex, 52 stands; Surrey, 31; Oxford, 28; Hertfordshire, 25; Kent, 22; Nottinghamshire, 19; Middlesex, 15; Worcestershire, 13; Berkshire, 11; Yorkshire, 11; Gloucestershire, 9; Suffolk, 9; Sussex, 9; Derbyshire, 6; Northamptonshire, 6; Leicestershire, 5; Somerset, 4; Herefordshire, 3; Bedfordshire, 2; Cambridgeshire, 2; Isle of Wight, 2; Norfolk, 1; and Worcestershire, 1.—E. M., *Berkhamsted.*

PEAS AND STRAWBERRIES AT STONELEIGH ABBEY GARDENS.

A FEW weeks since I had the pleasure of inspecting wonderfully well grown and extensive collections of these; indeed, it is seldom in any private garden that one has the opportunity of seeing so many good varieties of early Peas, which were sown on the same day, and have been grown under precisely the same conditions throughout. When this is done a fair idea may be formed as to the earliness and cropping qualities of the varieties grown.

Many of them followed each other so closely in point of earliness that for practical purposes one could scarcely be described as earlier than the others. Veitch's Chelsea Gem seemed, however, to be slightly in advance of all others, the pods being well filled, the habit dwarf and sturdy, and the cropping qualities everything to be desired. Sutton's Seedling Marrowfat, though scarcely so early as the preceding, is a grand Pea in every way, the pods being extra large, the habit very dwarf, and the flavour of the peas first rate; it is indeed a coming variety, and ought to be grown by everyone. I could see but little difference in point of earliness between American Wonder and English Wonder. Among tall-growing kinds Sutton's Al, Veitch's Selected Extra Early, and William I. were all just ready for gathering, from

sowings made at the same time, the rows being arranged by the side of each other. But, of course, in this instance Sutton's Al scored an advantage in consequence of being a wrinkled pea with a Marrowfat flavour.

I should have mentioned previously that the English Wonder grown here is not the same variety as that sent out by many seedsmen, this former being raised at Kenilworth, and the young peas, either in a cooked or uncooked state, are decidedly superior in flavour to those of American Wonder. Many other kinds of Peas were also grown, but I have touched on those with the most pronounced characteristics. The whole were in fine condition, and for a dry season like the present one showed culture of the highest order.

Strawberries, both in pots and the open air, are largely grown, but the bulk of them consists of a few well tried varieties, good flavour being a point kept steadily in view. For this reason Garibaldi is grown in quantity for early work. Though not particularly large, it crops well, and is thoroughly satisfactory at Stoneleigh. Mr. Beddard, Lord Leigh's genial head gardener, speaks in high terms of the good qualities of John Ruskin, as it is large, early, of grand colour, and fine flavour. In fact, an altogether superior form of Noble.

A few of the pot Strawberries were still to be seen in pits, carrying splendid crops of very large fruits. The variety was principally Lucas, one which is thought much of at Stoneleigh, and judging by its appearance as here grown, and its fine flavour, it is still very hard to beat. La Grosse Sucrée and Sir J. Paxton are also grown, and Mr. Beddard hopes to give Royal Sovereign a trial next year.

Numerous other matters of interest cannot be touched on now, as our visit to Stoneleigh Gardens was quite an accidental one; being out on pleasure bent, but coming unexpectedly in sight of "the garden wall" the temptation to enter was too strong to resist. When once within the welcome given was so hearty and objects of interest so numerous, that we had at last to beat a hasty retreat, in order to avoid the searching inquiries of those we should have joined long before. —H. D.

A GLOXINIA SHOW.

FOR the past few weeks Roses have occupied almost the whole attention of floral enthusiasts, but the season of their beauty is now rapidly drawing to a close, and thoughts will necessarily turn in other directions. It was to see an exhibition of flowers very different in character, but no less pleasing in their particular order, that in response to an invitation a journey was recently made to the nurseries of Messrs. John Peed & Sons, Norwood, S.E.

Visitors to horticultural shows will be well acquainted with the character of the flower and foliage plants exhibited by this energetic firm, so that it was with the expectation of seeing something out of the ordinary that a visit was paid to the home of the plants. Gloxinias and Caladiums were the chief feature, and the effect caused by these was one of merit sufficient to satisfy even the most sanguine expectations. A more suitable day for inspection might certainly have been chosen, as with the thermometer registering considerably over 80° in the shade, the temperature in a low span-roofed house may be easily imagined. In spite of this drawback the sight presented by the Gloxinias was one not easily forgotten, as for size of blooms, diversity of colour, and substance of foliage, all points essential to excellence in cultivation, it would be difficult to find a collection surpassing that of Messrs. J. Peed & Sons.

The arrangement, too, was executed with tastefulness, and showed up the flowers to advantage. Imagine a house 150 feet long staged from end to end with Gloxinias in full bloom, interspersed with Maiden-hair Ferns, and you have some idea of the show. The majority of the plants were seedlings, and it would be futile to attempt to describe even a small percentage of the blooms. Some endeavours were certainly made at taking notes, but so extensive were the flowers in point of number, and equally as bewildering in variety, that any such idea had to be dispensed with, excepting in the case of a few specialities which had already received the honour of a name. But "What's in a name?" we were apt to remark, as a number of those not possessing that mark of distinction were from many points of view equal to others so honoured. Many of the plants were carrying a large number of superb blooms, some pure white, others deep crimson, and others, again, exquisitely spotted.

It is a matter for surprise what cultivation has done to improve the Gloxinia. The show at Norwood was sufficient to prove this. True, there was to be seen the old-fashioned and once common purple, now almost superseded by others much more brilliant and effective. Amongst the specialities Howard Peed was particularly attractive with its large blooms of deep crimson edged with white; Duchess of York is a thickly spotted variety with massive flowers; Shahzada is new, as may be gathered from the name, dark in colour and heavily spotted; Lord Salisbury is, too, worthy of mention, as its white bells delicately tinged with violet, render it extremely elegant; and the colour of Purity needs no explanation, while the form and substance of the blooms are all that is desirable. To stand at one end of the house and look at the long stretch of thickly bloomed plants was a sight that to see meant to appreciate, and in spite of the variety in shade no erroneous clashing of colours was noticeable. A longer time might have been spent, but the Caladiums were awaiting our inspection, and to these attention was then directed.

Perhaps of the two Caladiums are more closely connected with the name of Peed, and the size and the general excellence of the plants

certainly uphold the reputation of the firm. The plants were staged in sloping form, and shown to the best advantage. Endeavours are evidently made to cater for all tastes, as the leaves of some are massive and gaudy, while others are miniature and delicate in colour. Varieties, too, are so numerous that only a chosen few could be selected and noted. Amongst the recent introductions Duke of York and Lord Rosebery claimed attention. The former is very effective, the footstalks of the leaves being dark crimson, and the main portion of the latter a bright rose carmine with darker midrib and veins; Lord Rosebery is of medium habit with bright carmine leaves, the margin of which are mottled with light yellowish green. Turning to the general collection, the first to claim attention was Baronne Clara de Hirsch, a brilliant and distinct variety with creamy white leaves dotted with numerous rose spots and veins of a reddish brown tint.

John Peed has transparent leaves of dark red with a light green margin. La Corrairie is very effective with its rosy carmine leaves edged with a narrow band of green. Paris de Chevannes has a roundish leaf slightly pointed, covered with large white spots on a ground of bluish grey. A contrast to this is Racine, which has a large heart-shaped leaf with a rose ground mottled with green. President de la Devansaye is undoubtedly one of the best selfs grown, with leaves of a delicate carmine tint. Marguerite Gelinier is a distinct and dwarf variety, having long leaves of deep rose colour with rosy violet veins.

The above are but a few of the great many, all worthy of notice and varying in price to suit the purse of all purchasers. Much time might be spent among such a collection as the one under notice, and to describe the delicate shades of some of the leaves would tax the powers of an expert in colours.

That Messrs. J. Peed & Sons are connoisseurs in the art of cultivation is evident from the healthy condition of the plants, and the collection is but another instance of the results that are obtained by the superior power of the horticulturist. —WANDERER.

DO PLANTS ABSORB MOISTURE?

IN reply to your correspondent who facetiously signs himself "A Greenhorn" (page 43), and asks for my opinion as to the fact of leaves "imbibing, absorbing, or taking in water," I may say I do not think under ordinary circumstances plants are able to absorb water by means of their leaves, and I will try and explain my reason for thinking so.

The upper surface of most leaves consists of one or more layers of closely packed cells, without intercellular spaces; the lower surface is similar, but differs by possessing a large number of stomata which communicate with intercellular spaces. Stomata consist of two guard cells with a pore between them, and these guard cells contain chlorophyll corpuscles, thus differing from the other epidermal cells, which are empty.

The outer wall of the epidermal cells is much thickened, and covered with a continuous layer of a substance known as cutin, which resembles cork by being very impervious to water or watery vapour. In some cases this covering consists of wax, more commonly known as bloom, which is quite as impervious to water as cutin. The epidermis of a very young leaf can give off watery vapour, consequently can also absorb water if the leaves be wetted, and they require it.

It is impossible for the leaves when covered with an impervious substance to absorb water, but your correspondent brings forward an experiment which clearly shows they do, for he put a flaccid leaf under water in a saucer, leaving the stalk end above the water, and the leaf freshened. He naturally asks, "Could the freshening occur if it did not take in any water?" I answer, "No;" for the turgidity of the cells depends upon the presence of water. But how has the water been absorbed since it cannot pass through the epidermis?

I have previously said, "the stomata consists of two guard cells filled with chlorophyll corpuscles, having a pore between them," and I may add that it is through this pore that the transpiration of water takes place; but when the leaf is flaccid the pore is closed, and as a general rule open when the guard cells are turgid. When a leaf is syringed, wetted with rain, or placed under water, the two guard cells of the stomata containing protoplasm and chlorophyll corpuscles have the power of absorbing the water. By so doing they become turgid, and so open the pore and allow water to pass into the intercellular spaces, to be afterwards absorbed by other cells of the leaf. This accounts for leaves regaining their freshness when placed under water.

I do not think that the freshening of flaccid leaves after plants are syringed, and provided with a close, moist atmosphere, is due to preventing the evaporation of water from the surface of the leaves, but rather to the small amount of water they absorb, and by the evaporation of the water which is on the leaves to their being made much cooler, consequently transpiration is checked by the closing of the stomata by the guard cells. Another cause, which no doubt helps the leaves to regain their freshness, is the moisture which condenses on the glass, and to a certain extent obstructs the light, thereby reducing transpiration. W. B. McNab, in his "Morphology and Physiology of Plants," says, "In darkness the stomata are quite closed, hence very little watery vapour is exhaled then, and if the temperature is low the process becomes slow, or tends to cease altogether." Dr. Scott, in his "Physiology of Plants," says, "As a general rule they (meaning stomata) open under the influence of light and warmth, and close when it is dark or cold." —W. D., Turnford.

MODERN GRAPE GROWING.

EARLY TRAINING.

(Continued from page 546.)

AT the end of the second season, whether the Vines have been allowed to bear fruit or not, there are spurs to be pruned, and it is important that this work be performed not later than the first week in January. If there is no fruit on the Vines it will be still better to do it by the middle of December, for although it is scarcely discernible, there is no doubt that work of some kind is going on in the buds even after this time, for it is an ascertained fact that the roots of the Vine, as distinct from other plants, continue active some time after the leaves have fallen, and as these are very late compared with other plants in starting root extension in spring, this late root growth must be taken as necessary to prepare them for the early stages of head growth. If then there is some addition being made to the buds at this time, it is best to concentrate this as much as possible on those which are to be left rather than distribute it amongst scores of others which are already the fattest, and are intended to be cut off. Besides, we know that young vigorous Vines bleed profusely in the spring if the pruning is not performed early, and although this bleeding may be nothing more than an escape of water, it has the effect of keeping the wounds open and thus delaying the progress of growth.

"Prune to the first good eye" is the advice often given, and many people hesitate to cut off good plump buds and leave those which are inferior-looking; but if we do not prune closely at first we get long unsightly spurs in the course of a very few years, and no amount of pruning and training will afterwards make amends for this first mistake. According to my experience we do not get the best bunches from the fat buds some distance from the main stem of young Vines; they may come large, but as a rule they do not come compact and handsome as from the first or second eyes, and the Vines seem to have some sort of instinct that they will be treated in the same way always, and make no attempt in the following year to properly develop their lower buds. I practise, and advise pruning closely, leaving not more than two visible eyes, the terminal one to be, if possible, on the upper side of the spur, for the shoot starting from that position looks better, and is easier to tie down than an undergrowth.

Even when no more than two visible eyes are left, others which are invisible at the time will generally start into growth, and there may be a chance when thinning the shoots to select them even further back still. If a small portion of spur is left inactive beyond the shoot it can be cut off without injury at a later stage. This thinning of shoots takes place when they are about an inch in length, and it is advisable to do it early, for although there will be a little bleeding, the loss to the Vine is not so much as would happen if all the shoots, which are certain to be three times too many, were left till such a time when bleeding would not follow; and I must repeat, because it is important to remember that everything to supply this young growth, with the exception of gases derived from the atmosphere, and perhaps pure water from the soil, is supplied by the stored up material in the Vine stem itself.

There is as yet no root growth, the root hairs of the previous year have decayed, and until new ones are formed there can be no digestion, and, in fact, no feeding; hence the necessity of economising to the utmost. It is also important that there should be no hurrying of this young growth by a high temperature, early closing, or a saturated atmosphere. We should try to make a solid foundation, with close-jointed, firm growths, and there will be plenty of time when the feeders have commenced to form to do any necessary forcing that may be required. A rather high temperature by sun heat will do no harm, and in sunless weather after growth has commenced it may be necessary to give a little extra warmth some time during the day to dispel drops of moisture which may accumulate on the ends of the young shoots, as some of the unfolded leaves are liable to damp if this moisture continues on them for several days following.

The next thing to do after disbudding is to thin out some of the bunches. Most of the shoots of well-ripened Vines will show two, three, and some of them as many as five bunches. These on Muscats and some other varieties appear as mere pink specks, and a practised hand can, by gripping the shoot with the finger and thumb of his left hand and pressing the thumb nail against these tiny embryo bunches, pick them out with the forefinger of the right hand, almost as fast as a hen can pick up peas. One bunch to every spur is sufficient in any case, but if only the number of bunches is reduced to one-half at this stage, it will be a great gain. If you leave them to see which are the best looking a great deal of material will be wasted, but if thinned in time probably all will be good. The final selection and thinning can take place when the bunches have somewhat developed, leaving a bunch or two to spare till the time of thinning the berries.

Stopping of the strongest shoots takes place before any of the leaves are fully developed, for although they may be barely 6 inches in length they will afterwards stretch out to 2 and even 3 feet. This stopping is performed in the same way as the first thinning of the bunches—viz., by placing the left thumb nail against the shoot, and picking out the tiny speck with the nail of the right forefinger. There may be a leaflet damaged in the operation, but there are certain to be one or two to spare a few days later when they can be seen and counted. I allow three or four leaves to grow beyond the bunch; others who have less space to fill should stop them according, as experience has taught how many fully developed leaves will have a chance of exposure to the light. If the space between the rods is only 3 feet, then two leaves beyond the bunch will be as many as there will be room for.

By the time all the shoots have been stopped, which is done day by day according to their relative strength, a second lot of shoots will have started from the main ones. These are called sub-laterals, all of which below the bunch should be stopped to one leaf, and kept to that throughout the season; those opposite the bunches and beyond them should be removed or they will cause crowded growth, which is as bad as an insufficiency. The lower sub-laterals are kept for the purpose of preventing the eyes bursting, which we want to remain intact for another year.—WM. TAYLOR.

(To be continued.)



EVENTS OF THE WEEK.—In spite of the fact that the Rose season is on the wane, several events will take place during the coming week. On Saturday, July 20th, the National Pink Society will hold its annual exhibition at the Royal Botanical Gardens, Manchester, in conjunction with the Rose show. On Tuesday, the 23rd, the Committee of the Royal Horticultural Society will meet at the Drill Hall, Westminster. Wednesday, the 24th, is the opening day of the Newcastle-on-Tyne Summer show, and on the same date will be held the National Carnation and Picotee Society's show at the Crystal Palace. The Trentham and Handford Horticultural Society will hold its annual exhibition on Thursday, the 25th.

— WEATHER IN LONDON.—With the exception of a few showers in some districts we have again to record a dry week in metropolitan districts. The rain which has fallen, however, appears to have been the means of clearing the atmosphere, which is cooler and not so oppressive. Gardens and parks everywhere are in a parched condition.

— THE next meeting of the ROYAL HORTICULTURAL SOCIETY will be held on Tuesday, July 23rd, in the Drill Hall, James Street, Victoria Street, London. At three o'clock a paper by Mr. P. Brotherton on "The Carnation in Scotland" will be read.

— JOHN WATKINS, ESQ., J.P.—After conferring with the Lord Lieutenant of the County, Lord Chancellor Herschell, before giving up his seals of office, appointed Mr. John Watkins on the Commission of the Peace for the County of Hereford. Mr. John Watkins is proprietor of the Pomona Farm Nurseries, Withington, near Hereford.

— AFTER your advice to use powder for disease on Tomatoes, some of your readers may be glad to know that "Fostite," a French preparation of talc and salts of copper, has proved very effectual here as a remedy for all fungoid diseases. It is extremely light and fine, and used with the Maalbec bellows, penetrates every part of the house in which it is used. Messrs. Clark & Co., 20, Great St. Helens, E.C., have advertised it in your columns. We find a man can do a house of Tomatoes, 110 by 20 feet, plants about 6 to 7 feet high, in one hour and a half, using the bellows. I took the hint to use powder as a fungicide from the Journal, and thought that as some of your subscribers may not know where to get a good preparation, my experience would prove useful.—T. WILLIAMS.

— NATIONAL CARNATION AND PICOTEE SOCIETY (SOUTHERN SECTION).—I beg leave to remind your readers that the eighteenth annual exhibition of the above Society will be held at the Crystal Palace on Wednesday, the 24th inst. Upwards of £150 are offered in prizes. Amongst special awards may be mentioned the Martin Smith prizes for border Carnations, the flowers "to be cut from plants which have been wintered without protection in the open border, and staged without dressing, exactly as they are cut from the plants." The Turner Memorial Trustees give a very handsome silver cup, value £5, for the best stand of Carnations, bizarres and flakes, distinct; and twelve Picotees, distinct; amateurs only. Another special award (not in the schedule of prizes) will be given by Mr. Ernest Benary, of Erfurt, Germany. "The Ernest Benary Memorial prize (a large silver-gilt medal)" is given by the firm, in memory of the late much-regretted founder of the firm (Mr. Ernest Benary), for the most meritorious exhibit, either of plants or cut flowers by an amateur.—JAMES DOUGLAS, Hon. Sec.

— **STORM AT WOLVERHAMPTON.**—We regret to hear that about 10:30 on the 11th inst., the last day of the Wolverhampton show, a sudden and violent gale overturned four of the large marquees, and, it is feared, considerably injured some of Mr. J. Cypher's plants.

— **GARDENING APPOINTMENTS.**—Mr. T. H. Crasp, formerly gardener to Lord Wimborne, Canford Manor, succeeds the late Mr. S. A. Woods as gardener to F. Foljambe, Esq., Osberton Hall, Worksop. Mr. Geo. Taylor, for four and a half years foreman for Mr. Street, Floors Castle, Kelso, has been appointed gardener to His Grace the Duke of Roxburghe, Broxmouth Park, Dunbar, N.B.

— **THE CLIMATE OF CAIRO AND ALEXANDRIA.**—This is the subject of a paper recently published by the Egyptian Government; the facts given are deduced from observations taken during 1886-90. It has been found that at Cairo the mean annual temperature for the five years was 70.3°, the maximum temperature being 118.2° reached on June 13th, 1886, and the minimum reading 33.8° on January 1st, 1890. Rainy days averaged twenty-four per year, and the amount of rainfall 1.2 inch. The average temperature at Alexandria for the same period was 68.5°, the maximum reading being 100.6° on May 10th, 1889, and the lowest 43.9° on January 22nd, 1889. Alexandria has an average of forty rainy days per year, and a rainfall of 8.2 inches. The great difference in the climate of the two cities is that Cairo is much the hotter in the summer, while Alexandria is the warmer during the winter.

— **STRAWBERRIES IN POTS.**—I was much interested in Mr. Craven's article on page 535. I can fully endorse all he says in favour of layering the runners into the fruiting pots. It was my good fortune to see the advantages accruing thereto whilst serving under a first-class fruit grower in the Midlands, his plan being to prepare compost very similar to Mr. Craven's, always being careful to place a good layer of soot on the rough turf over the crocks to keep worms from entering. The pots were then carried on to the beds, and the strongest layers selected and pegged in them. When well rooted they were taken from the parent plants and stood out in an open situation till the approach of frost, when they were placed in pits which were provided with wooden covers. The varieties grown were Keen's Seedling, Vicomtesse Hericart de Thury, President, Sir Joseph Paxton, and James Veitch. The plants were introduced into the houses as required, the results being in every way most satisfactory, our first plants ripening their fruit by the end of February.—H. S. M.

— **ROYAL BOTANIC SOCIETY'S EVENING FÊTE.**—A fine evening drew a large crowd to the gardens of the above Society on the occasion of the evening fête, held on the 10th inst. The most interesting exhibits consisted of floral decorations for dining tables. Among these Mr. H. O. Garford was awarded first prize for a charming arrangement of white, yellow, and green. Mr. W. L. Buster obtained second honours with a combination of red and white, which was considered by some to be somewhat stiff. The third prize fell to Messrs. Harwood Bros., who exhibited red and yellow Poppies, and green. For floral decorations for a dinner table dressed for dessert Mr. J. R. Chard was first, and Messrs. F. & C. Osler second. Groups of flowers were also shown, amongst which were a fine display of Begonias from Mr. H. J. Jones, Lewisham; hardy flowers from Messrs. J. Cheal & Sons, Crawley, and Messrs. Barr & Sons, Covent Garden; and a display of Roses from Messrs. Paul & Son. The presence of the Duke and Duchess of Teck was an attraction, and the bands of the Royal Horse Guards and First Life Guards played selections of music.

— **HAWFINCHES AND CHERRIES.**—No doubt the drought accounts for a good many things in the animal and vegetable kingdoms by way of attack and taste, but to me it is quite a new experience to find hawfinches attacking the changing fruits on Morello Cherries. They are a formidable enemy to the rows of podding Peas, very quickly making a clearance if they are left unmolested. They have such a keen sight and ear that it is not an easy matter to approach them with a gun. Are there any means of trapping them known to your many readers? It is only within the last week or two that we have experienced any trouble with them among Peas, and now they have made it necessary to put on the nets to keep them from spoiling the Cherry crop. It would be interesting to know if other readers have found their Cherry trees attacked so early in the season when only in the first stage of ripening. In previous years we have only been troubled with one pair, this season we have unfortunately three times that number, without a chance of reducing them. They do not usually make their appearance till the midseason Peas are podding freely. Early ones are left for the sparrows.—W. S.

— A CORRESPONDENT from Stevenage, Herts, writes as follows:—“On looking through the list of prizewinners at the Hitchin show in your columns I notice you missed me out. I was awarded a special bronze medal for a group of Begonias and other plants, which was considered a grand collection.” We are unable to publish the name of our correspondent, as no one in this office is able to decipher the signature on his postcard.

— **THE SWAMP MAGNOLIA.**—This is sometimes called the Lanrel Magnolia, and is now flowering, according to a New York contemporary, in Central Park, and the beauty and fragrance of its globular white flowers, set in the thick, deep green foliage, attract a good deal of attention. After the flowers fall the conical fruits, which are green first, soon become rosy pink, and as the carpels split open they show coral red, berry like seeds. The leaves hold on late in the autumn, so that it is among the most attractive of our smaller trees all the year through.

— **A HORTICULTURAL PALACE FOR PARIS IN 1900.**—At the banquet connected with the Paris International Exhibition Mons. Picard, the Commissioner Général for the Exposition Universelle, to be held in Paris in 1900, announced to the guests that during that year the horticultural world might depend on him, as he hoped to be able to count on horticulturists, for the general decoration of the gardens. We will reciprocate, said Mons. Picard, by building you a fine palace for their reception, the attention you may pay us in sending us horticultural products for exhibition.

— **R.H.S. EXAMINATION.**—It would appear from the remarks of your correspondents, “Reader,” “W. D., Turnford,” and “R. P. Brotherston,” that I claim root caps or spongioles as the only means by which food is absorbed into the system of plants. I fail to see where I gave prominence to this, as I distinctly mentioned root hairs and root surfaces. I simply claimed for the growing points some share in the work of feeding the plant, and I still think it reasonable to suppose that they do work in this direction, especially in the case of deep rooting trees and plants. I did not assert that they did it by the extreme outward tips, but some of the adjoining cells may possess the power of absorption as well as the numerous root hairs developed, of which, and fine rootlets generally, there cannot be too many. I cannot be far wrong in my reply to “What organ is represented by an Onion?” when I said (page 470), “An Onion represents an underground stem in the form of a bulb.” I am supported in this by “W. D., Turnford's,” own authority, Dr. Hooker's “Primer on Botany,” page 42, paragraph 52, 1878 edition, where a bulb is referred to as “a very short usually underground bud or undeveloped stem.”—E. D. S.

— **VISIT OF THE SHAHZADA TO WINDSOR CASTLE.**—Instructions having been issued that every honour was to be shown on the occasion of the Shahzada's recent visit to Windsor Castle, the floral decorations were on a more elaborate scale than usual, and the houses at Frogmore were nearly cleared of plants for decoration of the various State rooms through which the procession was to pass. Mr. Owen Thomas was congratulated on all sides for the bold and effective manner in which the decorations were carried out, and it was a happy thought that led to the suspension of a basket of flowers in each of the eleven windows in St. George's Hall, the tables in each window, 7 feet by 4 feet, being filled with a background of Palms, Francoas, and Hydrangeas in variety, and various other flowering plants, edged with Gloxinias and draped with Panicum, Asparagus, and Smilax. The baskets were in pairs, 2 to 3 feet in diameter, each filled with one colour, a perfect ball of flowers. Sweet Peas Her Majesty and white were very beautiful, so also was Stock Princess Alice, a pure white variety with free-branching habit. Cassia corymbosa, rich yellow, occupied the central basket, others being filled with Roses in various colours. The grand staircase, usually very bare when open to the public, was completely transformed. Round the statue of George I. were grouped immense Palms—Cocos plumosa, 25 feet high; Kentias, 15 to 20 feet, and Dracæna australis. These were intermixed with standards of Hydrangea paniculata, Lilium Harrisii and auratum in quantity, a fine plant of Croton Weismanni, 5 feet by 4, beautifully coloured, standing out boldly one side of the statue, with an even better specimen of C. nobilis to correspond. Well coloured Crotons formed an important feature, and very beautifully they harmonised with the gilding and rich colours used in mural decorations of the grand reception room, where Her Majesty received the Shahzada. Morti, Disraeli, Weismanni, Queen Victoria, and Baron A. de Rothschild were very fine and splendidly coloured. Some 200 pots of Lilium Harrisii were used, together with large numbers of Hydrangeas, Francoas, Pelargoniums, Marguerites, Gloxinias, Campanulas, and Caladiums.—F. E.

— THE POISON OAK OF CALIFORNIA.—It is stated that the Poison Oak of California is just as poisonous as other species of *Rhus* on the Atlantic slope, just as is the case in the East. It is everywhere, and people often get slightly poisoned when on flower-collecting excursions.

— NEWFOUNDLAND PLANTS.—Through Dr. B. L. Robinson, Curator of the Gray Herbarium, Harvard, Kew has received a set of about 260 species of dried plants, including a number not recorded from the island in any of the existing lists, the most complete of which is embodied in Macoun's "Catalogue of Canadian Plants." One of the most striking features in the relatively poor flora of Newfoundland is formed by the numerous *Vacciniaceæ* and *Ericaceæ*, especially the prostrate, shrubby, berry-bearing kinds, which clothe the swamps and open woods. Macoun enumerates upwards of twenty species belonging to the two natural orders in question.—("Kew Bulletin.")

— OPEN SPACES.—At the monthly meeting of the Metropolitan Public Gardens Association, 83, Lancaster Gate, W., the Earl of Meath, Chairman, presiding, it was reported that St. Stephen's ground, North Bow, and some small grounds in Canning Town were being laid out; that the Friends' Burial Ground in Long Lane, S.E., would shortly be commenced; that the purchase of 10 acres in Hermit Road, E., for a recreation ground, towards which the Association had subscribed, was almost completed; and that additional seats had been accepted for Hackney Churchyard. It was agreed to give the support of the Association for the acquisition of Churchyard Bottom Wood, Highgate, and of a recreation ground for Barking Side, Ilford, E. Plans were considered for the laying out of St. James' Churchyard, Pentonville Road, and Christ Church Churchyard, Blackfriars Road, S.E., and progress was reported with regard to the efforts the Association was making to acquire sites for recreation grounds at Putney, Walworth, and Deptford, in each case involving the collection of considerable sums of money, towards which contributions were asked.

— LETTUCE WILLIAMS' RED PRINCE.—The drought, which fortunately has to some extent subsided, has been a test on the resisting powers of Lettuces of both sections, many of which are prone to run to seed before they have formed any heart at all. Among several sorts sown for successional supplies during the past few weeks the one which forms the subject of this note has resisted it better than any other; not one single plant, whether transplanted or not, has shown any tendency to seed prematurely. Great inconvenience and often annoyance is given when so many fail in the manner suggested, as generally when the weather is hot and dry salad food is in greater demand. It is this uncertainty that prompts the sowing of more than one kind in small quantities and at short intervals. As indicated by the name the colour is of a red tint, and this is more pronounced than in other kinds of a similar character. With some there is a prejudice against red Lettuces, but for this there is no justification, because the quality and crispness is equal to the dark or light green-leaved sorts. The one under notice develops a very fine and solid head when allowed to stand sufficiently long in the bed, and the colour passes off to a delicate variegation of light red and pale green or dull yellow when fully developed.—W. S.

— BRIGHTON AND SUSSEX HORTICULTURAL SOCIETY.—The members and friends of this Society had their annual outing on Thursday, the 11th inst. The party, numbering about one hundred, took train from Brighton to Portsmouth Harbour. From thence they proceeded to the Docks, which was the first item on the programme. The sights to be seen here are too numerous and too wide apart from the peace-loving horticulturist to be enlarged upon here. Perhaps the most interest and astonishment was evinced by the visitors when they stood under the keel of the "Royal George" (a large battleship now being built) and gazed up at the numerous tiers of men hammering at her sides. This vessel is 396 feet long, and our friends will, no doubt, retain a lasting impression of her huge proportions and some little interest in her future. After a good dinner the party then went by steamer to Ryde, and from thence visited the combined fleets of Italy and England then lying off Spithead. Upon returning to Ryde an excellent tea was served at the Waverley Hotel, after which the party amused themselves in various ways till seven o'clock, when the return journey was commenced. Arriving at Southsea Pier the music at the Pavilion was enjoyed till time for the train. Brighton was reached about half-past ten, all having thoroughly enjoyed a pleasant day. The arrangements were under the personal direction of Mr. W. Belcham, jun., Chairman of the Committee; Mr. J. S. Johnson, Hon. Secretary; and Mr. R. Miller, Assistant Secretary, who laboured assiduously to make the day a success.—R. I.

— NORTH MEXICAN PLANTS.—According to the "Kew Bulletin" Kew has acquired by purchase a collection of dried plants, numbering about 550 species, collected by Dr. C. Lumholtz. They are from the Sierra Madre region in the North-West, where Seemann collected forty-five years ago. There is a considerable number of novelties, including a *Pinus* and a *Bravoa*—*Amaryllidaceæ*.

— THE DISPERSION OF PLANT DISEASES.—It is remarked in the "Kew Bulletin" that the dispersion of plant diseases through the interchange of plants is a peril requiring careful precautions. The phylloxera was introduced from England into Switzerland. The Coffee-leaf disease has been conveyed from Ceylon on the one hand to Fiji (with Tea seeds), where it practically extinguished the promising Coffee industry, and to German East Africa on the other. It has always been a matter of the deepest anxiety lest by any accident it should be introduced through Kew to the New World, where it does not at present exist. It has been no less a matter of anxiety lest the Coffee-leaf miner should be introduced into the Old World. Kew extends, undoubtedly, an involuntary hospital to many strange guests which come unbidden, no one knows whence.

— ST. SWITHIN'S DAY, says the "Daily News," has come and gone without a drop of rain—an omen of delight for the holiday maker, though something like a sentence of doom upon the sorely tried gardener. The old superstition, however, is baseless. Observations on the rainfall extending over the past quarter of a century show that, in London at all events, we have never had anything like forty consecutive days with rain, either after St. Swithin's Day or at any other time in the year. During the past twenty-five years there have been only two cases in which rain has fallen every day for more than a fortnight, the longest spell of wet weather being, not in July, but in January, twenty years ago, when rain fell in London on sixteen consecutive days. In this part of the country spells of continuous wet weather are, in fact, nothing like so long and frequent as spells of dry weather, periods of drought extending over a fortnight being of almost annual occurrence.

— STORING SEED POTATOES.—It is well known that seed Potatoes which are stored for late planting often become soft, while much of their nutritive matter is exhausted in developing sprouts which must be broken off in planting. The first sprout is always the strongest and thriftiest, but it often happens that these sprouts have to be removed several times before the Potatoes are planted, and each time some of the vitality of the tubers is lost. A comparative test was made, says an American contemporary, by Professor Taft at the Michigan Experiment Station last year, when two equal lots of Potatoes were taken, one being left in the cellar, the other spread in a dry, well-lighted, moderately warm room. On April 20th, both lots were planted side by side and the plants from the unsprouted seed came up first, looked the best throughout the season, and produced a greater amount of Potatoes and a greater proportion of large ones with fewer ill-shaped tubers. Of course it hardly needed an experiment to demonstrate the superiority of unsprouted seed, but since no one can afford to grow anything but the very best crops it would seem to be worth while to take every precaution to prevent sprouting, or to secure second crop seed from the south, which is rarely affected in this way.

— RAINFALL IN LONDON.—The showers experienced during the early part of the present month were sufficient to upset the record of partial drought which had lasted in the south-east of England for over sixty days. During the past few days, however, the tendency for dry weather has reasserted itself, and from the following facts it is quite evident that, in all but a technical sense, the drought in this part of the country remains unbroken. Since the beginning of May rain has fallen in London on fifteen days, the total amount being very little over an inch, and giving an average for each rainy day of less than seven-hundredths of an inch. Taking an average of the twenty-five years 1866-90, it appears that the number of days with rain in the same period should have been thirty-three, and the total fall nearly $5\frac{1}{2}$ inches, giving an average for each rainy day of about sixteen-hundredths of an inch. During the past two months and a half, therefore, the number of days with little rain has been less than half the average, while the total quantity collected has amounted to very little more than one-fifth of the normal. It is rather singular to observe that, in spite of so much dry weather, there has been in London no period of sufficient length to conform to the scientific definition of an absolute drought as a spell of more than fourteen days without rain. We have, however, had three distinct periods of six rainless days, one of seven, one of nine, and one of ten, the last-mentioned case occurring between the 2nd and 11th of May:



LÆLIA PURPURATA WILLIAMSII.

THIS is a truly grand form of this most magnificent species, and which must be seen in large plants to get an idea of its true beauty. The flowers are very massive when compared with those of the type, the sepals being bright but delicate rose with faint lines of purple; the lip is very broad, the front lobe an intensely rich crimson, the throat being yellow with radiating crimson lines. On strong plants the spikes bear as many as five flowers, each of which are upwards of 7 inches across. It is a very strong-growing variety, not infrequently attaining a height of 30 inches, the pseudobulbs very stout, and bearing large broad leaves.

As this species blooms somewhat late in the season, the growths need to be pushed on rapidly when the flowers are past, being in this way more likely to finish up well before the dead of winter. Abundance of water must be afforded at the roots all through the growing season, and the plants should stand in a good clear light, but when there is no fear of the foliage being scorched by the sun. If they are not closer than a couple of feet from the glass and the house is ventilated early the shading may be usually kept up until about ten o'clock, raising it again early in the afternoon, but the surest test is to feel the foliage with the hand, and when just getting warm to shade at once.

STAGING ORCHIDS.

A good deal depends on how Orchids are staged, not only the appearance but also the well-being of the plant being greatly enhanced if the work is properly carried out. During the summer months, or indeed all the year round, a good deal of damping has to be done between the pots, and unless the majority of these are raised a little above the level of the stage on pots or otherwise the water is apt to be splashed over the surface of the compost, making it very difficult to determine whether or not the plants are dry at the roots. This is especially the case with small and medium sized plants, the large specimens usually standing high enough to be out of danger.

In narrow, span-roofed houses with a centre path and side stages the smaller plants are too often kept near the edge, the taller, more bulky specimens being placed at the back. This is all very well for appearance sake but quite wrong for the plants, the large plants keeping the light away from the small ones, the latter being usually much too far from the glass. This order then should be exactly reversed, the smaller plants being raised on inverted pots of varying heights so as to bring them into view for watering and examination. A few small pots of *Panicum* or *Tradescantia* should be thinly arranged among the pots towards the outer edge of the stage to take off the bare appearance, but these must not be allowed to grow up very high, or they obstruct the light and air about the Orchids.

When *Cypripediums* are grown, these, too, may be kept towards the front edge, as they require abundance of water, are better for more shade than most Orchids require, and have usually ornamental foliage. In wider structures that have, in addition to the above, a central stage; the larger plants will, of course, be arranged on this, and this class of house is much easier to arrange where there are plants of varying sizes.

I have frequently given in the *Journal of Horticulture* the different positions as to light and shade required by the varying species, and this must be kept in mind when the work of staging is in progress. Often, too, from some cause or other a certain plant may not be doing very well, and when re-arranging a house any such should be tried elsewhere. *Bollea Patini* would not thrive with me in a shady corner behind some large *Cymbidiums* and *Lælias*, so I tried it close to the glass, but heavily shaded. Here a great improvement was soon apparent, the foliage being much larger and thicker in texture. Here apparently the same conditions obtained, but the results as shown were quite different, and I could, if necessary, give many other instances in the same direction.

With regard to the class of stage and material used a good deal may be left to personal fancy. Some prefer staging direct upon some moisture-holding substance, as shell or gravel, while others pin their faith to slate stages uncovered. Lattice stages are frequently used, and are very suitable placed immediately above a secondary shelf covered with shingle. I have a great liking for coke broken finely, and if the plants are elevated as noted above it forms a capital stage. Where anything of this nature is used it

requires to be frequently moved to prevent it settling down too closely and getting covered with a slimy coat of moss.

The *Panicum* here may be dibbled into this material, and has a light and pretty appearance, but small Ferns and other plants must not be allowed to grow, as they frequently harbour insects, black thrips in particular. However the staging is arranged a space of at least a couple of inches must be left between it and the outside wall in order to allow the heat and air to circulate both back and front, and if the latter is bricked up spaces must be left at suitable distances for the same purpose.—H. R. R.

EXAMINATION IN HORTICULTURE—RESULT.

HAVING been favoured with an early view of the examination list of the Royal Horticultural Society, I have ventured to offer a few remarks concerning it. First, I think the general result disappointing, seeing that the "exam" is open to all the kingdom, and one marvels to find not a single candidate from Scotland, Ireland, or Wales; still further, that only twelve out of 122 who have passed should have obtained the needful 200 marks and upwards to place them in the first class, is also remarkable. Then, again, out of the 122 who have passed, exactly one-half come from the county of Surrey (thirty-four), and the Horticultural College, Kent (twenty-seven), and if to these be added two others from Swanley, though not from the College, the half is exceeded, and for all the rest of the kingdom only fifty-nine are left. That is a strange and unsatisfactory result, but perhaps it is not so inexplicable after all. At the Swanley Horticultural College, now greatly improved as a teaching institution, the best of instruction both in theoretical, as well as in practical gardening, is given. Although it is not at all difficult to understand that questions relating to plant life and physiology, not necessarily practical, though essentially valuable, obtained the largest number of marks to the answers, it does seem as if, looking at the peculiar position which the College enjoys and the privileges the students possess, that these should not come into this general "exam," but should have one specially adapted to their annual courses of instruction.

With respect to Surrey, no doubt the high position taken by so many candidates from that county is largely due to the fact that first the County Council promotes there more systematic instruction in gardening than is given in any other county; and secondly, the horticultural instructors, with the sanction of the Technical Education Committee, have paper examinations of their own arising from each course of six lectures, a paper of twelve questions arising from the lecture delivered being handed to each person attending, and which they are requested to take home, and to the best of their ability furnish replies on paper at the following meeting. Later, all these papers are pointed, and the writers are informed of their position. This proved to be excellent practice; and I find out of those who attended the lectures during the past winter and took papers as referred to, there are on the list of successful candidates no less than thirty out of the total of thirty-four from the county.

In the first class out of the twelve candidates the Horticultural College has six, Surrey has four. Mr. Butcher and Mr. Dumper are gardeners; Mr. Cave is, I believe, at Kew Gardens; and Mr. Warner, who has done so well, is a schoolmaster. It is very interesting to note that Mr. R. D. Ewens, who obtained 150 marks, is a groom; and a brother, who was in the third class, is an engineer. Mr. A. J. Ward is an insurance agent, but is also the enthusiastic Secretary of the Richmond Allotment Holders' Association, and at the recent judging of the allotments there secured the champion prize out of fifty-three candidates.

It is no doubt due to Mr. W. Dyke of Turnford that so good an average of six candidates (including himself) should have passed from that one centre. It is to be hoped that many who have found themselves low down, especially in the third class, will have another try, and they may be able to accomplish much greater things another year.

It should be added that the medallist is a lady, Miss A. U. Gulvin winning the position with 260 marks, Mr. Butcher following with 240. Sixteen other ladies were also successful.—A. DEAN.

MEMORIES OF ALTON TOWERS.

IN a quiet corner of Staffordshire, far from the crowded haunts of men, and situated in the centre of a locality as famous for the beauty of its scenery as for its historical romances, lies Alton Towers, the home of the Earl of Shrewsbury and Talbot, the subject of these notes, and where also may be found the original of the accompanying engraving (fig. 9).

The scenery for miles round is undulating, romantic, and pleasing; richly wooded and abounding in a luxuriance of vegetation. At one point may be seen a bold forbidding precipice of rocks, and a little further on a sheltered nook in the form of a valley.

In the midst of such surroundings one could not imagine a more desirable spot for building a mansion and forming a garden, and it was a happy inspiration that caused one of the scions of the noble house aforementioned to entertain such an idea, in the realisation of which he not only formed a beautiful home for himself and those who have followed him, but also provided pleasure for the many visitors who journey to see the gardens.

Unlike many famous places, Alton Towers is comparatively modern, a century not having yet lapsed since the first stone was laid. The mansion is a masterpiece of architectural skill, and built of sandstone quarried in the neighbourhood. It is truly named, as numerous towers, chiefly Norman in style, rise high above the main body of the building. The same idea is followed throughout, as a moat crossed by a drawbridge runs along the whole frontage, and thick loop-holed walls, Gothic windows, and portcullised gateways bring to memory the strongholds of Norman barons, of which this is a type. A spacious lawn studded with magnificent Cedars of Lebanon and other trees slopes down from the front of the mansion to the margin of a large lake, along one end of which runs an ornamental bridge.

It is, however, the gardens proper that demand our attention, and the main entrance to these is effected by passing through a pair of handsome iron gates approached by a sweeping carriage drive running through the lawn. Words fail to express the extreme beauty of the scene that presents itself at this point. Imagine a perfect valley, which must have been picturesque in its wild state, with the slopes on each side clothed with magnificent specimens of forest trees, and to this has been added the superior touches of a master hand in landscape

running parallel with the handsome scalloped wall shown in the picture is the ribbon border, which is usually planted with *Calceolarias*, white *Antirrhinums*, *Zonal Pelargoniums*, *Pentstemons*, and white *Viola Countess of Hopetoun*. Bedding is a large item at Alton Towers, and the trouble and forethought required to provide and keep up the annual supply, not to mention the labour of planting, is known only to those who are responsible. Dahlias are largely used and are propagated in hundreds, nay thousands. Though many of the Fancy and Cactus varieties are grown, preference is given to the singles, and large beds of these massed together produce a showy effect. Particularly striking amongst other kinds are *Lady of the Lake*, single white, and *Formosa*, with bright scarlet flowers and graceful habit. Along each side of the walk in question are planted alternately small clumps of Dahlias and *Zonal Pelargoniums* trained as pyramids, interspersed with shapely specimens of *Acer Negundo variegata*, the light foliage of which contrasts pleasingly with the sombre Cedars and Hemlocks.

Ivy is found everywhere, climbing up tree trunks, clothing terrace walls, and in other places covering the ground in creeping luxuriance. Owing to the undulating nature of the ground, a journey round the garden seems to be all steps, but as the visitor goes up this flight or

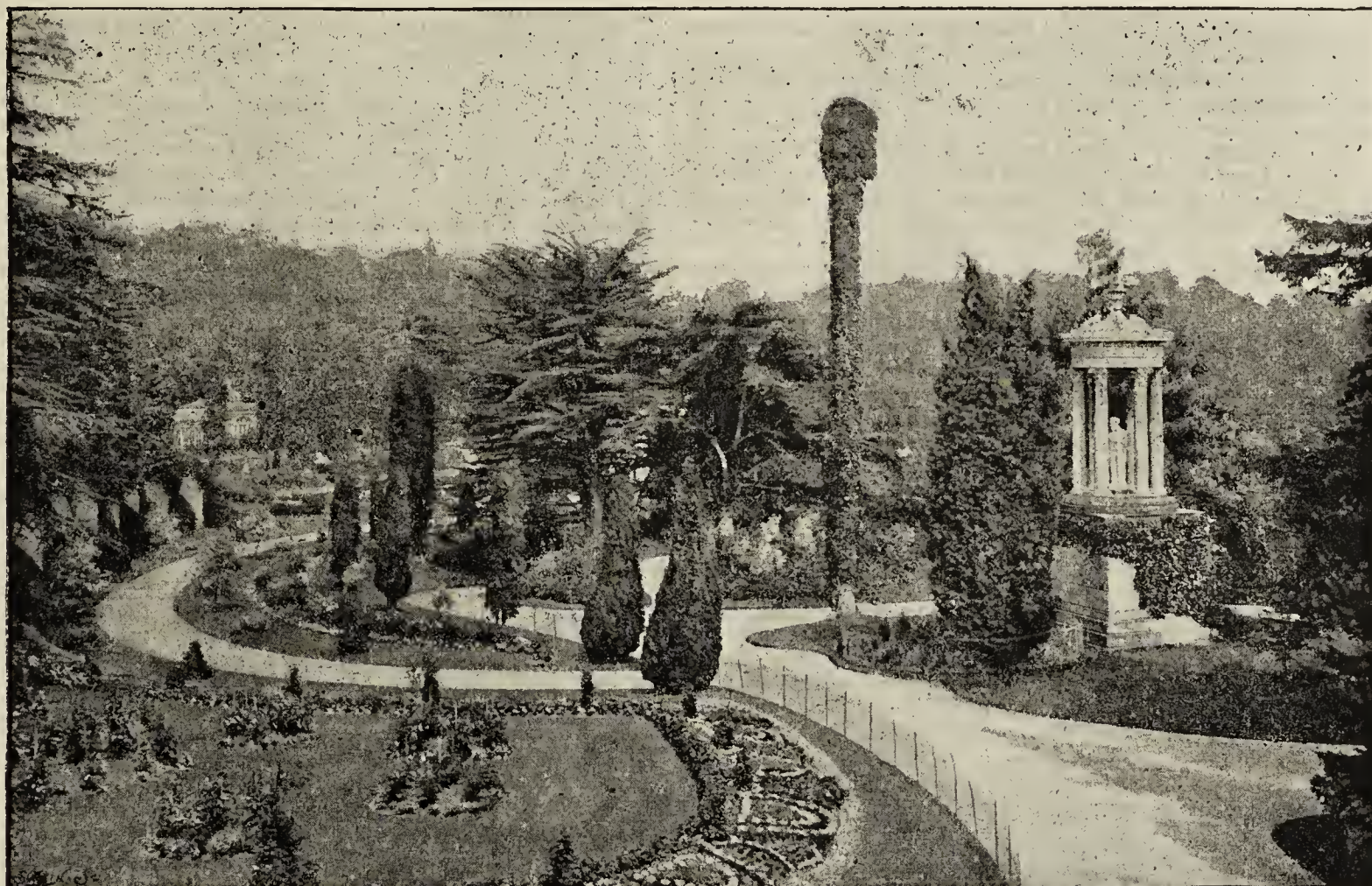


FIG. 9.—ALTON TOWERS.

gardening, with the result that Art and Nature are blended together in a union as pleasing in character as it is natural in effect.

Rising from the depths of the valley on one side are a series of terraces, running parallel to each other, in such a manner that each is shown to advantage. Along the edges of these are placed large iron vases, furnished chiefly with *Zonal Pelargoniums*, and Ivy-leaved varieties hanging gracefully round the sides. Fountains, cascades, statues, rustic bridges, and ornamental stonework present themselves in the most unlooked-for positions, yet all placed so as to be in perfect character with the surroundings.

A somewhat steep slope forms the other side of the valley, broken by long flights of stone steps, large masses of *Rhododendrons*, and fine specimens of *Copper Beech*, *Cedars*, *Hemlock Spruce*, *Scotch Firs*, and *Yews*. Nestling in the trees is an Ivy-covered thatch-roofed structure termed the *Swiss Cottage*, so called from the style in which it is built, and its quaint appearance and peaceful surroundings seem to suggest it as being an ideal spot to spend a quiet hour. I am, however, wandering from the point, so must return. Once inside the entrance gates the first object to claim attention is the statue shown in the engraving, which is a bust of the originator of the gardens, and underneath the figure are inscribed the words, "He made the desert smile." No words more true could have been chosen, for certainly in that he succeeded, and when gazing at his classical features one might be forgiven for envying him of his superior art. Surely such a man could not fail to be happy, living as he must have done in sympathy with nature, and with the means to carry his superb taste for landscape gardening into practical effect.

At the foot of the monument is a carpet bed designed with taste, and

down that any discomfiture in pedestrianism is amply rewarded by some fresh peep or charming view that presents itself as each turn is taken.

Among the many other features for which Alton is famous a long range of conservatories, built at an enormous cost, with dome-shaped roof and ornamental frontage, claims the visitor's attention. A peep inside displays in one compartment a rockery artistically formed and well furnished with Ferns and other trailing plants; in another, massive clumps of *Camellias*, with *Lapagerias alba* and rosea covering the roof, while the corridors between are planted with Myrtles, and along the roof of one is a fine specimen of *Wistaria floribunda*. The latter is a favourite, owing to the fact that climatic conditions prevent it flourishing outdoors without protection in the locality.

Passing from here another point of interest is a walk, along the whole length of which Irish Yews have been trained over in arches. These are very effective, and close by more carpet beds, clumps of Dahlias, conical-shaped Yews, and other ornamental trees are worthy of notice, but must now be passed over. Mention must be made of an elegant stone structure in skeleton form known as the "Arcade." Along the summit of this are figures of the Muses, and amongst others the form of Tragedy holding a gory head in her hands, contrasts rather curiously with the more peaceful appearance of Love and Art. Underneath are large vases furnished with flowers. Standing in a prominent position is the "Temple," another artistic building surrounded by balconies.

From this point is obtained a superb view of the whole garden, and to stand here some early June morning, when all the masses of *Rhododendrons*, *Lilacs*, *Laburnums*, and other flowering shrubs are in full bloom, a spectacle is presented the extreme beauty of which is more easily imagined than described, while all around the constant ripple of

running water adds life to the scene. Right below, in the lowest depth of the valley, situate in the midst of a placid pool, the surface of which is covered with white Water Lilies and other aquatic plants, is a fountain built in Indian Pagoda style; it is fed from a pool above, and throws up a jet of water high into the air. This is the principal of many others, as miniature fountains, cascades, and rivulets abound everywhere, and add much to the beauty of the landscape.

From an artist's point of view each season has its own particular charm. In the early spring there is the bright green of the bursting vegetation contrasting with the darker background of Firs and Cedars. Then comes the summer with its glow of floral beauty, followed by the autumn with the numberless tints of the fading leaves. The charms of each and every season are seen to perfection in this valley, and lastly comes the winter, when the hoar frost hangs everywhere; though of an entirely different character, the scene is one which to see means to admire. In addition to the portion under notice there is in the immediate environs of the mansion a private garden enclosed by a high wall; here also are many pretty shaded walks and flower beds gay with Carnations and annuals.

Outside the more strictly cultivated part of the grounds there are many miles of woodland walks and glades, with soft mossy grass to walk on and a canopy of leaves overhead. Every now and then appears a break in the trees through which may be obtained a charming view of the surrounding country. On these, and many other simple yet beautiful features, long might one linger. Time, however, forbids it, and before concluding let us take a cursory glance at the glass department, which is extensive, and scattered about in all manner of out-of-the-way places, in order that its presence shall in no way detract from the landscape views at different points. This, from the artist's point of view, may be advantageous, but from that of a gardener such is not the case, as the straggling nature of the glass necessitates an increased amount of labour. Vines, Peaches, Cucumbers, Tomatoes, and Melons are extensively grown to keep up the supply, and a good collection of Orchids is comprised of *Odontoglossa*, *Cattleya*, *Coelogyne*, *Dendrobium*, and *Oncidium* in variety.

Attached to the mansion is a large ornamental conservatory now gay with flowers interspersed with the feathery heads of *Humea elegans*. The presence of two fine specimens of *Dicksonia antarctica* are a feature together with many tall spikes of *Campanula pyramidalis*. In other houses Palms, Ferns, and other stove plants are largely grown for decorative purposes. Other extensive gardens supply the kitchen department with vegetables and fruit, but this must now with other points of interest be passed. For over a quarter of a century the complex and arduous duties appertaining to the management of these extensive grounds have been performed by Mr. T. H. Rabone, this fact alone being ample evidence of his ability as a horticulturist. Many improvements have taken place during this period for which he is responsible. Any notes of Alton could not be considered complete without reference to his capabilities, and also his kindness and geniality by which he has won the respect of all with whom he has come in contact, and in conclusion many pleasant recollections are associated with the memories of Alton Towers.—TRAVELLER.

HOW GARDENERS ARE MADE.

WITHOUT entering deeply into this subject, with which both "Invicta" and "Shirburn" have each dealt fully, I would remark that there is undoubtedly a great deal of truth in the statements of the latter on page 539. There are numbers of young men to be met with every day who are not possessed of the least ambition to become qualified in their work, some actually treating outdoor gardening with contempt. Naturally such men never make good gardeners; it is impossible for them to do so, because an up-to-date man must have an interest in every phase, and as much experience as circumstances will permit him to accumulate.

I fear, however, the method by which "Shirburn" would deal with the glut in the garden market is a long way from the chance of possibility of its being realised. I cannot help thinking, too, that the same correspondent is expecting a trifle too much from head gardeners, for though there are some who are botanists, and could name many species of wild flowers without reference to books, there are still a greater number who could not do so.

In these days of high pressure there is not so much time for the study of botany as many would like to devote to it, instructive and highly interesting as it is, and there is not, I fear, any immediate prospects of a brighter future. While there are so many young gardeners whose aim and object do not seem to be to learn as much as possible while they have the opportunity, there are others possessed of ambition which leads them to gain the varied knowledge required of them when they aspire to the position of head gardeners. If this is not so, why is such excellence manifested in the exhibition tent or hall?

Gardening as a livelihood is undoubtedly overdone, but in what trade is there not the same competition? Depression in agricultural matters makes a vast difference to the owners of large country seats where good gardening was once upheld. The order of the present day is to do the greatest amount of work for the least expenditure in capital, and this drives men to adopt cheap labour without choice, irrespective of the future, and so long as this goes on "Shirburn's" system, admirable though it might be, can only remain an unrealised dream.—S.

ROSE AND HORTICULTURAL SHOWS.

IPSWICH.—JULY 9TH.

THE summer exhibition of the Ipswich and East of England Horticultural Society was unfortunate, as far as Roses are concerned, in having selected the same day as the Rose show of the Royal Horticultural Society at Westminster and the Floral Fête at Wolverhampton. These fixtures, no doubt, attracted some exhibitors who would otherwise have attended, and considerably lessened the competition.

The show was held on the highest part of Christchurch Park, and comparative strangers to the town and the place must have been much struck by the good fortune of the populous borough in having such a splendid park with its truly grand trees in its midst, for since last year it has been purchased by the Corporation and thrown open to the public. The Society has been most unfortunate in past years in the matter of weather for the summer show; but on this occasion the day was perfect, though somewhat too hot for the Roses, and it is to be hoped that the attendance was good enough to repay the Society for some of its past losses. The tents were arranged in a queer, maze-like fashion, and it was somewhat of a puzzle to find one's way in and out; but Rev. H. A. Berners and Mr. Archer, the Honorary and Acting Secretaries, were thoroughly efficient in the performance of their duties, and no delays or hitches occurred.

In the class for thirty-six (open) Mr. Frank Cant was a good first, showing Marie Baumann, Auguste Rigotard, and Horace Vernet finely. The latter Rose was well shown in almost all stands, and indeed it was quite a day for dark coloured Roses, lighter varieties being probably injured by thrips during the dry weather. Messrs. W. D. Prior and Son were second with smaller blooms, the best of which were Horace Vernet and Ulrich Brunner. The same two exhibitors were also the only competitors for twelve trebles, but had a much closer contest, Messrs. Prior getting the first place with a stand which contained a magnificent triplet of Horace Vernet, a capital one of Mrs. John Laing, and a really bad one of La France. The best triplets in the second prize stand of Mr. Frank Cant were Horace Vernet, Mrs. John Laing, and Kaiserin Augusta Victoria.

In the open class for twelve Teas Mr. Frank Cant was first, having a grand back row, among which was a fine bloom of Ethel Brownlow of a queer but not unpleasing colour, together with Cleopatra and Catherine Mermet of good size, substance, and form. These were probably all from maiden standards. Messrs. Prior's blooms were weaker and less lasting, but there was a good Madame Cusin among them.

Only two competitors showed in the principal amateurs' class for twenty-four, and of these Rev. A. Foster Melliar was a somewhat easy first, showing better H.P.'s than he had hitherto done. Among these was a capital François Michelon, good in colour, and unusual in smoothness and shape, which gained the medal as the best amateur Rose in the show, and a good Horace Vernet. Rev. H. A. Berners took the second prize with an even but inferior collection. Similar places were maintained by the same two amateurs in the class for six trebles, Mr. Foster Melliar showing good triplets of Jean Soupert and Mrs. John Laing. In twelve Teas the positions were reversed, Mr. Berners gaining the first place, showing good specimens of Ernest Metz and The Bride, the best blooms in Mr. Foster Melliar's box being Maréchal Niel (no relation to the one which took the medal at the Crystal Palace), and Caroline Kuster. In twelve Roses Mr. D. G. Warnes of Eye was first, Mr. Parsons of Woodbridge second, and Mr. Harrison third.

In six Roses of a sort, signs of a nearly past season were manifest. Mr. Berners was first with Gabriel Luizet, Mr. Corder second with Ulrich Brunner, and Mr. Foster Melliar third with Countess of Rosebery. For six Teas, Mr. Parsons was first with a good stand, and Mr. Warnes second.

For dinner table decorations, the lady judges were unable to separate the old rivals—Mrs. Orpen and Miss Gilbert, both of whom showed Sweet Peas and Grasses well. A closer study would probably have revealed superiority in Mrs. Orpen's table. The remaining competitor, Miss Steward, was awarded third prize for an arrangement in yellow—a popular colour with Ipswich decorators. The yellow and orange idea was carried out even to the extent of gold fish in a central bowl and tiny ones swimming in each finger glass!

Fruit was well shown, but this deponent had to leave before the judging was finished in the other tents.—W. R. RAILLEM.

WOLVERHAMPTON.—JULY 9TH, 10TH, 11TH.

AS was briefly intimated in our last issue, the floral fête that was held in the Public Park on the above dates was the most extensive ever provided in the busy Midland town. The Public Park is an ideal place for a large horticultural exhibition, and surely as convenient as a park could be for the population for which it was provided and by which it is surrounded, for it may almost be said to be in the centre of the town. Nor do the trees, shrubs, and flowers struggle under a smoke-laden atmosphere such as might be anticipated by the traveller in his railway journey through the "Black Country," for dismal as is the scene from Birmingham to the confines of Wolverhampton, we are no sooner in the park in question than we appear to be in the pure air of the country, and the change in half an hour from blackness to brightness is almost startling. At the luncheon the Lord Mayor of York (who with other members of the municipality of the ancient city visited Wolverhampton) described the district through which they passed as a wild and howling wilderness, but his lordship was reminded by another

speaker that he might soon find himself in paradise—a paradise of flowers under the great array of canvas in the green, clean, and beautiful park.

As an indication of the extent of the exhibition it may be said that five large and lofty marquees were requisitioned, the central one, 200 feet long, and some 40 feet wide, and the others not much less in dimensions. All were filled, and filled well, with grand specimen plants, picturesque groups, splendid displays of Roses, Pinks, Violas, and other cut flowers, supplemented with collections of fruit and vegetables of the first order of merit, the whole forming in the aggregate a show of great magnitude, and of which its promoters had reason to be proud, and especially so when in age the present organisation is only half way on to its "teens;" in other words, it was only the seventh floral fête of the series. The schedule was admirably arranged in compact divisions appropriate to the means of different sections of exhibitors, and not broken up into a bewildering number of small classes, consequently the resources were concentrated, and the prizes good. In addition to the Society's prizes the popular Mayor, C. T. Mander, Esq. (who will shortly enter on the fourth consecutive year in that position), gave £12 15s. in the leading class for Roses, and Paul Lutz, Esq., a handsome gold medal for the most decorative arrangement of Violas and Pansies. Alderman Dickinson patronised hardy flowers, while general and local seedsmen provided substantial prizes in the vegetable classes. The general character of the show being indicated, only brief reference can be made to the competition in some of the principal classes.

PLANTS AND FLOWERS.—Class 1, sixteen stove and greenhouse plants.—These were fairly shown, but we have seen the flowering plants better. Mr. Cypher won the £20 somewhat easily, his principal flowering plants being *Ixora Williamsi* and *Pilgrimi*, with *Ericas ferruginea* major, *Parmenteri*, and *kingstonensis*, *Anthurium Scherzerianum* and *Bougainvillea glabra*. Mr. Finch, gardener to J. Marriott, Esq., Coventry, was a creditable second (prize £15) in this class. In the next class for six Ferns H. Lovett, Esq., Wolverhampton (gardener, Mr. Sharpe), won easily with fairly good specimens. In class 3, six plants in flower, the first position was well won by Mr. Cypher, who showed fresh and good *Ixora Pilgrimi*, *Bougainvillea glabra*, *Ericas*, and a good *Allamanda*; second, Mr. Finch; third, Mr. Vause, Leamington. In the class for six foliage plants the competition was close between Messrs. Finch and Cypher, the former winning premier honours by a point or so; third, Mr. Vause, Leamington; and Messrs. Cypher, Finch, and Vause were adjudged the prizes for Palms in the order named. With eight Orchids, first, Mr. Cypher, with fresh plants, *Cattleya Trianae* and *gigas* being very fine; second, Messrs. Charlesworth and Co., Bradford. These were the only exhibitors.

Group of plants 450 square feet.—These generally form the principal feature of the show. There were five entries, the first prize (£20) being easily taken by Mr. Cypher, whose group was attractively arranged with good Orchids and foliage plants in a series of mounds; second (£15), Mr. Finch, gardener to J. Marriott, Esq., a pleasing arrangement, but lacking the brightness of the former; third, Messrs. J. Dobbs & Co., Wolverhampton (£10); fourth, Mr. Wilkins, gardener to Lady Theodore Guest, Henstridge (£5). The groups shown by the local gardeners in this class (400 square feet) were good, first going to J. A. Kenrick, Esq., Birmingham (gardener, Mr. Cryer); second, H. Lovatt, Esq., Wolverhampton (gardener, Mr. Sharpe). Stove and greenhouse flowers were grandly shown, and so were the bouquets, the prizes in the former class going to Messrs. Cypher and Marriott; while in the latter Messrs. Perkins & Son, of Coventry, carried all before them in a masterly style, their bouquets as usual being a very graceful and well-arranged combination of choice flowers.

ROSES.—There was a very considerable display, and close competition; but though several grand blooms were staged, the majority showed the effects of the exhausting weather. In the class for seventy-two blooms Mr. B. R. Cant added one more to his many high honours by winning the premier position with effective stands, his Teas weighing heavily. Second, Messrs. Harkness & Son; and third, Mr. H. Merryweather, who followed closely in order of merit. Messrs. Harkness, Merryweather, and Perkins were the respective winners with forty-eight blooms; with thirty-six, Messrs. Harkness, Perkins, and Mattock; with twenty-four, Messrs. B. R. Cant and Harkness. With twelve blooms of any dark Rose, Messrs. Townsend and Perkins were placed in the order named, both staging A. K. Williams. In the corresponding class for light Roses Messrs. W. D. Prior & Sons were first with Her Majesty, and Messrs. Townsend second with Mrs. J. Laing. The prizes for twelve Teas fell to Messrs. Mattock, Prior, and Croll respectively in excellent competition. The premier blooms in the show were in light Roses Marchioness of Londonderry, reds A. K. Williams, rose coloured Her Majesty.

A class for the most decorative arrangement of Roses in a space of tabling not exceeding 12 by 5 feet, small Palms and Ferns permissible, brought out pleasing associations. Messrs. Perkins & Son were first for a mossy bank, occupied with baskets, glasses, and boxes of Roses, interspersed and fringed with *Smilax* and Ferns, against a background of Palms. Second and third, Messrs. Mattock and Townsend respectively, with generally heavier arrangements.

PANSIES AND VIOLAS.—Mr. Lutz's class for the most tasteful arrangement of Pansies and Violas on a space not exceeding 10 feet by 3 feet was a great success. The conditions were that the Violas must be shown arranged in glasses of water, and not as sprays on sloping boards in the usual manner. The intention, and a very laudable one, was to maintain the freshness of the flowers over the three days, as well as to show their decorative adaptability. There were several com-

petitors. The gold medal was well won by Messrs. Dobbie & Sons, Rothesay. The stage was covered with black velvet, on which about a hundred glasses of Violas and Pansies in leafy sprays were arranged most pleasingly. Fine fronds of the Royal Fern rose above the back of the stage, and drooping from the front were sprays of *Asparagus plumosus* and Ferns. This was altogether a free, fresh, diversified, and attractive combination, admirably fulfilling the objects which the originator of the class had in view, and both he and the exhibitors are to be congratulated on the success achieved. Other successful competitors were Messrs. Smellie, Campbell, and Lister.

HARDY BORDER FLOWERS.—Good prizes were offered for the best arrangement of hardy flowers in a space not exceeding 12 by 3 feet; but no particular taste was displayed by any of the exhibitors. The first prize was won by Mr. John Meiklem, Bridge of Weir, with good flowers undoubtedly, but disposed in close arrow-head shaped bunches, all sloped backwards to form a close face of colour—a severely formal arrangement, and not in the least picturesque. Still, the judges could not do otherwise than place the collection before those of Mr. John Salmon, Trysall, who was second with low neat bunches, and Mr. J. W. Coates, gardener to Hon. P. Stanhope, Wombourne, who had a multitude of varieties in his group. Why cannot our hardy border flowers be shown in glasses, and generally tastefully displayed to show their adaptability to vase decoration in rooms, instead of being packed and huddled in close bunches in which they are deprived of their natural grace and beauty? It may be added that excellent collections of hardy flowers were arranged by Messrs. Dicksons of Chester and Messrs. Hewitt and Co., while Mr. Eckford and Messrs. Dobbie staged charming assortments of Sweet Peas.

FRUIT.—In the collections especially, the fruit exceeded all previous displays at Wolverhampton. In the class for nine dishes, Mr. M. Gleeson, gardener to C. E. Keyser, Esq., Stanmore, won premier honours with Muscat Hamburg Grapes, very fine; also Muscat of Alexandria, Queen Pine Apple, a splendid Hero of Lockinge Melon; two dishes of Peaches, Figs, and Nectarines all meritorious; second, Mr. Bannerman, gardener to Lord Bagot, Rugeley; third, Mr. McIndoe; fourth, Mr. Gilman, all extremely close in order of merit.

Grapes, four bunches of Grapes, distinct varieties.—First, Mr. Bannerman, with bunches fine in berry, colour, and finish; varieties, Foster's Seedling, Alicante, Black Hamburg, and Duke of Buccleuch; second, Mr. Goodacre; third, Mr. Read, gardener to the Earl of Carnarvon. Two bunches of White Grapes.—First, Canon Coventry; second, Mr. Carter, gardener to Hon. P. Stanhope, Wombourne; third, Mr. Bannerman. Two bunches Black Grapes.—First, Mr. Bannerman; second, Mr. Gilman; third, Canon Coventry.

Melons, green flesh, single fruit.—First, Mr. McIndoe with Colston Bassett; second, Mr. Croke, gardener to Dowager Lady Hindlip, Droitwich; third, Mr. Bannerman. Scarlet flesh.—First, Mr. Pope with Sutton's Scarlet, a fruit of the highest quality; second, Mr. Read; third, Mr. Bannerman.

Dish of six Peaches.—First, Mr. J. Gray, gardener to Sir G. Meyrick, Bart., Anglesea, fine Crimson Galande; second, Mr. J. Wallis, gardener to — Sneyd, Esq., Keele Hall; third, Sir C. H. Rouse Broughton, Ludlow. Six Nectarines.—First, Mr. Carter, gardener to Hon. P. Stanhope; second, Mr. Wallis; third, Mr. Gleeson, gardener to C. E. Keyser, Esq. Three dishes Strawberries.—First, Mr. Ambrose, gardener to Colonel the Hon. R. S. Cotton; second, Mr. Watkins, Shrewsbury; third, Mr. Croke. Single dish Strawberries.—First, Mr. Watkins with very fine Dr. Hogg; second, Mr. Goodacre with Loxford Hall; third, Mr. Wallis with Lord Suffield.

VEGETABLES.—Good size with high quality rather than gigantic samples verging on coarseness, was the prevailing feature in this department of the show. In class 51, open, a collection of not less than eight nor more than twelve kinds, excellent produce was staged, the prizes being awarded in the order named to Mr. J. Read, gardener to the Earl of Carnarvon, Burton-on-Trent; Rev. W. D. Thatcher; and Mr. S. Postings, gardener to Mrs. Wight-Boycott.

Messrs. Sutton & Sons' prize of £5 for the best collection, arranged in a space of 6 by 4 feet, was won by Mr. C. J. Waite, gardener to Col. Hon. W. P. Talbot, Tomatoes, Potatoes, Carrots, Vegetable Marrows, Peas being especially good; closely followed by Mr. T. Wilkins. The prizes of the same firm for six dishes, distinct, went—first to Mr. W. F. Smith, gardener to Rev. W. D. Thatcher, Stourbridge; second, Mr. S. Bremmell, gardener to H. H. France, Esq., Hayhurst, Wellington; third, Mrs. Wight-Boycott.

Messrs. Carter's prizes brought a keen contest between Messrs. Waite and Wilkins, the former being victorious with remarkably fine dishes for the season, a fine dish of Carter's Ashtop Fluke Potatoes being worthy of especial note.

Messrs. Webb's prizes for six dishes of vegetables.—First, Mr. C. J. Waite, Webb's Market Favourite Carrot, Stourbridge Glory Potatoes, Cauliflowers, Vegetable Marrows, Sensation Tomato, Stourbridge Marrow Peas, all fresh and fine; second, Mr. W. Pope; third, Mr. Wilkins. This was the best contested of the vegetable classes, the produce being very good and fresh, the exhibitors following each other very closely indeed.

In the class for three dishes of Tomatoes, open—first, Mr. E. Gilman, gardener to the Earl of Shrewsbury, with dishes of fruits uniform in size, clear and bright in colour throughout; second, Mr. Goodacre, gardener to the Earl of Harrington; third, Mr. J. Cypher, Cheltenham. Messrs. Webb's prizes for one dish of Tomatoes were won by Messrs. Wilkins, Waite, and T. Clayton, Esq., in the order of their names.

The show was well managed by Mr. W. A. Green and his active

coadjutors, and a large and influential company attended soon after the opening on the first day, crowds of persons following subsequently, and the event was in every way a gratifying success.

THE NATIONAL PINK SOCIETY.

THE fifth exhibition of the National Pink Society (Midland Section) was held at Wolverhampton Park on the 8th inst., in conjunction with the great Floral Fête.

The hard winter to which the Pinks were exposed so much injured their general constitution that it was feared that but few blooms would be in sufficiently good condition to appear in competition for the numerous prizes the schedule again offered. Messrs. Thompson & Co., through their able and much respected manager, Mr. Herbert, were unable to exhibit in any of the pair or single bloom classes. They, however, carried off the first prize for the best bouquet of any kind of Pinks with their own foliage, and this gave them great credit, for it was a magnificently arranged specimen.

The President, Mr. James Thurstan, has suffered to such an extent with his seedlings that he was unable to exhibit a bloom of any kind. Mr. Charles F. Thurstan, Hon. Secretary to the Pink Society, has also lost the greater part of his collection.

Notwithstanding this general disaster which all Pink growers have had to contend with, a very respectable exhibition appeared, and which was assisted greatly by the numerous and well-grown blooms exhibited by Mr. M. Campbell, Blantyre, who was awarded first prize in class 2 for twelve blooms, and first in class 5 for single blooms, and many other prizes. Mr. Arthur R. Brown held his usual position in class 1 for twelve blooms, distinct varieties, whilst Mr. M. Campbell was second in same class. The blooms of the latter were larger and fresher than those of Mr. Brown, whose stand was awarded the blue ribbon for greater excellence in refinement of marking and general character.

The Hon. Secretary, Mr. Charles F. Thurstan, was unable to compete in class 1, but, as usual, he carried off the first prizes in classes 3 and 4 for six blooms, and in class 6 for the best purple laced Pink; he was also awarded the premier prize for the best Pink in the exhibition for an immensely large bloom of Thurstan's Duke of York, which was beautifully and regularly laced. This variety is a son of Boiard, but is larger and more refined in its petals and lacing. The show on the whole was considered satisfactory, and it is evident that the Pink enthusiasm is rapidly growing instead of dying away.

The following are the lists of the principal winning stands:—Class 1, for twelve blooms of laced Pinks in twelve varieties, first, Mr. Arthur R. Brown, Compton Road, Handsworth, Birmingham, with Bertram, Boiard, The Rector, Bertha, Captain Kennedy, Modesty, Minerva, Empress of India, Arthur Brown, Adelaide Godfrey, and Purity. Second, Mr. M. Campbell, Blantyre. For twelve blooms of laced Pinks, in not less than six varieties, first, Mr. M. Campbell with Boiard, Mary Auburton, Modesty, James Black, Bertha, R. L. Heston, Boiard, Mrs. F. Hooper, Bertha Emeline, Reliance, and M. Auburton. Second, Mr. A. R. Brown. Third, Mr. C. F. Thurstan.

For six blooms of laced Pinks, distinct varieties, first, Mr. C. F. Thurstan with Duke of York, President, Amy, Modesty, Minerva, and Empress of India. Second, Mr. A. R. Brown; third, Mr. M. Campbell. For six blooms of laced Pinks, not less than three varieties, first, Mr. C. F. Thurstan; second, Mr. A. R. Brown; and third, Mr. M. Campbell. For single blooms of red laced Pinks, first, Mr. M. Campbell with Boiard; second, Mr. A. R. Brown with Boiard; third, Mr. J. W. Bentley with Emily; fourth, Mr. C. F. Thurstan with President; fifth, Mr. A. R. Brown with Rector. For single blooms of purple laced Pinks, first, Mr. C. F. Thurstan with Minerva; second, Mr. A. R. Brown with Amy; third, Mr. A. R. Brown with Arthur Brown; fourth, Mr. M. Campbell with a bloom not named; fifth, Mr. J. W. Bentley with Mrs. Dark. The premier prize for the best laced Pink in the show fell to Mr. C. F. Thurstan for a splendid Duke of York. For six bunches of miscellaneous Pinks, dissimilar, not to exceed twelve blooms in each bunch, first, Mr. M. Campbell; second, Messrs. Thompson; third, Mr. Alexander Lister, Rotheray. For a bouquet of any kind of Pinks with their own foliage only, first, Messrs. Thompson & Co.; second, Mr. J. W. Bentley, Stakehill; third, Mr. Alexander Lister.

TUNBRIDGE WELLS.—JULY 10TH.

THIS was the thirty-seventh annual exhibition of the above Society, and was once more a good and representative gathering. Groups are always a feature here, and no less than five prizes are given. Mr. J. Howes, gardener to W. Cobb, Esq., Tunbridge Wells, was placed first for a very tasteful and neat arrangement, but he was closely run by both second and third, which went to Mr. L. Dupond, gardener to C. B. Powell, Esq., and to Mr. S. Pope, gardener to J. J. Barrow, Esq. Mr. T. Portnell, gardener to Sir A. Lamb, Battle, was first for four stove and greenhouse plants with small but particularly well-flowered *Statice profusa*, *Clerodendron Balfourianum*, and *Dipladenias amabilis* and *boliviensis*. Mr. S. Pope was first for four ornamental foliage plants, and also for four exotic Ferns. In a class for nine Orchids Mr. J. Howes was a capital first, having *Epidendrum vitellinum majus* and *Oncidium macranthum* very good.

There was a grand collection of herbaceous plants in bloom from Mr. J. Charlton, Tunbridge Wells, who beat Mr. Dupond. The table decorations were neat but not so numerous as usual, Mrs. Hatton, Sevenoaks, being first for three stands, and Mr. R. Edwards, Sevenoaks, first for a single stand decorated entirely with Roses. In both instances Mr. A. Halton, gardener to Mrs. Swanzy, Sevenoaks, was second. Mr. J.

Charlton was first for a wreath, and also for hand and wedding bouquets, which were very good.

For forty-eight Roses, distinct, Mr. J. Mount, Canterbury, was a good first, Duke of Teck, Duke of Wellington, Charles Lefebvre, Marie Baumann, Xavier Olibo, and Dupuy Jamain being the best. The last named flower won the N.R.S. bronze medal as the best Rose in the open classes. Mr. T. Durrant Young, Eastbourne, had good examples of E. Y. Teas and Duke of Connaught in his second prize stand. Mr. Harris, gardener to E. M. Bethune, Esq., Denne Park, Horsham, was a good first for twenty-four Roses, having Niphotos, A. K. Williams, Fisher Holmes, A. Colomb, and others in good form, Mr. Salter, gardener to T. B. Haywood, Esq., Reigate, coming second. Mr. Salter was first for six, three of each, and Mr. Harris for twelve Teas, one of the best stands in the show. The N.R.S. bronze medal among amateur growers went to Mr. Elwes for a bloom of Mrs. John Laing.

Fruit was good, but not in such quantity as usual, Mr. J. Friend, gardener to the Hon. P. C. Glyn, Godstone, beat Mr. Palmer for Black Hamburgs, Mr. Earl being in front of Mr. J. Snow for any other black Grapes. Collections of fruit, nine varieties, were very good and close. Mr. G. Fennell, gardener to W. M. Cazalet, Esq., Tonbridge, and Mr. Earl were awarded equal firsts here; Mr. J. Snow following.

Mr. J. Friend was first for a collection of nine kinds of vegetables, and also for six kinds, open to single-handed gardeners only. The first in Messrs. Sutton & Sons' class went to Mr. G. Denton, gardener to A. G. Earle, Esq., Tonbridge, and the prize from Mr. J. Charlton to C. F. Dunk, gardener to H. Taylor, Esq., Rusthall.

The two chief exhibits not for competition were a neat group of good Begonias and Ferns by Mr. S. S. Cull, St. John's, and some cut Roses from Mr. G. W. Piper, the Uckfield Nurseries.

FARNHAM.—JULY 10TH.

FOR a quarter of a century the Farnham Amateur Rose and Horticultural Association has been in existence, and on July 10th it held its twenty-fifth annual show in the beautiful park of Waverley Abbey, kindly lent for the occasion by Mrs. Anderson. The day was gloriously fine, and the show in every way, except Roses, was quite up to the average. Unfortunately, after the recent hot weather most of the Rose blooms were over, and this caused many ugly gaps on the staging in the tent devoted to these flowers.

However, there were some fine blooms exhibited in the class for twenty-four Hybrid Perpetuals, in which the first prize was won by Mr. Benjamin R. Cant of Colchester; Mr. Taylor of Hampton, being second; and Mrs. Anderson, Waverley Abbey, third. Mrs. Anderson also for the second year won the challenge cup of the Association, open only to local growers; Mrs. Knight, Leigh House, was second in this class; and Colonel Windham third. The Tea Roses were very poor, but Major Crofter had some fairly good blooms.

In the class for groups of various stove and greenhouse plants Mr. Butler, gardener to Mrs. Marshall, was easily first with a beautifully arranged group, containing many Orchids, Amaryllises and others. Gen. Marsack was second with a group containing plants of almost equal merit, but not so well set up. Mr. Coldham Knight was third. In the open class for two Fuchsias in pots, splendid plants were shown by Mr. Cresswell, gardener to Miss Kennedy, Aldershot Park; they were quite 6 feet high, and beautifully grown, and would have won anywhere. The class for cut herbaceous flowers was much better than last year, and shows a considerable increase in the interest taken in hardy flowers in the neighbourhood, the winners in this class were Mr. Combe, Mr. Coldham Knight, and Mrs. Marshall. The class for six cut Pelargoniums was a strong one, as was also that for twelve varieties of cut flowers (not Roses), in which many beautiful and rare stove flowers were shown. One of the features of the show was the exhibit of hardy flowers not for competition by Messrs. Jackman & Son of Woking; the flowers made a most effective mass of colour. The classes for arrangement of flowers in vases were hardly as full as last year, but, as is usual at this show, were of great merit. Miss Loe repeated her triumph of last year, and took the first prizes in both classes. Four splendid specimen Caladiums were shown by Mrs. Marshall, but they wanted rather more colour in the foliage.

Tomatoes, Cucumbers, Potatoes, and Peas were all good classes, but Strawberries were poor. The most successful gardeners were: Mr. Garner (Mrs. Anderson); Mr. Butler (Mrs. Marshall); Mr. Pool (Gen. Marsack); Mr. Turner (Mr. R. H. Combe); Mr. Edwards (Mrs. Knight); Mr. Cresswell (Miss Kennedy); Mr. Fry (Sir W. Rose); Mr. Cole (Mr. Coldham Knight); and Mr. Hothe (Mr. Chapman). The band of the 3rd battalion the Queen's Regiment played during the afternoon, and there was a good attendance of members and of the general public, and all seemed delighted with the show and the beautiful gardens of Waverley Abbey, which Mrs. Anderson kindly threw open for the occasion. The prizes were distributed at five o'clock by Lady Mary Arkwright:—M. P. T.

ULVERSTON.—JULY 10TH.

UNDER the most encouraging conditions as regards a very distinguished attendance of the gentry of the district, which included, amongst others, Baron and Baroness Halkett and Miss Halkett, Lady Edward Cavendish, Lady Moyra Beuclerk, Mr. Richard Cavendish, and Mrs. Kennedy, also the capital attendance of the general public, this firmly established Society held its annual exhibition in the Drill Hall, Ulverston. The hot, dry weather had seen some of the finest blooms

over a week or so earlier, but there was sufficient staged to make a grand show.

As in former years Messrs. Alexander Dickson & Sons, Newtonards, were to the fore; indeed, in the opinion of many who visited the show, they have never exhibited in such splendid form, taking every prize in the open classes for twenty-four distinct, twelve Teas or Noisettes, distinct, twelve single trusses of any H.P., and the bronze medal for the best Rose in the show with a fine bloom of Muriel Graham.

In section A, open to amateur growers of 350 trees and upwards, Messrs. H. V. Machin, Worksop, and J. H. Midgley, Grange, were first and second for eighteen distinct, the order being reversed for twelve and six distinct. Mr. J. T. Marsden secured the premier prize in the classes for six dark H.P. blooms, distinct, and six Teas or Noisettes, Mr. Machin taking second place. In the class open to growers of less than 350 trees, Misses Case, Ulverston, was first for twelve distinct blooms, and Mr. Ward, Barrow, second. Mr. Ward won for three Teas or Noisettes, also in maiden class for six Roses, Mrs. Edge winning a similar prize for three. Messrs. C. Watson and F. A. Mackarett won the remaining prizes in this section.

Section C, open to all amateurs, brought out a good competition, Mr. J. T. Marsden winning for four distinct kinds, three trusses of each; and for six single trusses of any dark H.P., and also for the same number of any light H.P. The bronze medals of the N.R.S. for best dark, light, and best Tea or Noisette bloom were won by Messrs. H. V. Machin, J. H. Midgley, and J. T. Marsden. There was also a grand exhibit of Pansies, which are equal in their way to the Roses.

The medals were gracefully presented by Baroness Halkett. Mr. Woodburne proposed a hearty vote of thanks to the Baroness for her kindness in being amongst them, expressing the hope that all would unite to make the Royal show, which was to be held in Ulverston next year, a thorough success. Afterwards a splendid group of new seedling Roses, exhibited by Messrs. Dickson & Sons, came in for a great share of attraction, Lady Moyra Beauclerk selecting one of the most beautiful, which she handed to Mrs. Kennedy, who in turn handed it to Lady Edward Cavendish, who said, "I will call the Rose selected by a name which I hope will soon be familiar to everyone here, and that is Lady Moyra Beauclerk." Votes of thanks were passed by Messrs. Fell and Hodgson, the ceremony concluding with the presentation, by the little daughters of Mrs. Kennedy and Mrs. Clegg, of charming bouquets to the four ladies who had taken the principal part.—R. P. R.

HEREFORD AND WEST OF ENGLAND.—JULY 11TH.

THE twenty-ninth exhibition of the above Society was held on Thursday, the 11th inst., in the Assembly Rooms, Malvern, where, as an entirely new departure, but quite within constitutional limits, it was favoured with glorious weather, but unaccountably in few other respects. The fixture was too late—far too late, owing to the long-continued drought and heat; then there were five other Rose shows easier of access, not to mention local attractions and seemingly distractions from regattas, cricket matches, and doubtless to some extent from the pending elections; but no reasons, in your reporter's humble opinion, could explain away, much less palliate, the entire absence of the leading nurserymen, two of whom, very much in form too, had sent their entries, but since no reasons, as a waste of courtesy in their opinion perhaps, for not putting in an appearance. Well, it is no use crying over spilt milk, especially when the jeremiad of an old man is being raised; but he cannot forget, if others do, a memorable evening pleasantly spent at Kings Acre, after one of the palmy meetings of the old western show (which then was revelling in five or six 72's and 25-guinea cups), when the N.R. Society, which had gone under for lack of public support, was ideally resuscitated; and next spring, at another memorable meeting at the Horticultural Club, was practically and permanently set on its legs, with an annually increasing public support all true rosarians loyally welcome. Verily! these, Mr. Editor, are not altogether pleasant memories. They call up to mind too ugly facts, and deductions from them; to those at least of my own times, though most probably only suggestive of "laundry" work to the public of the present generation! Well, in spite of all drawbacks, an excellent if too select show was held. The blooms were either very good or very bad; size was certainly lacking.

Division I., Nurserymen.—Class 1, seventy-two varieties, first English Fruit and Rose Company (the only entry). Back row: H.P.'s Paul Neyron, Marchioness of Londonderry, Margaret Hayward, Pride of Waltham, Beauty of Waltham, Comtesse de Serenyi, Duke of Edinburgh (fine), Marquise de Castellane, Prince Arthur, Jeannie Dickson, Comte de Raimbaud, La France, Earl of Dufferin (good), Her Majesty, La France de 1889, Comtesse d'Oxford, Star of Waltham, Reynolds Hole (good colour), Alfred Colomb, Madame Isaac Pereire, Marie Finger, Etienne Levet, Alice Dureau, and Ulrich Brunner. Middle row: H.P.'s Pierre Notting, Countess of Rosebery, Spenser, Rosieriste Jacobs (good), Heinrich Schultheis, Duke of Fife, Mrs. R. G. Sharman Crawford, Maurice Bernardin, Dr. Andre, Marchioness of Dufferin, Jules Margottin, Duchesse de Morny, C. Darwin (fine), Marguerite de St. Amand, Marie Baumann, Mrs. John Laing, Marie Rady, Madame Rothschild, Madame C. Crapelet, Tea Maréchal Niel, H.P.'s Charles Lefebvre, Madame Eugène Verdier, Monsieur E. Y. Teas (grand), and Lady Suffield. Front row: H.P. Duchess of Bedford, Tea Souvenir d'un Ami, H.P. A. K. Williams (good), Tea Princess of Wales, H.P. Horace Vernet (fine), Tea The Bride, H.P.'s Annie Wood (perfect), Duke of Teck, J. S. Mill, Tea Innocente Pirola, H.P. Eclair, Tea Marie Van Houtte, H.P. Général Jacqueminot, Tea Madame Lambard, H.P.'s Louis Van Houtte,

Clio (good), Captain Christy, Auguste Rigotard, Madame Gabriel Luizet, Pride of Reigate, Tea Ernest Metz (good), H.P. Sultan of Zanzibar, Tea Etoile de Lyon, and H.P. Boieldieu. This firm also carried off second prize for twenty-fours, three of each.

Class 2, thirty-six varieties.—Messrs. Townsend & Sons', Worcester, first prize included noticeable blooms of H.P. Gustave Piganeau, Charles Lefebvre, and A. K. Williams. This firm, who exhibited for the first time at our Midland show, were in very good form indeed, also being first in twenty-four varieties single trusses, showing exceptionally fine specimens of H.P. A. K. Williams, Mrs. J. Laing, Gustave Piganeau, and Merveille de Lyon; also twelve single trusses, Teas or Noisettes, with especially good blooms of Madame Thérèse Levet and Catherine Mermet. Second prize, Mr. Stephen Treseder, Pwlllock Nursery, Cardiff. Third prize, Mr. Charles Whiting, Whitecroft Nurseries, Hereford, who also carried off similar prize in the class for twenty-four singles.

In the amateurs' class, Division II., thirty-six varieties, Mr. Walter Drew, Uplands, Ledbury, had no competitor. All the more regrettable, as it would have taken a first-rate collection to lower his colours. This energetic Rose expert carried off five first prizes, all, in fact, open to him, and considering how long a time his Roses have been sent for exhibition the quality of them was marvellous, though it must be confessed, in common with other exhibitors in large collections, a bloom here and there actually losing points had to be pressed into the service. His collection of thirty-six varieties, singles, were composed of—Back row: H.P. Duke of Edinburgh, Madame Eugène Verdier, Duke of Wellington, Marie Verdier, Sultan of Zanzibar (very choice), Her Majesty, Horace Vernet (grand), Susanne Rodocanachi, Dr. Andre, Danmark (very poor), Marie Baumann, and Mrs. John Laing. Middle row: Marchioness of Londonderry, Duchess of Bedford, Lady Mary Fitzwilliam, Tea Madame Hoste (very good), H.P. A. K. Williams (exceptionally good), Tea The Bride, H.P. Ulrich Brunner (grand), Madame Charles Crapelet (surprisingly fine), Fisher Holmes, Star of Waltham, and François Michelin. Front row: Comte Raimbaud, Tea Innocente Pirola, H.P. François Courtin, Tea Marie Van Houtte, H.P. Victor Hugo (grand colour), Jeannie Dickson, Star of Waltham, Tea Ernest Metz, H.P. Madame Victor Verdier, Tea La France (poor), Dr. Darwin (good size and colour), and Tea Souvenir d'Elise Vardon.

In class 5, twenty-four varieties, the prizes were awarded in the order named. First prize, Mr. Conway Jones, Hucclecote, Gloucester. Second prize, Rev. W. H. Jackson, Stagden Vicarage, Bedford (a new exhibitor, and welcome acquisition to our western show). Class 6, twelve varieties, three of each.—First prize, Mr. Walter Drew. Second prize, Rev. W. H. Jackson.

Division III.—Herefordshire Amateurs, class 7, eighteen varieties.—The first prize, which carried with it the N.R.S. gold medal, went to Mr. W. Drew, who staged the choicest collection in the exhibition, including the following varieties:—H.P. Duchess of Bedford (perfect), Ulrich Brunner (splendid), A. K. Williams (finest bloom staged), Her Majesty, Marie Baumann, Marie Verdier, Heinrich Schultheis, Docteur Andre, Madame Eugène Verdier, Earl of Dufferin (grand), Jeannie Dickson (good), Alfred Colomb, Mrs. John Laing, Charles Darwin (fine), Tea Madame Hoste (splendid), H.P. Victor Hugo, Merveille de Lyon, and Duke of Wellington. Mr. John Ough, Hampton Green, Hereford, took second prize with a highly creditable collection, H.P.'s Gustave Piganeau, Star of Waltham, and Tea Catherine Mermet, being notably fine blooms. Third prize, Mr. Thomas Pewtress, Bishopstone, Hereford, Class 8, twelve varieties.—First, Rev. G. E. Ashley, Stretton Rectory, Hereford. Class 10, six varieties, three each.—First, Mr. Walter Drew.

Tea and Noisette division (Nurserymen), class 11, eighteen Teas or Noisettes.—The first prize fell to Mr. Stephen Treseder, Pwlllock Nurseries, Cardiff, for a fine lot of blooms, including: Teas Innocente Pirola, Medea, Catherine Mermet (very good), Perle de Jardin, Ernest Metz, The Bride (splendid), Comtesse de Nadaillac, Souvenir d'un Ami, Marie Van Houtte (superb), Madame Edith Gifford, Souvenir d'Elise Vardon, Princess of Wales, Madame de Watteville, Madame Hoste (good), Madame Cusin (very good), Sunset (glowing colour), Bridesmaid, and Souvenir de S. A. Prince. Class 12, Teas or Noisettes.—First prize, Messrs. Townsend & Sons; second, Mr. Whiting. Class 13, eighteen Teas or Noisettes.—First prize, Mr. Conway Jones (only competitor).

Amateurs.—Class 14, nine Teas or Noisettes.—First, Mr. Walter Drew. Second, Rev. G. E. Ashley. Class 15, eight Teas or Noisettes (three of each).—First prize, Rev. W. H. Jackson (only competitor).

Open to amateurs in Worcestershire.—Class 17. First prize, Mr. R. Foley Hobbs, Thorneloe, Worcester. Second prize, Mrs. S. Sladden, Badsey, Evesham. Class 18, Teas.—First prize, Mrs. Julius Sladden, Evesham (only competitor). Class 19, twelve Teas.—First prize, Mr. R. Foley Hobbs (only competitor).

Open classes.—Class 21, twelve of one light Rose, H.P. First, Messrs. Townsend & Sons with Mrs. John Laing. Second, Mr. C. Whiting with Her Majesty. Class 22, Dark Rose.—First prize, Messrs. Townsend with H.P. A. K. Williams. Second prize, Rev. W. H. Jackson with H.P. Horace Vernet. Class 23, yellow Rose (one variety).—First prize, The English Fruit and Rose Co. (Cranston) with Caroline Kuster.

Four herbaceous collections were staged, and well staged—not too crowded, but not containing any novelties or varieties worthy of special notice. Twenty-four varieties.—First prize, Mr. Davenport, Foxley, Hereford. Second prize, Rev. A. C. Lee, Lugwardine Vicarage. Twelve varieties.—First prize, Mr. G. H. Lea, Longworth, Hereford. Second, Rev. J. S. Munn, Madresfield, Worcestershire. Both the N.R.S. medals for amateurs fell to Mr. Walter Drew with H.P. A. K. Williams in

Divisions II. and III.; and for the best Tea or Noisette to Rev. W. H. Jackson with Tea Catherine Mermet.

Table decoration, dinner table arrangement.—First, Mr. Blashill, Bridge Meir, Hereford. Second, Miss Ford, Colwall. Equal third, Miss Hilda Munn, Madresfield Rectory, and Mr. Berrow, Westhide, Hereford. Bridal or hand bouquet.—First, Miss H. Munn. Second, Rev. W. H. Jackson. Three buttonhole bouquets.—First, Miss H. Munn. Second, Miss Evelyn Arkwright, Hampton Court. Third, Mr. Blashill. Lady's shoulder spray.—First, Mr. Blashill. Second, Mr. T. Pewtress. Third, Miss H. Munn. The buttonhole and shoulder sprays were made more useful and interesting by Mr. T. H. Arkwright having obtained (not for competition) model exhibits of the best tone and latest fashion from the well-known firm of Goodyear, Royal Arcade, Albemarle Street, as an up-to-date line to provincial judges and exhibitors.

It only remains to say that owing to the extensive and varied display of plants from the well-known Worcestershire firm of Richard Smith and Co. and other local firms in decorating the spacious hall, nothing was wanted to make the exhibition a thorough success but more hearty sympathy and co-operation in the future on the part of our rosarian brotherhood to which our opening remarks alluded.

The judges in the nurserymen's division were the Rev. C. H. Bulmer, Credenhill Rectory, Hereford, and Mr. Walter Drew, Uplands, Ledbury. In the amateur division Mr. John Cranston and Mr. Townsend.—THE HEREFORDSHIRE INCUMBENT.

WORKSOP.—JULY 11TH.

THE sixth annual exhibition of the Worksop Rose and Horticultural Society was held on the 11th inst., and taken all round it was generally admitted to be superior to those of previous years. The steady advance in quality which has been observable in the exhibits staged by the smaller amateurs and cottagers shows clearly the value of flower shows as object lessons. A new departure was made, and by the kind permission of J. Robinson, Esq., the tents were pitched on the north lawn of Worksop Manor, an admirable site, with the fine old trees of West Wood as a background.

First the Roses. All classes were well filled, and the exhibits generally were fresh and good in colour. They occupied upwards of 150 feet on the centre stages of one of the tents, making a brilliant display, the flatness of the Rose boxes being relieved by specimen foliage plants kindly lent by His Grace the Duke of Portland (gardener, Mr. J. Horton). From Welbeck also came the fine group of plants, not for competition, placed at the end of the Rose tables, and consisting of Dracenas, large flowering Cannas, Malmaison Carnations, and others.

Class 1, for forty-eight distinct Roses, open to all, Messrs. Harkness and Sons, Bedale, were first by a few points only. Their stand consisted of—Back row: Her Majesty (splendid colour, and had it been a shade larger would have won the medal for best H.P. in the show), E. Y. Teas, Paul Neyron, Comte Raimbaud, Queen of Queens, Ulrich Brunner, Caroline Testout, Etienne Levet, Mrs. John Laing, Pride of Waltham (fine), Merveille de Lyon, Countess of Oxford, Heinrich Schultheis, Alfred Colomb, Pride of Waltham, and Gustave Piganeau. Middle row: Dupuy Jamain, Mrs. Harkness, Horace Vernet (very fine), Maréchal Niel, Charles Lefebvre, S. M. Rodocanachi, Harrison Weir (fine), Mrs. Paul, Comtesse de Ludre (very fine), Lady M. Fitzwilliam, A. K. Williams (very good), Ernest Metz (very good), and Général Jacqueminot (good), François Michelin, Duke of Teck, and Alice Perkins (a seedling). Front row: La Rosière, Camille Bernardin, Countess of Rosebery, Duke of Fife, Duchess of Bedford, Sénateur Vaisse, Merry England, Fisher Holmes (very fine), Captain Haywood (very good), Exposition de Brie, Marie Baumann, Prince Arthur, Dr. Andry, Duke of Edinburgh, Madame G. Luizet, and Duke of Wellington. Mr. H. Merryweather of Southwell, Notts, was a good second; and Messrs. Mack of Catterick Bridge, Yorks, were third with a fine collection.

In class 2, twelve distinct trebles, Messrs. G. & W. H. Burch of Peterborough were a good first with varieties including Alfred Colomb, Comte Raimbaud, A. K. Williams, Horace Vernet, Gustave Piganeau, and Xavier Olibo (very good). Mr. Merryweather was second, and Messrs. Harkness & Sons were third. In class 3, for eighteen distinct Teas or Noisettes, single trusses, Messrs. R. Mack & Sons first. Mr. Merryweather second, and the Messrs. Burch third. In class 4, for twelve single trusses of any H.P. or H.T., Messrs. Harkness, Burch, and Merryweather were first, second, and third respectively with splendid specimens of Horace Vernet in each case; whilst Mr. Machin was unplaced with a box of beautifully coloured but smaller twelve of "Prince Arthur."

In class 5, for twelve single trusses of any Tea or Noisette, Mr. Merryweather was first with a fine fresh exhibit of Madame Hoste, whilst Messrs. Mack were second with Niphetos, and Messrs. Burch third. In class 6, for eighteen bunches of garden Roses, distinct varieties, not less than three trusses to a bunch, Mr. Machin of Gateford Hill was easily first with a splendid stand, which was much admired, including the following varieties—Homère, T., Perle d'Or, Monthly China, The Pet, Rêve d'Or, Mignonette, Anna Marie de Montravail, Rosa Mundi, Maiden's Blush, L'Idéal, Clothilde Soupert, Red Damask, Camoens, Thoresbyana, Laurette Messimy, Macrantha, Gloire de Polyantha, and Ruga. Mrs. Mellish of Hodsock Priory was second with a beautiful stand which was well arranged by Mr. Mallender, her gardener.

Division B, open to amateurs.—Class 7, twenty-four, distinct, single trusses.—Mr. Machin was first with a splendid exhibit (quite the best he has shown this season) including—Back row: Her Majesty (a splendid

bloom, which gained a medal), Ulrich Brunner, Caroline Testout, Charles Lefebvre, La Fraicheur, Marie Baumann, La France, and Duke of Fife. Second row: Countess of Oxford, Lady M. Fitzwilliam, Horace Vernet, S. M. Rodocanachi, Gustave Piganeau, Baroness Rothschild, Comte Raimbaud, and Mrs. John Laing. Front row: The Bride, Duke of Edinburgh, Madame G. Luizet, Alfred Colomb, Niphetos, Prince Arthur, Merveille de Lyon, and A. K. Williams. Mr. Wm. Boyes of Derby was second with a good stand which contained fine specimens of Her Majesty, Horace Vernet, A. K. Williams, Edward André, and Comtesse de Nadaillac. Mr. A. Whitton of Bedale was third, and his stand had in it good blooms of Gustave Piganeau, Rosieriste Jacobs, Madame I. Perière, and Merveille de Lyon. In class 8, for twelve, distinct, single trusses, Mr. Chas. Stubbings of Gateford was a good first; Mrs. Mellish of Hodsock Priory, second; and Miss Jebb of Firbeck Hall, third.

In class 9, for six distinct trebles, Mr. Machin was first with a fairly good exhibit, containing Ulrich Brunner, Prince Arthur, Mrs. John Laing, Duke of Wellington, Gustave Piganeau, and Merveille de Lyon. Mr. Boyes was a good second, and Mr. A. Whitton third. In class 10, for twelve Teas or Noisettes, distinct, single trusses, Mr. Machin was easily first with Ethel Brownlow, Innocente Pirola, Princess of Wales, Hon. E. Gifford, Ernest Metz, Comtesse de Nadaillac, Niphetos (medal), Souvenir d'Elise, Catherine Mermet, The Bride, Francisca Krüger, and Cleopatra. Mr. W. Hutchinson of Kirby Moorside, Yorks, was second, and Mr. Boyes third.

In class 11, for nine single trusses of any Hybrid Perpetual or Hybrid Tea, Mr. Machin was easily first with splendid blooms of Her Majesty. Mr. A. Whitton was second, and Mr. W. Hutchinson third. In class 12, for nine single trusses of any Tea or Hybrid, Mr. Machin was again first with moderate-sized but beautifully coloured Comtesse de Nadaillac. Mr. Boyes was second with Anna Olivier, and Miss Jebb of Firbeck Hall (whom we should welcome as a member of the N.R.S.), was third with Homère. In class 13, six single trusses of any new Rose, Mr. Machin was first with La Fraicheur, H.T.

In class 14, for the best Hybrid Perpetual or Hybrid Tea in the show, Mr. Machin was first, and won the bronze medal of N.R.S. with Her Majesty (the bloom in his twenty-four, distinct, box). In class 15, for the best Tea or Noisette in the show, the bronze medal of N.R.S. was awarded to Mr. Machin for a fine and perfect bloom of Niphetos.

Groups of plants arranged for effect (open to all England) have always been a feature of the Worksop show, and this year four very meritorious exhibits occupied the centre of the second tent. These came from Mr. J. Edmonds, Bestwood Hall Gardens; Mr. A. Webb, Kelham Hall, Newark; Mr. C. J. Mee, Daybrook Vale, Sherwood; and Mr. A. Alderman, gardener to J. Ellis, Esq., Sparken, Worksop. The exhibitors were placed by the judges in the order in which they have been named. The space allotted was 12 feet by 10 feet, and as all exhibitors adopted a similar arrangement—a tall central Palm, and prominent plants at the four corners—the general effect was exceedingly good.

For a collection of fruit, eight varieties, the Veitch Memorial medal with £5 was offered as a prize, with two smaller money prizes for second and third. Only two collections were staged, the first prize going to Mr. J. Edmonds, Mr. A. Alderman being a good second. The first prize collection contained black and white Grapes, a fine Pine Apple, Peaches, Nectarines, and Figs. For two bunches of black Grapes, open to all England, Mr. J. Edmonds was first, and Mr. Wenman, gardener to Viscount Halifax, Hickleton, Doncaster, second. For two bunches of white Grapes the order was reversed.

For collections of cut hardy herbaceous flowers, twelve bunches, distinct, there were four entries. Mr. W. Hutchinson of Kirby Moorside was first with a good collection in large bunches, amongst which Gaillardia grandiflora shone conspicuously. Mr. J. Mallender, gardener to Mrs. Mellish, Hodsock Priory, was second with an interesting collection; and Mrs. Alderson, Park House, Worksop, third. Mrs. Alderson also staged, not for competition, twenty-four varieties of Sweet Pea, including many of Eckford's latest. Other exhibits, not for competition, came from Messrs. Fisher, Son, & Sibray, Sheffield; and from Mr. Cookman of the Ryton Nurseries, Worksop.

Amongst the exhibits open to the members of the Society only, Ferns were well shown by J. Ellis, Esq., as also Tuberous Begonias, and cut, stove, and greenhouse flowers, for each of which he took a first prize. The first prize was awarded to Mr. Ancock of Worksop Manor Gardens for six Zonal Geraniums.

The cottagers' plants were very creditable. Vegetables (with the exception of Potatoes, the weakness of which is fully accounted for by the devastating frosts of June) were well shown, there being in all 271 entries, in addition to seventeen entries for collections.

WOODBIDGE.—JULY 11TH.

THOUGH Woodbridge is only a town of some 5000 inhabitants it is happy in the possession of a horticultural society which produces superior and better patronised shows than are to be found in many towns of ten times the size. It is very breezy, pleasant, healthy, and prosperous in this Suffolk horticultural centre, and it is questionable if there is any place in the Queen's dominions where those who have worked hard and long in their vocations in life end their days more happily.

Woodbridge has at least three things to be proud of. First, and probably the oldest, its fine church and noble flint tower; secondly, the Seckford charity, a splendid institution of ancient date; and, thirdly, the horticultural society, which is not young as societies go, as it was

established in 1850, and was never in a more flourishing condition than at the present time. The position occupied by the huge building of the Seckford trust is such as a nobleman might have chosen for his mansion, and the great pile of buildings might excusably be regarded by the stranger as an aristocratic home. It is there where the aged live, each in his own tenement, everything that is necessary being provided without any badge or sign of pauperism that is so hateful to men who have lived honourable if laborious lives, but could not earn a competency to tide them through the eventide of existence. It is a glorious institution, is the Seckford trust, but we must leave it.

Everybody is called up early on flower show morning at Woodbridge, for the bells commence moving soon after sunrise, and peal after peal follows throughout the day. The town is gay with flags and streamers, business cares seem to be put aside, the show being the absorbing feature. Visitors come from far and near dressed in holiday garb, and soon the beautiful Abbey grounds, lent for the occasion by Captain R. J. Carthew, present a gay and animating scene. The schedule provided consists of between 200 and 300 classes, most of which are here disposed of by the mention; but Roses have the post of honour, and merit what is said of them in the notes here following from one of the most competent of judges, "W. R. R."

The hot, dry weather was considerably against the Roses, but they were shown in pretty good form. In the open class for forty-eight Mr. B. R. Cant was first with a fine stand, showing Alfred Colomb, S. M. Rodocanachi, and Mrs. John Laing well. Messrs. W. D. Prior and Son were second, having A. K. Williams and Horace Vernet in good order. Mr. Frank Cant, who took the third place, had smaller blooms, but his stand was brightened by several good Teas.

The principal interest lay in the challenge-cup class for twenty-four Roses, open to all the world. This was won by Mr. B. R. Cant with a fine stand, which improved if anything in the hot tent. Here was a very fine bloom of Dr. Andry, and capital specimens of Madame G. Luizet, Ernest Metz, Ulrich Brunner, and Fisher Holmes. Mr. Frank Cant was second with smaller flowers, among which were noticeable Mrs. John Laing, Star of Waltham, the old sort François Louvat, and a good specimen of the little-known Tea Maman Cochet, which oddly enough was to be found in good condition in several stands. Messrs. Prior were third with smaller specimens, Madame Eugène Verdier and Mrs. John Laing being among the best. Mr. Woods of Woodbridge was fourth. The cup, which is to be the property of the first who wins it three times, has now been competed for the fourth time, and has been won on each occasion by a different exhibitor, Mr. Frank Cant, Messrs. Harkness, Messrs. Prior, and Mr. B. R. Cant holding it in the order named. Its value is twenty-five guineas.

For twelve Teas (open) Mr. Frank Cant was first, having good examples of La Boule d'Or, Maman Cochet, and Ernest Metz. Messrs. Prior were second with Innocente Pirola and Ernest Metz as their best, and Mr. B. R. Cant third. In twelve trebles Mr. Frank Cant was first, Kaiserin Augusta Victoria and Maman Cochet being seen to advantage, and Messrs. Prior second.

For twenty-four (amateurs) Rev. A. Foster Melliar was first with a good stand of H.P.'s only, but they had lost colour considerably on the road. Reynolds Hole, Grand Mogul, Horace Vernet, and Sir Rowland Hill (the latter taking the medal as best amateur H.P.) showed how well the dark Roses have profited by the heat. Mr. Orpen was second with fifteen Teas among his twenty-four, as became the Tea champion of the year. The most noticeable bloom in his stand was Sappho, very fine, clean, solid, and well shaped, but, I fear, unusual specimen of this variety, which easily took the medal as the best amateur Tea. He, too, had a fine bloom of Maman Cochet, and also a very bright, clean specimen of Souvenir d'un Ami. Rev. H. A. Berners was third, having a good bloom of Her Majesty.

For twelve Teas (amateurs) Mr. Orpen was first, Maman Cochet being again noticeable in company with Comtesse de Nadaillac, Ernest Metz, and Francisca Kruger. Mr. Foster-Melliar was second, and Mr. Berners third, Teas being apparently on their last legs with both of them.

For six H.P.'s of a sort Mr. D. G. Warnes of Eye was first with A. K. Williams, and Mr. Orpen second with Ulrich Brunner. Mr. Berners was first for six Teas of a sort with Madame Bravy in poor condition, and Mr. Orpen second with Souvenir d'un Ami. A nice stand of Comtesse Panisse was unnoticed. For four trebles Mr. Berners was a good first, Her Majesty and Gabriel Luizet being well shown; Mr. Foster Melliar second, and Mr. Orpen third. This was rather hard lines for Mr. Orpen, as the winner of the second prize in putting up his box in a great hurry (much flustered by officials) quite spoilt one of his triplets. There was not much competition in the local classes, which were of medium quality.

Among other features that the pressure of space only permits a mention was a charming group of plants arranged by Mr. Rogers, gardener to Lord Rendlesham, all the others being too closely and formally packed. Mr. Rogers also had the best basket of plants, the exhibit being 3 or 4 feet across. Gloxinias and Begonias, associated with Ferns, had a most pleasing effect. Tuberous and Rex Begonias were admirably represented. Several examples of table decoration added to the interest of the show, one of the most pleasing arrangements being Mrs. Orpen's study in lavender and white Sweet Peas, with Smilax.

Fruit was admirably staged. Mr. W. Messenger, gardener to C. H. Berners, Esq., Woolverstone Park, having the best, and a very fine collection. Mr. Andrews, gardener to Hon. W. Lowther, Campsea Ashes, was first with four bunches of Grapes, and also for black Grapes. Mr. Rogers closely followed. Small fruits were splendidly shown by many exhibitors. Vegetables were very numerous and excellent. Mr. King,

gardener to J. A. Berners, Esq., won the cup with a grand collection of twelve kinds, and there were many others not far behind them.

A non-competitive exhibit deserves mention. There was no more beautiful feature in the show than a table of choice Liliams and Calochorti from Messrs. R. Wallace & Co., Colchester. Among the former were the charming yellow Parryi, the dark dalmaticum Catani, and the creamy excelsum arranged with other large kinds, while the bunches of Mariposa Lilies in their varied and translucent colours attracted, as they merited, great attention. The season has evidently suited the Calochorti. They have a beauty all their own, and as the bulbs are cheap they might be more freely planted in warm borders early in the ensuing autumn.

This is all that can be said about what a local paper describes, no doubt with accuracy, as "the finest show in Suffolk," and Mr. John Andrews and the Committee deserve congratulations.

NEW BRIGHTON.—JULY 13TH.

THIS show was held on Saturday last in the charming grounds of St. George's Mount, New Brighton, willingly set apart, as in former years, by Dr. W. Bell, J.P., who is not only a good judge of the Rose, but has in his garden a collection which always commands the greatest admiration from visitors. The proceeds are given to the Wallasey Cottage Hospital, and it is gratifying to state that it will materially benefit by the greatly increased attendance over last year. The competition was very close in nearly all classes, the exhibits themselves being capital.

Messrs. Alexander Dickson & Sons of Newtownards put up forty-eight distinct varieties, remarkable for size, colour, and perfect shape, and which were justly admired. The same exhibitors won in the other open classes for twelve blooms, any H.P., and twelve Teas or Noisettes. Mr. B. R. Cant, Colchester, had to take second honours in each case.

Messrs. Dicksons, Limited, Chester, who had some splendid blooms, secured an extra first for twelve H.P.'s, third for forty-eight, and an extra for a charming selection of Cluster Roses. They also won for thirty-six hardy perennials, perhaps one of the most superb collections they have ever staged. The amateurs exhibited in grand form, the principal prizetakers being Messrs. T. Latham, two firsts and gold medal; H. V. Machin, three firsts and two seconds; T. Raffles Bulley, three firsts; W. H. Jowett, two firsts; H. G. Roberts, L. Davidson, and Dr. Bell.

Refreshments were served in the grounds, the "Gleam of Sunshine" silver prize band discoursed some of the latest music, the lawn was used for a tennis tournament, so that visitors had no cause to complain of the large number of attractions to which they were invited. Dr. Bell, J.P., and Mr. T. Raffles Bulley are deserving of every praise for the excellent arrangements.—R. P. R.

PERPLEXING TOMATOES.

I SEND you a box containing a Tomato plant and some soil. Will some of your staff kindly examine and reply to the following questions?

- 1, Is the plant attacked by the drooping disease?
- 2, Do the roots show any form of fungoid or other pests?
- 3, Does the soil contain anything to cause the drooping?

I have used the mixture of superphosphate, nitrate of soda, and muriate of potash as advised in your Journal last December. I grow Tomatoes largely, and have studied this form of disease very closely also. My employer, a retired physician of great eminence, is closely watching it, and we wish to satisfy ourselves as to the queries asked. The results of our observations may perhaps interest you, and if you so desire I may send them to you. I will return thanks in due course to the counsel, judges, and the high court of appeal *re* "Profitable Employment of Glass Structures in Winter."—PERPLEXED ONE.

[The plant arrived safely and fresh, but not in a good condition for examination, as the foliage and stem were coated with soil. After closely examining the plant and soil we are enabled to reply to your queries.

1, Is the plant attacked by the "drooping disease?" The young growing leaves were blackened and shrivelled, also the tender growing point of the stem, and these drooped when the plant was placed upright. This is characteristic of the "drooping disease." The older leaves had a few yellow patches, which indicate the presence of the mycelial hyphae of a fungus growing within the tissues, but we failed to discover any fungal threads; yet streaming through the cells, especially just within the walls, was the plasma of a Myxomycetes, or slime fungus (*Plasmodiophora tomati*), which absorbs or appropriates the chlorophyll, and gives rise to the yellow spots or blotches in the leaves. Such spots are slightly clammy, ultimately become brown, shrink, crack, and fall out. We have not detected any fungus (*Plasmodiophora* is not a fungus) nor the spores of a Myxomycetes in the spots. Indeed, there is seldom any in the browning or "brunissure" of the Vine, the only organism present in either case being that of the streaming plasmodium. Affected young leaves, however, speedily wither up without falling from the stalks, and when the disease is restricted to this affection the plants may recover; but the fruit produced, whether Grapes or Tomatoes, appear small and badly nourished. Some growers of Tomatoes overcome this difficulty by earthing-up the plants, thus getting fresh roots from the stem, and so supplying extra nourishment.

2, "Do the roots show any form of fungoid or other pests?" The roots appeared quite normal, there being plenty of fibres, but these had

a dingy colour instead of the clearness of healthy roots. This may arise from iron or other substances in the soil, or from disease within the tissues of the root. Cutting a small root (fig. 10, *A*) through transversely the woody fibre was seen to be brown, and still more so when examined with a lens, enlarging three diameters, then (*a*) the central part (*b*) was found to be incapable of transmitting the soil moisture absorbed by the root-hairs or growing parts, and the cortical cells (*c*) were tinged with the brown prevailing the vascular. Evidently the disease was at—in the roots.

Taking a slice of the root-stem the bark or epidermal cells were noticed to be quite clear and normal, but devoid of nuclei—that is, they had ceased growing, and the woody tissue was noticed to be abnormally brown, but not so much discoloured as the root, yet enough to indicate that the brownness or disease (if it was one) ascended.

Following up the cue a section of the stem (*B*) was taken just above the soil, and that enlarged three diameters (*d*) showed quite healthy cortical tissue (*e*), also a normal condition of the central or pith cells (*f*); but the woody fibres, which consist of three bundles (*g*), were found quite brown, and incapable of transmitting, as is the office of the vascular system, the soil's water or sap upwards, or very slowly or imperfectly. This alone is sufficient to account for the wilting of the young leaves and of the drooping of the tender growths, especially under powerful sun.

Another section (*C*), 9 inches higher up the stem, showed a clear cortical layer (*i*), healthy pith (*j*), but the woody fibre, and in all the three bundles (*k*), was stained pale brown, distinctly so to the naked eye, and still more clearly defined when enlarged three diameters (*l*), while the epidermis (*m*) appeared stout and elastic.

Still upwards another section (*D*) was made 9 inches from the last, and just below the first truss of fruit, when the whole of the tissues were found to be perfectly healthy, the pith cells (*n*) being quite white, the woody fibre (*o*) clear, and no stain in the vascular bundles (*p*), while the epidermal cells or underlying cells to the epidermis were perfectly healthy. The fruit, varying from the size of a Pea to a small marble, was not affected by "black stripe" or any disease whatever.

Now we came downwards, examined every semblance of abnormality on the leaves, footstalks, and stem, and found no outgrowths of any

The disease, therefore, can only be transmitted to living plants by the resting spores, hence disinfecting the soil and destroying infested plants are the essential means of preventing invasion. Even when this does occur remedy is not precluded, for we have only to destroy the ascending mycelium, which has been done in some cases by watering the drooping plants with a solution of soluble phenyle, a wineglassful to 3 or 4 gallons of soft water. This will kill the mycelial hyphæ of fungi in the soil, where it must be in this case before it enters the plant, and taken in time within the plant, as some growers have proved, both in the case of eelworm and of drooping disease.

3, Does the soil contain anything to cause the drooping? We found nothing in the soil but an earthworm and the mycelium of an agaric, which seemed quite happy amongst the roots, and certainly had not invaded them. The fibre in the soil possibly may contain the resting spores of the malignant fungus, but to search for them in soil at this time of year is as bad as finding a needle in a haystack. Your plants would probably recover if you used soluble phenyle as stated, earthing up the plants so as to get fresh roots from the collar. The acid acts promptly on the organic matter without destroying the nitrifying organisms, thus the plants are well supplied with nitrates both of lime and potash, which is what Tomatoes like and this fungus hates, hence dressings of lime are amongst the best preventives for this and other fungoid diseases.—G. ABBEY.]



HARDY FRUIT GARDEN.

Peaches, Nectarines, and Apricots.—The chief attention necessary at the present time is to continue laying in young wood in the proper direction for future training, cutting out superfluous and ill-placed shoots. This gives light access to the fruit, which must be examined frequently for insuring its due exposure, with ample room for swelling free from contact with the wood or wall. Strong shoots appearing on Peach trees may be removed. Those of medium strength are the best for succession, strong growths being sappy, and rarely ripening sufficiently to be productive. Forcibly syringe the foliage at the close of warm days to dislodge red spider and other insects. Afford copious supplies of water to the roots, and liquid manure while the crops are swelling.

Cherries.—Protect ripe fruit with nets. Morello Cherries will hang in good condition for some time with this protection. Sweet dessert Cherries may also be preserved longer when the fruits are protected from birds, which peck holes in them and cause many to drop. Morello Cherry trees should have attention to reserving a fair quantity of young shoots springing from the base of the present bearing wood, which as soon as the latter is cleared of fruit may be trained in, the old fruiting shoots being cut out. Occasionally Morellos are trained and pruned on the spur system, and they give good crops, but the annual laying in of young wood gives the best results over the longest period. It is always easy in the latter system to renew the trees with vigorous shoots at less risk of gumming or the sudden loss of large branches.

Sweet Cherries, when grown on walls, are usually trained in restricted form; but young wood may also be laid in whenever opportunity arises, and sufficient space is vacant to admit it without interfering with the permanent growth. The superfluous shoots not employed in this way may be shortened to the third good leaf, or cut out entirely, the foreright shoots, if not cut back previously, being reduced now. Cut out dead or decaying branches from standard trees.

Plums.—There will be numbers of suckers springing from the roots of Plums, both with those growing on walls and in the open. Their removal is desirable, digging them out as deeply and cleanly as possible. Shorten back the breastwood on wall trees and the side shoots on bushes and pyramids. Where suitable growth presents itself on wall trees, and space is available, train in a few extensions, avoiding crowding. They do not need shortening, and may become, under favourable circumstances, sufficiently ripe to bear a little fruit at the base the following season, but certainly the succeeding year. Growths of this character starting from the lower parts of trees are useful for renewing the energies of old trees in the direction of providing them with new wood. Thin out small or inferior fruits. Syringe copiously in fine weather, the trees requiring the foliage refreshing and cleansing. Water freely, and mulch the soil about the roots with manure.

Apples.—Where artificial thinning of the fruit has not taken place there has been a considerable amount of natural thinning which has relieved the trees. Some of these fallen fruits are attacked with the Apple sawfly larvæ, which bore holes in the fruit as a means of exit. These fruits should be picked up and burnt, and others on the trees which have ceased swelling and contain a grub ought to be removed, as they will eventually fall. Thin the fruits freely on well cropped trees for enlarging the size and improving the quality of the remainder. Assistance with liquid manure benefits trees with heavy crops, not applying it, however, to very dry soil, but after the latter has been

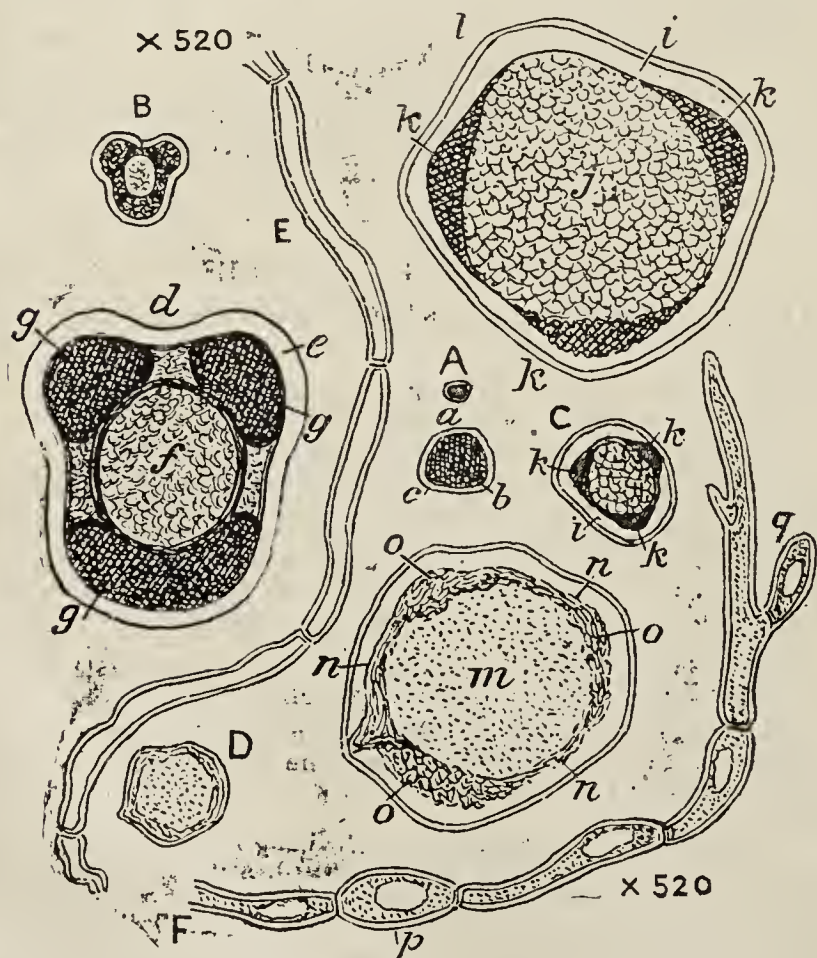


FIG. 10.—SECTIONS OF DISEASED TOMATO STEM.

kind. Of course, it was hopeless to find much in the transverse sections, but it is very instructive to see the difference between cells in a normal state and those having their contents abstracted or disorganised. Longitudinal sections afforded little evidence of the presence of mycelial hyphæ, but from just above the section *B* we found the thread (mycelial hyphæ) *E*, and from the worst discoloured rootlet we could find the growth shown at *F*. The first is the ascending mycelial hyphæ (older portion), and second the prostrate hyphæ, whether in a root, stem, leaf, or fruit, from which springs (if at all)—1, *Diplocladium solani* or *lycopersici*; 2, *Fusarium solani* or *lycopersici*; and 3, *Hypomyces solani* or *lycopersici*, this being the final or resting stage, and produced on fruitful hyphæ only (so far as we know), always within the infested tissue, and formed out of a cell (*p*) of the hyphæ, or by the pushing of a special cell (*q*), while the other or propagating or emigrating forms are produced externally of the host, and, as a rule, lead a saprophytic life.

made moist with clear water. A thoroughly good soaking of both is essential for producing a beneficial effect. Mulch immediately afterwards so as to prevent the moisture evaporating. Restricted trees should have the summer pruning of side shoots completed, shortening strong shoots to five or six leaves and weaker to the fourth.

Outdoor Vines.—Secure growths to walls by nailing, or to trellises by tying, so as to fill up vacant spaces with extensions of new wood. Laterals may be stopped two leaves beyond the bunches of fruit; fruitless laterals, if retained, being stopped at the sixth leaf. The wood, however, must not be crowded. Every main leaf ought to be fully exposed. Crowding is fatal to the ripening of the wood, consequently prejudicial to the following year's crop. Extensions for filling vacancies may be stopped at 4 feet, or before if necessary, so that the wood for covering the space may have its buds matured and enlarged by the increased sap it receives consequent on the judicious check given. The large main leaves are capable of greatly assisting the buds, and ought, therefore, to be carefully preserved from injury, kept clean, and fully exposed to light. Thin the bunches of fruit to one on a lateral, and clip out all the small, stoneless berries, leaving the most promising for swelling. An occasional syringing will do good, aiding growth, cleansing the foliage of dust, and disturbing insects. In very dry soils and positions water will be needed by the roots; afterwards liquid manure if the Vines are carrying heavy crops.

Outdoor Figs.—The young shoots for future bearing must be fully exposed to light, which renders them short-jointed, thus insuring a fruitful condition. Strong shoots starting from the old wood are not desirable to reserve for bearing, but a few might be utilised if necessary for filling vacancies. When it is seen that shoots of this character are not wanted they are best removed early by disbudding before extending into strong growth, especially that assuming a foreright position. Stop the bearing shoots a few leaves above the fruit, and for spaces where there is only room for a short shoot at the fifth leaf, but leave the current year's growth or successional shoots entirely unpruned.

FRUIT FORCING.

Vines.—*Early Houses.*—The Vines cleared of their crops will require a comparatively dry atmosphere to ripen the wood, but it will not be necessary to employ artificial heat to insure the requisite warmth, as that can be effected by regulating the ventilators according to the weather. Avoid, however, a close atmosphere, especially at night, which would have the effect of inducing lateral growth that must be restrained, keeping the laterals and all late growth well in hand, seeking complete maturity in the wood and buds by keeping the house cool and dry. In the case of Vines that have lost the lower leaves on the bearing shoots through attacks of red spider or other cause, moderate lateral extension of the laterals is desirable, so as to retain some growth in the Vines, and prevent the concentration of the sap on the dormant buds to the extent of starting them into growth. With an outlet for the sap, such as that afforded by laterals above the pruning buds, premature growth will be prevented, whilst the buds and wood profit to some extent by the assimilation and storing of food.

A drier condition of the soil is also desirable, but it must not become parched and cracked, which will not occur if the border has been properly mulched or the surface kept loose. A couple of inches thickness of sweetened lumpy manure, or that depth of loose soil, conserves the soil moisture, whilst not depriving it of air. If needed, water must be supplied to keep the soil so moist as to preserve the foliage in health, and this must be kept clean by occasional syringing, or the prompt application of an insecticide.

Vines in Pots for Early Forcing.—Those intended for starting at the beginning of November to afford ripe Grapes late in March or early in April should by this time have completed their growth, and be given no more water than will prevent the foliage from becoming limp, exposing them to all the light possible, so as to thoroughly ripen the wood by concentrating the juices on the buds and canes, as is done under the drier régime. Keep the Vines free from red spider and thrips, as it is important that the leaves perform their functions to the last. After the wood becomes brown and hard the Vines may be stood on a board or slates in front of a south wall, securing the canes to the wall to prevent damage by wind.

Muscats Ripening.—These require time and assistance from fire heat to ripen perfectly. A night temperature of 65° is imperative, and that of the day should be 70° to 75° in dull weather, and with sun 85° to 90° be secured by judicious regulation of the ventilators, yet having due regard to a free circulation of air. This is imperative to prevent spotting, a little air being admitted constantly to prevent the deposition of moisture on the berries, increasing it early in the day, so that the Grapes may become warmed correspondingly with the atmosphere, and be kept exhaling. Muscats require a rather dry warm atmosphere, for under no other conditions will they attain that rich golden hue characteristic of their inapproachable high flavour and crackling flesh. They also need plentiful supplies of water when swelling and in the early stages of finishing their fruit.

Attend, therefore, to the due watering of inside borders, and outside also in dry weather. Too much water, however, is even worse in its effects than a deficiency, as it produces a sodden and sour soil in which Vines cannot thrive. Too much atmospheric moisture is also fatal to Muscats when ripening, causing them to spot. To avoid this keep a gentle warmth in the hot-water pipes, and admit a little air constantly to prevent the deposition of moisture on the berries, surfacing the

border inside after a thorough watering with a little short, sweet, dry material.

Scalding.—Vines have scorched leaves and scalded berries to the greatest extent where the panes of glass are large and the ventilation inadequate, also where early ventilation is neglected and a buoyant atmosphere not maintained. Scorching arises from the same cause, and there is no question that both are accelerated by a close saturated atmosphere. Both can be avoided by careful attention to the temperature and ventilation. Air should be admitted rather freely, especially in the early part of the day, with a little at night, and a gentle warmth in the pipes so as to maintain a temperature of about 70° artificially for such varieties as Lady Downe's, which is the most liable to scald, and for Muscats that are subject to it in lesser degree. Hamburgs, however, will scald, especially when the Grapes are exposed to the fierce rays of the sun after a period of dull cold weather, and always occurs at the close of the stoning process just before the Grapes change colour for ripening, the period extending over a fortnight or three weeks. A slight shade is advantageous at this stage and during the early part of the ripening in houses with large panes of glass, particularly for Muscats, a double thickness of berring nets drawn over the roof lights is of great service in breaking the fierce rays of the sun from mid-June to the latter part of July or August, according to the time of the Grapes finishing stoning.

Shanking.—All manner of surmises have been from time to time advanced as to the cause of this malady, yet nothing for certain is known of its origination. Practice is far ahead of science in this matter; indeed, scientists have done little but explain horticultural operations, and as regards shanking have done little beyond adding to the bewilderment of cultivators. Shanking is one of those diseases that may be avoided by providing proper soil, site, and environment; that is, soil of suitable components, staple, efficient drainage, and proper culture. The great inducement to shanking is unsuitable border material; its effectness through inefficient drainage, or roots deep in staple more suitable than the surface. Heavy coatings of manure in the autumn or winter allowed to become soapy, soddening and souring the soil, commonly results in shanking.

Overfeeding or glutting the Vines with improper supplies of nutrition, or what would be such if given in due time and suitable measure, which, instead of nourishing the Vines becomes sour in the soil, destroys the active rootlets, and shanking follows. But shanking also arises from errors of treatment. The foliage is often not fully exposed to light, more growth being allowed to remain than can have space for development without crowding, root action being spasmodic through encouraging it by a thickening of growth, and suddenly checked by removing laterals in large quantities.

Vines prone to shank may often be greatly improved by keeping the young growth well regulated, adopting the extension rather than the restrictive system where there is room for it without crowding, keeping all gross laterals stopped so as to cause an even flow of sap throughout the Vines. The foliage, in all cases, must be fully exposed to light, allowing no more growths than can have space for development without crowding, and at no time permitting such lateral growth as will necessitate removal in large quantity. Particular attention should be given to watering, keeping the Vines under rather than over-supplied with water and nourishment of an organic nature, but freely using fertilisers that contain lime, such as phosphates, as lime is a factor in respect of shanking. Outdoor Vines are seldom affected by the evil. Avoid sudden fluctuations of temperature by paying particular attention to the ventilation, striving to the utmost to secure a steady supply of nutriment and its elaboration, this being essential for the formation of starch and the storing of chlorophyll, so that at the proper time they may be converted respectively into sugar and the purple-black or golden amber of the Grapes.

Figs.—*Trees in Pots for Early Forcing.*—These must be kept free from red spider by syringing at least once a day, in hot weather twice, directing the force of the water against the under side of the leaves, and if this is not sufficient an insecticide must be employed, as it is important that the foliage be kept clean, and perform its functions to the last. Afford liquid manure at the roots, not to the extent of causing exuberance, but to insure a due supply of nutriment, and the storing of assimilated matter in the wood. Pinching to induce a neat habit in young plants with fruitfulness must be attended to, regulating the growth by stopping in accordance with the vigour and the variety.

Strong-growing plants require more stopping than others of moderate vigour, but in all cases avoid crowding the shoots, for fruitfulness is not so much dependant on ample foliage or growths as on the sturdiness and proportion duly exposed to light. The trees must be kept sufficiently far apart to permit proper development in each individual, under all the light possible, according free ventilation to solidify the growth as it is made.

Planted out Trees Started at the New Year.—The trees now have the second crop in an advanced state, and it must be thinned if too thickly set, there not being any danger of this crop dropping, as occurs frequently with the first, reserving the fruit at the base of the growths, as these finish better than those near the joints. Thinning the second crop is of vital importance, because bearing is an exhausting process, and the first crop next year having to be borne on the well-ripened points of the growths of the preceding year that part must not be enfeebled by carrying a heavy load of fruit. First crops are the most valuable, and the chief cause of their failure is imperfect ripening of

the wood with impairment of the energies of the trees by carrying a previous heavy second crop.

Attend regularly to training and stopping the shoots, keeping the points well exposed to the light. Tie loosely, leaving plenty of space in the ligatures. Above all train thinly, stop side shoots at the fifth leaf, and rub off those not required, for spur growths to the extent of crowding is fatal to fruitfulness. Afford water copiously through a light mulching of short lumpy manure, horse droppings duly sweetened being unsurpassed.

If fresh manure be used and too abundantly there is danger of inducing soft growths. Such light dressing admits air and contains ammoniacal elements, which both in the soil and atmosphere benefit the trees. Liquid manure or top-dressings of chemical fertilisers washed in will be necessary, according to the vigour of the trees and the extent of the rooting area. They can hardly have too much water in hot weather, always provided the soil is not made sodden, and they store more matter in a week of fine weather than in a month of dull. This applies to narrow borders of sound material incumbent on thorough drainage. Forcibly eject red spider by syringing twice a day in fine weather, otherwise occasionally. Admit a little air constantly and increase it early in the morning; close early in the afternoon with plenty of atmospheric moisture, allowing the heat to rise to 90°, 95°, or 100°, then the fruit will swell to a good size.

THE BEE-KEEPER.

APIARIAN NOTES.

THE HONEY SEASON.

THERE need be no question whether arid winds and bright sunshine are conducive to honey or not. On the 7th inst. we experienced one of the most trying days of this kind, and such weather has not been unfrequent this summer. There were two strong currents blowing simultaneously. An easterly wind, carrying leaves of trees and dust in clouds before it, while apparently there was an upper current of as great a force, the clouds moving in an opposite direction. The atmosphere was hot, and yet the wind felt piercingly cold. Plants were blown about, and wilted under the trying ordeal. Towards evening it appeared as if the much-longed-for rain was about to fall; but the wind continued to increase in force until it became tempestuous on the 9th and 10th, when a calm occurred and a quarter of an inch of rain fell on the latter date, since then the temperature has been much lower.

Bees have been kept within their hives for three weeks, during which time very little, if any, honey has been gathered during the best of the Clover season. It rarely occurs for Clover to yield honey after the 21st of July, so we may rest assured there will not be a glut of Clover honey this year. Some bee-keepers have a few sections of good quality, but they are not general, most having to be content with fairly well-stored bodies, which in undersized hives are against large yields of honey from Heather. All such over-stored hives should have another division added, the frames being filled with full-sized sheets of foundation; for if fine weather occurs drone combs would be built where they were omitted.

As the weather has never been productive of honey here very few of my hives are supered; doing so at an early date preparatory to going to the Heather will give two crates of sections, or a double tier of supers, then if required we shall place the next empty ones on the top. This plan prevents the colouring of the nearly filled supers, and also bees emptying them of their contents if the weather turns out unfavourable.

Not unfrequently have my hives had three body divisions, and from five to six supers filled at the Heather; but although the plan of placing an empty super beneath those partly filled answers perfectly well when the weather continues fine for a considerable time, the risk is too great and there is not anything gained.

AGE OF BEES.

One of my best hives discontinued breeding in July, 1894. The queen, had she not died or been expelled from the hive during March of this year, would have been two years old. Many of the bees are still living, to which I have introduced a young queen. It does not surprise me, but is worthy of mention, that not only this but every two-year-old queen I kept is dead.

Bee-keepers cannot be too much impressed with the fact that the profit from the apiary rests wholly on having youthful queens, in hives sufficiently large to admit of the depositing of 80,000 eggs in twenty days, with additional space for storing honey and pollen. This insures supers of the greatest purity, free from pollen brood, spots or specks from overcrowding, as is the case with supers when too small hives with full open tops, covered with non-essential excluder zinc, are used.—A LANARKSHIRE BEE-KEEPER.

SEASONABLE NOTES.

THE honey season in the Midlands is fast drawing to a close, although there is still abundance of White Clover in bloom. The Lime trees, too, are flowering profusely, and are now just at their best; a few days and they will be over, and with them the honey flow will cease. Unless there is a change in the weather but little honey will be stored from that source, as during the past week showers have been of frequent occurrence, and the temperature being low, there has been very few hours during the time that bees were enabled to store a surplus, consequently in many districts where the chief honey harvest is obtained from White Clover and the Limes a very small surplus will have been stored. The quality of the honey obtained up to the present time has been of good colour, no dark honey having been stored, a small quantity of which will often spoil what would otherwise have been a good sample.

The price of good samples of White Clover honey should have an upward tendency, as from the reports to hand there will be a short crop in many districts, but the price will never be so high as it was a few years ago, owing to the amount of foreign honey that is imported into the country. This trade has grown very much of late years, and during the month of June last year honey to the value of nearly £10,000 was imported into this country, thus showing the amount of honey that is consumed in addition to home production, which is of much better quality. Bee-keeping is doubtless advancing, and could we depend on bright weather and a high temperature during the honey flow much more would be obtained, and we should, to a certain extent, be independent of the foreign supply. We cannot do that, but we can by judicious treatment assist the bees in the early spring months by feeding or uncapping stores, so that all colonies may be strong when the honey flow comes, and should only a few hours of favourable weather come will store a surplus, whilst those stocks that may have been left to chance will only obtain sufficient for their daily requirements.—AN ENGLISH BEE-KEEPER.

TRADE CATALOGUES RECEIVED.

Wm. Bull, King's Road, Chelsea.—*New and Rare Plants.*
James Douglas, Edenside, Great Bookham, Surrey.—*Carnations, Picotees, and Auriculas.*



All correspondence should be directed either to "THE EDITOR" or to "THE PUBLISHER." Letters addressed to Dr. Hogg or members of the staff often remain unopened unavoidably. We request that no one will write privately to any of our correspondents, as doing so subjects them to unjustifiable trouble and expense.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Bee subjects, and should never send more than two or three questions at once. All articles intended for insertion should be written on one side of the paper only. We cannot reply to questions through the post, and we do not undertake to return rejected communications.

Tomatoes Decaying (M.).—The decay in the fruit you have sent is not caused by iron in the soil, but by a fungus. All such fruits should be burned, and it would be well to dust the plants before other fruits ripen with the Fostite powder that is recommended by Mr. T. Williams on page 57, and which has been advertised in our columns.

Sparmannia africana (J. E.).—You have probably been too liberal in potting for inducing early flowering. As the plant is healthy let it remain outdoors, but it may be desirable to shade the pot from hot sun. If the soil in the pot is not very firm make it so with a blunt-ended stick. Do not overwater; still the leaves must not be allowed to flag through drought at the roots.

Apples Cracking (P. A. M.).—In most cases the condition of fruits such as the example sent is the result of defective nutrition, either the root action being impaired or the soil lacking in the elements of nutrition that the crops need. A thorough soaking of the ground with water, followed by a similarly heavy application of liquid manure from the stems outwards to beyond the spread of the branches, might be of much benefit in your case. Guano dissolved at the rate of 1 lb. to 10 gallons of water would answer very well.

Clover in Tennis Lawn (F. F.).—We doubt whether you can destroy the Clover without spoiling the lawn. Nitrogenous manures, such as nitrate of soda or sulphate of ammonia, applied at the rate of about an ounce to the square yard encourage the growth of grass at the expense of Clover, but there is the risk of the grass being coarse for a time, then of the lawn eventually becoming thin. We have no doubt several persons would be glad of such a lawn as the one you complain of. New lawns can be made without Clover by sowing a suitable mixture of grass seeds in well prepared soil.

Rooting Moss Rose Cuttings (Devon).—Moss Roses are not so easily raised from cuttings as most varieties are, but there is no reason why you should not be successful in establishing some on their own roots. The best form of cuttings are the short half-ripened growths that have just flowered, these being taken off with a heel or small slice of old wood attached, shortened to about 4 inches in length, and the lower leaves and thorns removed. Failing cuttings with heels, cut up long firm growths into 4-inch lengths. Fill well-drained 5-inch pots with sandy loam and dibble in the cuttings firmly round the sides. Place the pots in a pit, frame, or under a hand-light. Keep the cuttings moist, close, and shaded from bright sunshine till rooted, then gradually harden off. Pot singly, using sandy loam and small pots, and keep them in cold frames. In the spring the plants may be trusted out in the open ground. They are usually increased by layers.

Tomatoes Diseased or Damaged (A. K.).—The smaller fruits have the appearance of being scorched through water resting at the eye, but on raising the skin the flesh was found quite black, and the cells destroyed for a little depth, that is, to the seeds, and in this cavity there is the mycelium of some fungus, which does not extend over the fruit. We have kept several such fruit, and have not been able to find anything but the mycelial hyphæ, yet some form of fungal body fixes itself in the integument of the seed and remains there. This we are unable to refer to any fungus, as it does not push any outgrowths or fruits, and is certainly transmitted by the seed. Such fruit are assailed, when the skin breaks in the ripening fruit, by the larvæ of the blue-bottle fly, the parent depositing eggs in the fruit, and the maggots or "gentles" live in and fatten on the flesh of the Tomato, which soon becomes a putrescent and offensive mass, so much so that we are reluctantly obliged to destroy all specimens, and this precludes our ascertaining to what the fungus might develop. It has been attributed to bacteria, but the schizomycetes do not appear until the fruit commences to decay, and certainly are of a very dangerous nature. They are not the cause of the black spot or stripe, which assuredly enters the fruit by the eye—the pistil part of the flower—possibly during fertilisation, and is a most puzzling disease. Possibly the epidermis is weakened by the water standing on it, and the sun acting on the moisture would cause scalding, but why it should invariably occur at the eye of the fruit is not so clear. There has not been any damage by nailing, for that could hardly have been done in one place. The disease has not spread upward, for the footstalks are perfectly healthy, also the lower part of the fruit, hence it has no connection with drooping disease or any other disease yet determined.

Recipe for Preserving Vegetables (E. N.).—We have had some difficulty in finding the recipes for preserving green vegetables, but we think the following are those to which you refer:—French and Runner Beans are always appreciated, and the former especially, might well be extensively grown, especially for storing. In all probability it would pay well to prepare them largely for winter use, and those who can place a good article on the market would have the monopoly as far as foreign competitors are concerned. A good recipe for preserving them is as follows:—Pick and string any given quantity of young Beans, and throw them into a large untinned copper preserving pan containing boiling water strongly impregnated with salt, cover them with fresh Vine leaves, and set them aside for twenty-four hours. They should then be drained upon a sieve, gathered up in neatly arranged bunches, and packed closely together, in either jars, bottles, or tin boxes, filling up with fresh water slightly flavoured with salt. Cork down, or otherwise make these air-tight, leakages also being remedied, and store in a cool place till wanted for use. Peas and Broad Beans are worthy of being extensively preserved, and for these also I have a recipe that will be hard to surpass. Tins or cans have hitherto been principally used for these, and those who intend trying what they can do in the way of preserving Peas should first obtain a sample tin or can from an Italian warehouse or grocer, and get a local tinman to copy and make the requisite number with their tops ready for soldering down complete. Fill these with fresh, newly shelled Peas; cover with water to which a teaspoonful of salt, or enough to well impregnate it has been added, and then solder or screw down the tops as the case may be. Place them in a stock pot or saucepan, cover with boiling water, and boil them fast for half an hour, and then withdraw. Examine the tins for leakages, solder over, and store in a cool dry cellar. If strong glass bottles or jars can be procured, these are decidedly preferable. Carrots in a young state are largely preserved, and a very tender dish is available accordingly during the winter. These should be closely trimmed, lightly scraped, and dropped into hot water according as they are done. When enough are ready, place them in a stewpan with water sufficient to cover them, adding fresh butter at the rate of 1 oz. to the pound of Carrots, and salt to season. Boil the Carrots in this till half done, arrange them closely in jars or tins, fill with their own liquor, fasten or solder down, boil for half an hour, and store in a cool place. Mushrooms—"buttons"—can be preserved against the time when fresh ones cannot be had. They must be quite fresh and firm for the purpose,

be washed, packed in boxes or jars, and these filled with water, to every quart of which 4 ozs. of butter, 1 oz. of salt, and the juice of three Lemons has been added. After being duly fastened or soldered down they ought to be boiled for a quarter of an hour.

Layering Lapageria alba (F. S.).—It is useless to attempt raising Lapagerias from cuttings, the only two sure methods of propagating them are by seeds and layering. Seeds should be sown very soon after it is taken from the pod, but the bulk of the plants distributed in this country are obtained by layering the long firm growths. Fill either a well drained box or pan with peaty soil, and on this coil one or more long, well matured growths. Peg them down into the soil so as to just bury the stem, a peg to every joint, the leaves, however, being above ground, and if kept properly supplied with moisture—that is to say, kept uniformly moist but not saturated, roots, and eventually a young shoot, will be emitted at nearly every joint. When well rooted all may be separated, carefully lifted, and potted off singly. It is a slow process, but a sure one. We believe an expert propagator has rooted Lapageria cuttings as a feat of skill, but this method of increase cannot be usefully practised by gardeners.

Azalea indica from Cuttings (T. R.).—Most of the plants cultivated in this country are obtained by grafting choice varieties on a vigorous growing common Azalea, and in this manner they can be the most quickly grown to a serviceable size. Cuttings are not difficult to root, and own-root plants are usually the most dwarf in habit. The cuttings should be made from young or this season's growth, which is now sufficiently firm for the purpose. They ought to be about 3 inches long, cut to a joint, and the lower leaves trimmed off. A bell-glass will be needed for covering them, and the pot used should be just large enough to enclose this inside of the rim. Well drain the pot, fill up firmly with sandy peat soil, and finish off with a thick surfacing of silver sand. Insert the cuttings thickly, taking care that they touch the bottom of the holes, and to fix them firmly, then give water through a fine rose and cover with the bell-glass. A gentle heat, or from 55° to 60°, is necessary, and the cuttings must be carefully shaded. After they are rooted, which is a slow process, remove them to a cooler house, and gradually remove the bell-glass. Pot singly in thumb pots, and keep them in a close frame till they have rooted into the fresh soil (fine peat and sand), pinch out their points, and keep them steadily growing, a larger shift being given as needed.

Names of Plants.—We only undertake to name species of plants, not varieties that have originated from seeds and termed florists' flowers. Flowering specimens are necessary of flowering plants, and Fern fronds should bear spores. Specimens should arrive in a fresh state in firm boxes. Slightly damp moss, soft green grass, or leaves form the best packing, dry wool the worst. Not more than six specimens can be named at once, and the numbers should be visible without untying the ligatures, it being often difficult to separate them when the paper is damp. (S. K.).—*Hemerocallis Dumortieri*. (S. E.).—1, *Veronica spicata*; 2, *Tradescantia virginica*; 3, *Spiraea venusta*; 4, *Campanula lactiflora*. (J. P.).—*Adiantum gracillimum*. (F. C.).—1, *Rhus cotinus*; 2, *Genista virgata*. (T. W. W.).—*Ipomoea Quamoclit*.

COVENT GARDEN MARKET.—JULY 17TH.

OUTDOOR fruit in good supply. Prices better.

FRUIT.

		s.	d.	s.	d.			s.	d.	s.	d.	
Apples, Nova Scotia, per barrel..	..	10	0	to	21	0	Currants, per half sieve ..	3	0	to	4	0
„ Tasmanian, per case ..	..	5	0	11	0	Grapes, per lb. ..	..	0	6	2	0
Cherries, per half sieve ..	..	4	0	5	6	Lemons, case ..	..	10	0	15	0
Cobs, per 100 lbs. ..	..	0	0	0	0	Peaches, per dozen ..	..	2	0	8	0
						St. Michael Pines, each ..	..	2	0	6	0
						Strawberries, per lb. ..	..	0	4	1	0

VEGETABLES.

	s.	d.	s.	d.		s.	d.	s.	d.	
Beans, Kidney, per lb. ..	0	6	to	0	0	Mustard and Cress, punnet	0	2	to 0	0
Beet, Red, dozen	1	0	0	0	0	Onions, bushel	3	6	4	0
Carrots, bunch	0	3	0	4	Parsley, dozen bunches ..	2	0	3	0	
Cauliflowers, dozen	3	0	6	0	Parsnips, dozen	1	0	0	8	
Celery, bundle	1	0	1	3	Potatoes, per cwt.	2	0	4	0	
Coleworts, dozen bunches	2	0	4	0	Salsafy, bundle	1	0	1	6	
Cucumbers, dozen	1	6	3	0	Seakale, per basket	0	0	0	0	
Endive, dozen	1	3	1	6	Scorzonera, bundle	1	8	0	0	
Herbs, bunch	0	3	0	0	Shallots, per lb.	0	3	0	0	
Leeks, bunch	0	2	0	0	Spinach, bushel	1	0	1	6	
Lettuce, dozen	0	9	1	6	Tomatoes, per lb.	0	3	0	4	
Mushrooms, punnet	0	9	1	0	Turnips, bunch	0	3	0	6	

AVERAGE WHOLESALE PRICES.—OUT FLOWERS.—Orchid Blooms in variety.

	s.	d.	s.	d.		s.	d.	s.	d.		
Arum Lilies, 12 blooms ..	3	0	to	4	0	Orchids, dozen blooms ..	1	6	to 12	0	
Asparagus Fern, per bunch	2	0		4	0	Pansies, various, dozen					
Bouvardias, bunch	0	6		1	0	bunches	1	0	2	0	
Carnations, 12 blooms ..	2	0		4	0	Peas, Sweet, doz. bunches..	2	0		4	0
" dozen bunches..	4	0		8	0	Pelargoniums, 12 bunches	6	0		9	0
Cornflower " " ..	1	0		2	0	Primula(double), doz. spys.	0	6		1	0
Eucharis, dozen	4	0		6	0	Roses (indoor), dozen ..	1	0		2	0
Gaillardias, doz. bunches..	2	0		3	0	" Moss, per dozen ..	1	0		2	0
Gardenias, dozen ..	3	0		4	0	" Tea, white, dozen ..	1	0		2	0
Geranium, scarlet, doz.						" Yellow, dozen (Niels)	3	0		6	0
bunches	4	0		6	0	" Safrano (English),					
Lilac (French) per bunch	4	6		5	0	dozen.. .. .	1	0		2	0
Lilium candidum, 12 blooms	0	6		1	0	" Yellow, dozen blooms	0	9		1	0
" doz. bunches	9	0		15	0	" Red, dozen blooms ..	1	0		2	0
" lancifolium, 12 blooms	1	6		2	6	" various, doz. bunches	3	0		9	0
" longifolium, 12 blooms	3	0		4	0	Smilax, per bunch	5	0		6	0
Marguerites, 12 bunches ..	1	6		3	0	Stephanotis, dozen sprays	1	6		2	0
Maidenhair Fern, dozen						Tuberose, 12 blooms.. ..	0	4		0	6
bunches	4	0		6	0						

PLANTS IN POTS.

	s.	d.	s.	d.		s.	d.	s.	d.	
Arbor Vitæ (golden) dozen	6	0	to	12	0	Heliotrope, per dozen	4	0	to 6	0
Aspidistra, dozen	18	0	36	0	Hydrangeas, per dozen	12	0	42	0	
Aspidistra, specimen plant	5	0	10	6	Lobelia, per dozen	3	0	4	0	
Calceolaria, per doz.	4	0	6	0	Lycopodiums, dozen	3	0	4	0	
Coleus, per doz.	3	0	6	0	Marguerite Daisy, dozen	6	0	9	0	
Dracæna, various, dozen	12	0	30	0	" Yellow " "	9	0	18	0	
Dracæna viridis, dozen	9	0	18	0	Myrtles, dozen	6	0	3	0	
Euonymus, var., dozen	6	0	18	0	Palms, in var., each	1	0	15	0	
Evergreens, in var., dozen	6	0	24	0	" (specimens)	21	0	63	0	
Ferns, in variety, dozen	4	0	18	0	Pelargoniums, per dozen	8	0	12	0	
Ferns (small) per hundred	4	0	6	0	" scarlets, per					
Ficus elastica, each	1	0	7	0	dozen	3	0	6	0	
Foliage plants, var. each	2	0	10	0	Rhodanthe, per dozen	4	0	6	0	
Fuchsias, per dozen	4	0	9	0	Roses, per dozen	8	0	24	0	
Geraniums, Ivy, per dozen	4	0	6	0						



SOIL FERTILITY.

To engender and foster a spirit of inquiry is perhaps the best way of all to impart that knowledge of the first principles of agriculture which is so essential to every farmer. A stumbling block in the way is the popular but erroneous idea that when a man is born and bred a farmer he must know all about his calling—its guiding principles, fundamental rules, the reason why of things and all that goes to thoroughly sound farm management. That it is so would appear to be a foregone conclusion, but in reality it is quite exceptional to meet with a farmer whose practice is the judicious blending of practice with science that it ought to be.

We were led into this train of thought by the question of a young yeoman farmer, "What is the best manure for cow pasture?" Gladly did we respond to his appeal, and our subsequent conversation brought out the extraordinary fact that he was asking for a manure which would effect a permanent improvement, or at any rate place the land in good heart for some time longer than a single season. His views about the possibility of this were, to say the least, exceedingly vague and undefined. He evidently required a lesson, and he got one. Very kindly, yet forcibly, did we explain to him enough of the difference between pristine fertility and sustained fertility to make our meaning clear. We then went on to give him examples from our own practice of how pasture had been brought up to a fair ordinary standard of fertility and then kept so by annual dressings of manure. It was positively ludicrous, though sad enough, to hear his exclamation of surprise at our insistence upon the necessity of an annual expenditure on manure, in one way or another. But when he was asked to remember the poor condition of the pasture in his own parish, or rather the district in and around it, he at once said it was the general poverty of such pasture that had induced him to inquire if something could not be done to correct it.

To take an example, or rather two, in that locality to point our moral. One of them, over which we went on the 12th of July, was being mown for hay. We are well within bounds to say that there would not be half a ton of hay per acre, yet there had not been any stock in that meadow this year, say six and a half months, and the tenant claims that he had done his utmost to obtain a crop of hay. He had kept off the stock, had "knocked" the droppings left by the cows, had even carted on some old cow manure and road-sidings to the worst part, yet had failed. Near it are some eight or nine meadows which we have in hand, and which were dressed with proper chemical manure early in the year. Some were laid in for hay, some reserved for grazing. The hay, a fair crop, is saved, the aftermath is growing, and the rather heavily stocked meadows have still a fair bite. There is the lesson, as easy to read as the page

of an open book. We hope it was the sight of this, imperfect as it is, which brought our young friend to us, and set him thinking.

What, then, is this lesson? It is this. That permanent pasture, like every other farm crop, must have in its soil enough of nitrogen, potash, phosphoric acid, and lime to sustain it. That the growth of each season, however it goes off the land, whether eaten by stock or as hay, takes out of the soil some of each of these vital constituents of its fertility. If we do not replenish the soil as an equivalent with more plant food, how can free growth continue, how can we expect a full crop? Is not this a clear statement? Does it not appeal to the powers of reason of every sensible man? If this be so, what are we to think of the farmer who fails to keep up the fertility of the soil of his farm, takes crop after crop, such as it is, without any systematic use of manure that is worthy of the term of a system, and then when his pastures are impoverished, and his crops practically a failure, coolly comes to his landlord for a reduction of rent because his land does not "pay?" The absurdity of the whole thing is so apparent as not to require a second thought. Yet he would indeed be a bold man who ventured to answer such an appeal by telling the farmer that he was an ignorant man, and that it was unfair to ask his landlord to suffer from his ignorance.

WORK ON THE HOME FARM.

Delicious is the aroma which comes from the hayricks made from grass mown just as it came into flower. This hay was saved without a drop of rain touching it, and it is becoming very compact in the rick. We began mowing rather earlier than usual this season, because the dry weather seemed likely to continue, and we had before us the possibility of a rather big head of stock going on short commons if we had not some early aftermath to turn to. Results prove the wisdom of this, for though we got less hay, what we have got so far is of the best, and the aftermath is growing briskly under the beneficial influence of quick-acting manure and timely showers of rain. As we write, in the middle of July, haymaking is the main business everywhere, except perhaps in the extreme south, where it always is early.

Among root crops Mangold is now out of hand, the plant being so advanced that the leaves are meeting across the rows. Some few early sown fields of Swede Turnips are also finished as regards hoeing, and are close after the Mangolds in size of plant and freedom of growth. But there has been trouble where early sowing was not done. Three and four times over has the same field been sown on many a farm. If the present showery weather continues some useful roots may be had from the last sowings, but northern farmers, who pin their faith on early sowings, have been sorely tried. Taking an average of seasons as regards weather, we are bound to say that the Norfolk plan of sowing Mangolds rather early in April, and following at once with the Swedes, is the more certain one. We admit that this early sowing involves some trouble from mildew with Swedes, and of some Mangold bolting to seed; but that is well counterbalanced by a fair proportion of big sound roots, or perhaps we ought to say of a plant, so large and well established as to be out of harm's way before there is much risk of harm from drought.

METEOROLOGICAL OBSERVATIONS.

CAMDEN SQUARE, LONDON.

Lat. 51° 32' 40" N.; Long. 0° 8' 0" W.; Altitude 111 feet.

DATE.		9 A.M.					IN THE DAY.				Rain.
1895.	July.	Barometer at 32°, and Sea Level.	Hygrometer.		Direc- tion of Wind.	Temp. of soil at 1 foot.	Shade Tem- perature.		Radiation Temperature		
			Dry.	Wet.			Max.	Min.	In Sun.	On Grass.	
		Inchs.	deg.	deg.		deg.	deg.	deg.	deg.	Inchs.	
Sunday	7	30.246	66.8	58.6	N.	61.4	79.9	47.7	114.2	43.7	—
Monday	8	30.161	69.2	56.1	S.W.	62.4	82.0	52.0	123.4	47.0	—
Tuesday	9	30.086	68.9	59.3	N.W.	63.9	78.2	55.2	120.2	50.0	—
Wednesday	10	29.955	66.9	55.9	N.W.	64.2	77.6	57.3	123.9	51.6	—
Thursday	11	29.910	61.9	54.2	N.	65.4	77.0	57.2	119.8	51.8	0.153
Friday	12	29.652	59.8	51.9	N.W.	65.1	68.0	56.5	113.9	52.1	—
Saturday	13	29.885	62.2	52.1	N.	63.2	78.1	49.0	123.8	44.1	—
		29.982	65.1	55.5		63.7	77.3	53.6	119.9	48.6	0.153

REMARKS.

- 7th.—Sunny, calm, warm, and rather oppressive.
 8th.—Calm, sunny, and warm.
 9th.—Generally bright and sunny, with pleasant breeze.
 10th.—Bright sunshine almost throughout.
 11th.—Overcast morning; bright sunshine in afternoon.
 12th.—Rain till 3.30 A.M.; alternate cloud and sunshine with high wind early; bright sunny day.
 13th.—Almost cloudless morning; frequent cloud in afternoon.
 Another fine week, rain on only one day.—G. J. SYMONS.

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Journal of Horticulture.

THURSDAY, JULY 25, 1895.

SCIENCE AND PRACTICE.

EELWORMS AND THEIR ERADICATION.

I HAVE had the pleasure of reading the first issue (No. 1) of the Journal of the South-Eastern Agricultural College at Wye, Kent. This institution is supported by the Kent and Surrey County Councils, each of which sets aside 10 per cent. of the grants they receive for technical education from the Imperial Treasury under the Local Taxation (Excise) Act of 1889. The College appears to be well equipped for carrying out the important objects for which it was established, and in time may be expected to do incalculable good.

I have been particularly interested by the record of observations, with illustrations, by Mr. John Percival, in the "Journal" referred to of the eelworm disease of Hops. It is very interesting and instructive, but in the end not altogether encouraging, as it is stated that "no practical method is known whereby eelworms can be eradicated from soil." It may be asked then, why all this research if it is of no practical use? I would answer in the words of the Right Hon. A. J. Balfour, "Truth, not profit, must necessarily be the motto of every body of scientific men who desire to be remembered by posterity for their discoveries." But further, it is well known that manufacturers and commerce have gained immensely by turning scientific discoveries to industrial account; and may we not hope and expect that substantial results may accrue to agriculture and horticulture through the investigations conducted at Wye and similar institutions? When I hear a person speak scornfully of science, and assert that "theory is of no use," I am apt to conclude that he does not know what he is talking about. The cottage gardener, farmer, and professional horticulturist—everybody theorises before doing anything—before sowing a seed or setting a plant, and founds that theory on the acquired knowledge and experience. Knowledge is the measure of science, and experience that of practice. Both are essential for the attainment of any desired object in farming or gardening. It is science that so many farmers and gardeners look on with distrust, considering it mere arrogance for anyone to attempt to teach them who has not

followed the plough or wielded the spade. This is a mistake, as no persons are more ready to admit than many who have gone through the mill of hard labour on the land.

But I must turn to the vexed questions—the prevention and destruction of eelworms, root mites, and wireworms. The only difference between prevention and remedy is that by the first we destroy the enemy before the seeds or plants are sown or set, and by the second kill the parasite on or in the plant in such a manner as not to impair the plant's health, at the same time aiding its recuperation. This is a farmer's and gardener's point of view, the utilisation of science—of which both farmers and gardeners possess a good deal unknown to themselves. I have now to say that eelworms are just as easily killed as eels are by the bleaching powder solutions run into the streams, and venture to recommend a few "object lessons:"—

1, *Solution of Nitrate of Soda*.—Take a wide-mouthed quart glass jar or pickle bottle, wash it thoroughly clean, place in $\frac{1}{4}$ oz. nitrate of soda and 1 pint of water. The salt will dissolve in a few minutes, then place in (a) the worst eelworm-infested root of Cucumber, Hop, or Tomato; (b) a bulb of Eucharis, Gladiolus, Hyacinth, or Vallota swarming with mites; (c) a Carrot nearly eaten away by grub, or a Potato much hollowed by wireworm. Let there be no mistake. Leave the specimen in the solution twelve hours. If it be desired to see how the solution acts take a small portion of the root infested with eelworms, or of the bulbs swarming with mites, and place in the cup of a microscope containing enough of the solution for its immersion, turn the light on, look through the object glass, and you will see the finest gliding and contortions of eelworms—such as are not approached by the most expert serpent charmer, or the frantic efforts of mites equalling that of a wasp entangled in a spider's web. You will see how the eelworms throw out air-bubbles, stretch themselves out with a final shiver, or the mites strive to escape this way and that, and then fall into a jelly-like heap. For the Carrot grub and wireworm the naked eye will show how they retreat into the Carrot or Potato, shortly emerging from the holes, rise to the surface, and finally settle in the solution head upwards. The whole of these things will be performed in about forty minutes.

After the twelve hours' immersion in the solution find, if you can, an eelworm or a mite alive. Make no error, but examine every part of the tissue, and find that the solution has been taken into every cell and not one cell injured, whilst neither eelworm nor mite exists.

2, *Solution of Kainit*.—Proceed exactly as for the solution of nitrate of soda, only use kainit instead. Look carefully and patiently, then you will see that chlorides act more slowly than nitrate, but are not the less sure. If you experiment with a Potato set, note the facts that in the kainit solution the sprouts are not injured, but the growth accelerated, making considerable growth, and even emitting roots in the course of two or three days; whilst another in the solution of nitrate of soda remains stationary, but is neither injured in sprout nor in tuber tissue. That tells us the Potato appropriates potash.

3, *Solution of Soluble Phenyle*.—Soluble phenyle forty drops, water (soft), 1 pint; mix. Proceed as advised for 1 and 2. Note how the eelworms wriggle about; mites go all in a heap, and wireworms collapse.

The foregoing are all maximum doses, but half-strength solutions act quite as effectively, only the time required is longer. All are common things—two (nitrate of soda and kainit) manures, and one a disinfectant. They are readily procured, easily applied, and return a good profit on the outlay, as all possess manurial properties, nitrate of soda and phenyle being nitrogenous, and kainit potassic.

The Three Substances as Disinfectants of Soils and Plants.—Nitrate of soda or kainit, $\frac{1}{8}$ oz. to 1 pint, 1 oz. to 1 gallon. Soluble phenyle 20 drops to 1 pint, 1 wineglassful to 3 gallons of soft water. (d) Turves: Immerse in the solution, place on a gridiron

across the tub, allow to remain till the superfluous liquid has run off, then stack. (e) Soil: Place a foot thick, and being moderately moist use $1\frac{1}{2}$ gallon of the solution per superficial yard. (f) For beds or borders: Water with 3 gallons of the solution per square yard, the ground being well drained, so as to allow the solution to sink into the soil, and by no means allow the enemy to escape downwards. Wireworms may come to the surface to die, or afford meals for starlings and rooks; but neither root mites nor eelworms bother about breathing atmospheric air. (g) Plants: Such as Cucumbers in pots before planting out, stop the hole in the pot, and water with the solution till it shows at the surface, and after soaking an hour remove the clay plugs; for Tomato plants soak for three hours; for bulbs soak for six hours, and for hardy plants, such as Hops, soak for twelve hours. The foregoing under (g) are for bad cases; for ordinary ones it suffices to water plants in pots once thoroughly, and steep the roots (not tops) of hardy plants for an hour, allowing sufficient time in all cases for the solution to enter the tissues. Regard must be had to the tenderness of the plant. Cucumbers are soonest affected injuriously, Tomatoes the least. I have had Tomato plants in both kainit and nitrate of soda solutions three days without any injury whatever.

Nitrate of Soda and Kainit in Powder as Preventives of Eelworm, Mites at the Root, and Wireworm.—Dress the land in the spring, just before sowing seeds or setting plants, with nitrate of soda, $1\frac{3}{4}$ lb. per rod, $2\frac{1}{2}$ cwt. per acre, having it crushed fine, and evenly distributed when the ground is moist, but with a prospect of fine weather or only slight showers for a few days. This will kill slugs and leather-jackets, as well as eelworm, root mites, and wireworms.

Kainit, also crushed fine, may be used similarly to the nitrate of soda at the rate of $2\frac{1}{4}$ lbs. per rod, $3\frac{1}{4}$ cwt. per acre. In using these substances separately there is danger of getting too much growth in the plant from the nitrate of soda, and too little, if not some retardation, by the use of the kainit, and in cases of land broken up from old pasture, or badly infested with grubs or wireworm, the quantities separately are not only insufficient, but not the correct thing for the crop, say Potatoes. In that case, $1\frac{3}{4}$ cwt. of nitrate of soda and $3\frac{1}{4}$ cwt. of kainit, mixed, per acre, or $3\frac{1}{2}$ lbs. per rod, will give a good account of the parasites the land contains and produce excellent results in the crop. Half the amount of this mixture suffices on ordinary land, and it is just as good for Tomatoes as for Potatoes. As most people like things worked out for them, especially those having most time for making calculations and only requiring small quantities, it may be stated that the proportions are in lbs., $1\frac{3}{4}$ nitrate of soda, $2\frac{3}{4}$ kainit, both crushed fine, thoroughly mixed; rate $3\frac{1}{2}$ lbs. per rod, 2 ozs. per square yard.

Phenyle for Infested Crops, such as Cucumbers and Tomatoes.—Soluble phenyle, 20 drops to 1 pint, 1 wineglassful to 3 gallons of soft or rain water. This for Tomatoes, half strength for Cucumbers or Melons. That is for bad cases; for suspicious ones 20 drops of soluble phenyle per gallon of water, using as often as required, but not so as to induce too much growth. Outdoors:—Hop plants or anything not hair-like rooted, as Heaths.—Soluble phenyle, 1 wineglassful to 3 gallons of water, and that amount per square yard, one dressing being sufficient for the worst cases, and for ordinary cases of suspicion 60 drops (1 drachm) per gallon of water.

For Grub or Rust in Carrots, and Maggot in Onions.—Soluble phenyle, 1 gill (quarter of a pint) to 4 gallons of water; apply with a rose watering can; for Onion maggot, 1 gallon per square yard; for Carrot grub half a gallon more, or sufficient to moisten the soil to the extent of the root formation.

For indoor or outdoor: Nitrate of soda, 1 oz. per gallon of water; or kainit, 1 oz. per gallon. These solutions must only be used on such plants as Tomatoes and Beet alternating, so that the nitrate may not force the plants too much, and chloride, on the other hand, be kept from doing harm.

Growing Crops in Fields.—(h)—Corn and Fodder.—These are often eaten off at the roots, wireworm being the great pest, but eelworm sometimes does mischief, also root mites. Mixtures are best for these crops. Nitrate of soda flushes the plants too much, kainit may do harm if nitrate is not given or nitrogenous matter present. Nitrate of soda, $1\frac{1}{4}$ cwt.; kainit, $1\frac{1}{4}$ cwt., crushed fine, mixed thoroughly and distributed evenly, suffice for 1 acre, or 2 lbs. for 1 rod. In bad cases and on the worst infested places the following mixture may be used:—Nitrate of soda, $1\frac{1}{4}$ cwt.; kainit, $3\frac{1}{4}$ cwt. per acre, or $3\frac{1}{2}$ lbs. per rod, using half quantity on the other parts of the allotment or field. This last-named mixture is advised for root crops infested at the roots by leather-jackets, grubs of any kind, and wireworm. It stupefies, paralyses, kills the pests, and aids the crops in their growth.

I have purposely avoided the mention of lime. It frightens Hop growers and farmers. This may account for the recommendation in the Journal of the South-Eastern College to employ it at the rate of half a ton per acre. Such an infinitesimal dressing "is good in affected gardens, both on account of its deleterious action on the eelworms and its good action on the soil and the Hop plant." If so, what must be the effect of a farmer's dressing of 6 to 10 tons per acre? Would it not destroy the eelworms infesting the soil, both by its causticity and taking away the nitrogenous matter upon which they live, converting this into nitrate of lime for the benefit of the Hop plants?

Muriate or sulphate of potash, 3 cwt. per acre, "are beneficial, as both tending to destroy the parasites, and at the same time acting as a food substance or manure for the plant." Now close with another object lesson. Take an ordinary glass jam jar, wash it clean, put in $\frac{1}{4}$ oz. sulphate of potash, with 1 pint of water, and then introduce the worst eelworm-infested root of Cucumber, Tomato, or Hop, or mite-infested bulb, wireworm-infested Potato, or grub-eaten Carrot, and then watch the capers of the eelworm, the mites, or the grubs or wireworms with the microscope or the naked eye, as the case may require, comparing the results obtained with those from the nitric acid of nitrate of soda, the chlorides of kainit, and the nitro-phenol of phenyle. Such experiments are very interesting, instructive, and useful.

Disinfecting Cucumber and Tomato Houses.—Syringe every part of the woodwork and walls with petroleum, one wineglassful to 3 gallons of water, keeping well mixed by alternate squirts into the vessel and over the house, wetting every part. The effect is to produce nitro-benzol, $C_6H_5(NO_2)$. Clear out the old soil if shallow beds are used, and syringe the bed part of the house, walls, and floors, with soluble phenyle, 1 gill ($\frac{1}{4}$ pint) to 3 gallons, taking care to thoroughly wet every part, even the cracks or holes in walls. If the house be kept close for a day or two everything in the shape of eelworms will be destroyed, and afterwards cleansing it in the usual manner, there will not be eelworm attacks unless re-introduced. If the soil is not taken out it should be thoroughly disinfected, and the needful manures applied in order to insure clean and healthy crops.—G. ABBEY.

POTTING COMPOSTS.

RECENT observations in various directions have led me to the opinion that the time has now come for us to use far more simple mixtures when forming potting composts for softwooded plants than we have hitherto thought necessary. The main reason that I advance in support of this contention is that as chemical plant foods contain all the elements needed for the growth of plants in a concentrated form, the constituents of composts are not of vital importance, because top-dressings of chemical manures may be readily applied whenever required. I do not intend to enter into an elaborate scientific explanation of this self-evident fact, but shall content myself with showing the practical advantages we may derive from the state of affairs. These are the ability to grow much larger plants than formerly in a given sized pot, less labour in preparing composts, and in watering.

It seems to me that we have in past times paid too much attention to the mechanical condition of the soil in which plants

were grown. That open state of the soil which we were once taught to put our faith in was perhaps, after all, a delusion, if not altogether a snare, because it was productive of very quick growth, longer in the joint than was desirable, and unless relatively large pots were used it was necessary to water so frequently that the richest elements of the soil were quickly washed away. It is generally admitted that as fertile soil is one which will "hold" the food it receives, why then should we ignore this vital point in the culture of pot plants by placing them in soil too light to retain more than a very small portion of the fertilisers given? The only reason I can see for this general practice is the force of custom, to which we as a nation cling so tenaciously. This is a brief explanation of how matters stand.

Now for a few words on the manner in which I think an improved state of affairs may be brought about. At the commencement I think we must allow that cuttings root more quickly and young seedlings grow more satisfactorily in light materials in which leaf soil and sand form a large proportion. As it is desirable that quick root action should be encouraged at this stage no changes I think are necessary in the preparation of our composts for cuttings and very young plants, but from the time they receive their first shift until they are placed in their flowering pots the retentive nature of the soil ought to be gradually increased. This may be brought about by dispensing with leaf soil, horse and cow manures, and mixing a little chemical manure with the soil instead. By doing this we shall obtain a maximum amount of nutriment in a minimum amount of space. The soil being retentive will hold the bulk of the manurial agents firm; it will also require fewer applications of water, because that given will not drain away so rapidly as in the case of a plant potted in light soil. Of course, it will be necessary to give efficient drainage, so that water after having passed through the soil will find a ready outlet. Watering plants grown under these conditions would require to be performed with judgment, and the operator should at first observe closely to find out the exact condition the soil ought to present before being watered, but all intelligent cultivators would adapt themselves to the altered conditions. Another point of great importance is that the loam used should be cut and stacked at least six months before being used, otherwise the fibre would not be sufficiently decayed to enable the plants to assimilate its rich properties.

These lines have not been penned without having previously tried a few experiments in the direction above indicated, the plants experimented upon being Zonal Pelargoniums and Fuchsias. These at the final potting were placed in a loam of moderate texture, with no other addition than that of a little chemical manure. The result in the shape of sturdy, floriferous growth, and the amount of it obtained on plants growing in 5 and 6-inch pots has proved so great a surprise that I have determined to pursue the practice on a more extensive scale. In the meantime I thought it well to give both writers and readers of the *Journal of Horticulture* an opportunity of testing the matter for themselves, or of firing a few shots at the apparently faulty logic of the above notes. It may perchance do good in some direction, perhaps by creating a greater habit of observation, or a desire for experimenting in some rising member of the craft, or by arousing a dormant spirit of opposition in others, a spirit which in former days has brought out the artillery of many a fluent pen. Should it do so now I fear the life of my "bran new J" will be a short, but perhaps a merry one.—EXPERIMENTER.

DO LEAVES ABSORB MOISTURE?

I AM very much obliged to "W. D." (page 56) for his interesting reply to my letter in a previous issue on the above subject (page 43). I assure your correspondent that I signed myself exactly what I felt to be true. I thought, from observations and rude experiments, that leaves were in some way capable of taking in moisture, but in what particular way I had no idea whatever. Still, after what I heard to the contrary, I thought I must be wrong, and hence my appeal.

As a gardener I had many times noticed the freshening of Vine leaves which had become flaccid during a hot day, after syringing them; also, perhaps, most gardeners know they are freshened, even if not syringed, when the paths and walls of the house are well moistened and the ventilators closed, the roots of the Vines being in outside borders, so that the moisture in the house was certainly not imbibed by them. Then it occurred that the revival of the foliage might be due to the prevention of evaporation, and the root moisture thus accumulating in the leaves; but this supposition did not satisfy in face of the fact of dew freshening plants in such a remarkable way at a time when evaporation from their leaves is reduced to a minimum, and,

further, it was noticed that cut grass that became wilted at night was obviously freshened when examined early in the morning.

Then it was that leaves and sprays were cut from trees and plants, and when decidedly wilted immersed in water with the stalks above the surface, the result being that many of them were restored to their original freshness. It is certain that these leaves both lost and gained weight, though I had no scales delicate enough for ascertaining the amount of the difference. They lost moisture and gained it as I thought, and think yet, through the leaves; but still I have amongst others been told that they cannot do so.

"W. D." does not think that under "ordinary circumstances" plants "are able to absorb water by means of their leaves." I should like to know what he means by "ordinary circumstances," as the withering of herbage, cut and uncut, and its freshening under the influence of dew seems to me to be "ordinary" enough. I can understand, in a sense, the case proposed by "W. D.," that a young leaf may absorb watery vapour if wetted while an old one cannot, though I am all the same by no means sure of the fact; nor does the subsequent remarks of your obliging correspondent help me, for he goes to show that water does enter leaves, though he seems to think "it cannot do so through the epidermis." He, in fact, seems to agree with both sides and so will be right anyhow. Evidently he at least is no—GREENHORN.

THEY can do so most undoubtedly. With reference to the interpretation given by "W. D." in your last issue, I think he makes the stomata play too important a part in the matter. They are so excessively minute, being utterly invisible to the naked eye, that it is inconceivable that water—i.e., as water and not vapour—can enter them when air is on the other side within the leaf; for what can first displace this air?

On the other hand, water can be readily shown to be absorbed by the surfaces of leaves which have no stomata at all. If a shoot with several leaves, say of Ground Ivy, have two or three gently laid on a soup plate of water, with the upper surfaces in contact with it, only the ends of the stalks being in the air, not only will the whole keep fresh for many days, but buds in the axils will develop into branches. The absorption by the stomataless surface supplies the water for transpiration—not only from the lower surfaces exposed to the air, but for any other leaves on the shoot also wholly in air.

As a general rule, when plants are growing healthily and well supplied with water, they do not require to take up an extra amount by their foliage; but to prove that they are quite capable of absorbing water, such as rain or dew, the following experiment will be sufficient.

Gather leaves from as many different plants or trees as may be thought desirable. Lay them out in the sun for two or three hours, so that they may lose some of their water and become more or less flaccid. Now they must be weighed. They must then be spread out on a lawn after sundown and exposed to dew during a night, as usually occurs in the autumn. The cut ends soon dry up, so that no moisture can enter by them. The leaves must be examined early the following morning before sunrise. They will all be evidently "freshened up." All superficial moisture must be carefully wiped off with a soft cloth, and each leaf weighed again. Reducing the "gains" to percentages the results will be somewhat as follows:—Lime, gains p.c. 16.40; Oak, gains p.c. 6.40; Geranium, gains p.c. 11.32; Nettle, gains p.c. 27.31; Grass, gains p.c. 35.0; Dock, gains p.c. 16.66; Beech, gains p.c. 24.05; Bryony, gains p.c. 16.49; Thistle, gains p.c. 10.71; Mallow, gains p.c. 9.09; Privet, gains p.c. 3.36; Clover, gains p.c. 31.16; Yew, gains p.c. 1.94; Barbery, gains p.c. 0.94. This table I have taken from my own paper, "On the Absorption of Rain and Dew by the Green Parts of Plants" (*Journ. Lin. Soc., Bot. xvii., 313, 1879*).

The practical application is that it is always advisable to sprinkle the foliage of cut flowers or Ferns with water (but not the flowers themselves) if they are obliged to remain for any time out of water. Before putting them in water the ends should always be cut off under water, or at least with a wet blade, and immediately put into water, for if the cut ends be left unwetted for a very short time the flow of water will be impeded. Of course to keep flowers fresh as long as possible the water must be daily renewed, and half an inch at least of the stem should be cut off each time as before.—GEORGE HENSLOW.

A GARDEN OF VIOLAS.

WITH no rain to speak of for weeks, or even months—less, in fact, than for the first half of any year for perhaps forty years past; with grass brown and sere, garden crops languishing, the leaves of Lilac and other bushes drooping, those of Lime and

Chestnut trees falling, making an autumn-like litter, a quest for *Violas*, when the weather was at its hottest on a scorching day last week, was not entered on with the most buoyant hopefulness that anything beyond patchy beds and broken lines of seedy-looking, mildewed plants, would be discovered. True, an invitation from an ardent florist, and more particularly perhaps, *violaist*, embodied a modest suggestion that he might have a few flowers left; but still you never know exactly what such intimations mean, and it is on the whole the best plan to go and see. Another thing, if you enter into a sort of tacit understanding that you will visit the garden of an ardent amateur on a certain day, it is prudent to be there, let the weather be what it may, as disappointments do not add to the tranquillity of his home. He fidgets about, in and out of the house, and round and round the garden, but can do nothing; is constantly looking stationwards, if not meeting trains, and is ever and anon startled, as if by the sound of wheels, which may be correct, but the wrong wheels, or it may be the mere delusion of a disturbed mind. Never, then, break faith with a florist who is expecting you to call, as this may have results you little anticipate.

One man is said to refuse to go to bed on the nights on which his expected friends do not arrive, as he cannot sleep, and being of a musical turn finds solace in improvising on the piano, which is not conducive of the nocturnal peace of others; another, as a last resort, finds an outlet for his feelings in fancying his friends are with him in spirit, and proceeds to drink their healths in turn in complimentary speeches, and as spirit friends keep coming the proceedings are protracted. Yet another good man has a different way of assuaging his grief under the circumstances, and tries to forget his friends in the process of devouring Tomatoes. This may seem all very strange, but it is true, and it is better to avert such and other contingencies by always, whether the weather be rainy or roasting, keeping appointments.

It must not be supposed for a moment that our friend the *violaist* of Woodford would have been moved in any of the abnormal directions indicated, had his friends failed him on the occasion in question. As a prominent railway man—the superintendent of a line, or something of that kind—his mind is too well disciplined to be upset by a hitch, and his head too cool to be flurried by a surprise; still, as busy men can only get a day off occasionally, they enjoy their gardens the more on such holiday occasions if a few acquaintances of like tastes can share their pleasures with them. Thus it was that Mr. A. J. Rowberry, the President of the *Viola* Conference, was so happy, and made his friends so happy too, on Wednesday in last week. Among those friends was another President—he of the National Amateur Gardeners' Association, as well as the great medico florist of Sydenham, Dr. H. Shackleton. The Doctor is a great rosarian, and never sees a Briar without the laudable wish arising to change it into a Rose. The Doctor evidently knows *Violas* too, and went as if instinctively to the best varieties; but delightful as they were, he always appeared drawn irresistibly to the Rose bed. He admired the Roses, but they were not after all the great attraction. He had espied a clean Briar, and returned to look at it again and again, until he could no longer resist the temptation, and at last out came his knife, and next year that Briar will be bearing Tea Roses. The Woodford florist is a new grower of Teas, and judging by the intensity of his watchfulness of the Doctor's expert manipulation he might have been taking his first lesson in budding. This duty done the *Violas* were enjoyed in tranquillity.

It must not be supposed that Mr. Rowberry's garden is large; on the contrary, it is very small—a suburban enclosure a little more than 100 feet long by 40 feet wide; one of thousands that are to be found on the outskirts of the metropolis, but few that could be discovered on that sultry day so full of floral beauty, so fresh, and so sweet, and none, regardless of size, could be more cherished; and this garden gives all the more satisfaction to its owner since he does all the work in it. It is a source of health, interest, and pleasure to Mr. Rowberry and his family. Along each side next the fence are herbaceous borders, then a $4\frac{1}{2}$ feet gravel walk, and the rest lawn. It is on beds in the lawn where the *Violas* are grown, but not all of them, and the rest are not in the borders, and not exactly where they would have been planted by an orthodox gardener.

At the house end of the lawn is the Tea Rose bed margined with *Violas*. In the centre another large bed of Carnations and *Violas*; at the opposite end a third large bed of standard Roses thinly planted, and carpeted with seedling *Violas*. In addition, and occupying the rest of the lawn space are four long narrow serpentine beds, each containing a row of choice Carnations, margined with *Violas*. There is thus room for a large collection of the compact, low growing, diversified, and charming flowers, but not room enough for all Mr. Rowberry desired to grow, so he scraped away the gravel from next the lawn, and as he thought the soil

seemed good, forthwith cleared a strip 15 inches wide, dug it up, edged it next the gravel with thin deal battens, and planted the narrow enclosures with Violas. It will be seen, then, that the beds on the lawn are occupied by these flowers, plus a margin on each side filched from the walk, still leaving it wide enough for its purpose. There is no glass in the garden, save one or two frames for storing Carnations, yet it is scarcely possible to imagine a garden containing a greater profusion of flowers, greater variety in colour, and more refreshing fragrance than this. It was Violas from beginning to end, with Carnations rising above them—a pleasing combination, and all in the best imaginable condition, free from speck, spot, or mildew, while the flowers of both kinds easily won premier honours against all comers at the Woodford show.

As to varieties, many are grown for a short time only, to be discarded to make room for others. In no other way could Mr. Rowberry become acquainted with so many. Yet he retains a few favourites for growing in lines or masses to make his garden gay. Among these one of the best for the purpose, or perhaps the very best bedding Viola of its colour, is Blue Gown—a charming mass of soft colour rising from a close carpet of green foliage resting on the soil. As a white Countess of Hopetoun cannot yet be dispensed with; but the band of Christiana round the central bed, though not a pure white, is not less, but even more, effective. This variety is extremely floriferous, and may be described as creamy white with an orange centre, which gives a glow to the mass like a gleam of sunshine.

Other favourites in soft colours are Border Witch and *Rosea pallida*. The first named is a charming combination of white and lilac, the centre of the flowers white feathering into the lilac which prevails over the body of the petals; the other, *Rosea pallida*, may be described as silvery peach, both varieties being dwarf, free, floriferous, and sweet. In contrast, and one of the most effective of the Countess of Kintoro type, we have Iona with its very dark bars as if forming a cross in the centre of the flower, on a lighter ground paling to the margin. For its distinct colour, bright chestnut, Amazon Queen is grown, but its large square yellow centre gives it a garish appearance, and links it with the Pansies, still it has its admirers, but not so many as have Archie Grant with its intensely rich bloom.

As a margined variety Duchess of Fife seemed indispensable. As a primrose coloured Viola, soft and clean, George Lord may be said to lord it over the whole collection, while as a yellow the new A. J. Rowberry is unique. It differs from all other yellows in its distinct ochreous hue, and is smooth and clean, without the suspicion of a streak, and of extra substance, in leafage also very robust and dissimilar from others. It is a local variety, "everybody wants it," and it may be taken for granted that cuttings will be inserted as fast as they are produced. Violettas are also grown, and two-year-old plants were covered with dainty flowers.

As showing how easily Violas may be raised and grown Mr. Rowberry never protects them with glass. Cuttings are rooted in the border on the shaded side of the enclosure—the narrow border facing north, and propagation will soon begin. Early in October the young plants are transferred to a nursery bed on the opposite side, where they pass the winter. By March they are sturdy and strong, and towards the end of the month or early in April are planted in the beds, which have been roughed up, so that the soil may be frozen through in the winter. They get a firm, deep root-hold before dry weather sets in, and by a couple of heavy waterings twice a week, if needed, and stirring the soil afterwards, also picking off fading flowers to prevent seed formation, they flower continuously throughout the season. Certainly in mid-July the plants were as fresh as plants could be; but, then, was not just a little of something else done? We know what kind-hearted florists are when they invite friends on flower-show day. They will have something to show them, even if they pick off the flowers awhile before to rest the plants a wee preparatory to a flush into beauty. Perhaps our host did this, and perhaps not; but whether he did or whether he didn't, he succeeded in having, what we should not know where else to go within a radius of fifty miles of London to see equalled on the hottest day of the driest season on record—a garden with beds full, absolutely full, of hardy flowers fresh and fair and fragrant—something of which the owner had right to be proud, and which his visitors greatly admired.

A glance through the show in the extensive grounds of Mr. Hills, the renowned vegetarian and philanthropist, where plants, flowers, fruits, and vegetables were admirably displayed, and which Mr. William Paul so well enriched from Waltham Cross; a drive through the skirts of Epping Forest, all too limited; drawing-room music, all too brief, we arrived in London all too late after our feast of Violas.—A CITY MAN.



CATTLEYA GASKELLIANA.

INTRODUCED about twelve years ago, this fine *Cattleya* has now found its way into nearly every collection, its full and richly marked flowers making it a favourite wherever grown. In habit it comes very near to *C. Warneri*, though like all the labiata group it varies in the shape and size of its pseudo-bulbs. A good form will measure from 6 to 7 inches across the petals, which with the sepals are pale purplish rose, the lips similar in colour on the upper portion, the front having a deep yellow blotch in the throat, the spreading part purple in the centre, with a white mark on either side. *C. Gaskelliana* flowers on the current year's growth, and should on this account be kept as dormant as possible after flowering in order that the growth may be seasonable.

It is a free rooting and growing species which never fails to flower under careful culture, and takes rank with the best in this section, its flowering season being between the *Mossiae* and *labiata autumnalis* varieties. The best season to repot is just as growth is commencing in spring, proceeding as frequently advised in the *Journal of Horticulture* with regard to compost and manner of repotting. There are, it is true, some very wild forms of this species, but there are also some remarkably good ones. The species was named in compliment to a Liverpool orchidist—H. Gaskell, Esq., and is a native of Venezuela. The varieties include *C. G. picta*, a beautifully marked form with striped sepals and petals;



FIG. 11.—PHALAENOPSIS LUDDE-VIOLACEA. (See page 87.)

alba, a chaste and rare variety introduced by Messrs. B. S. Williams and Son of Holloway; *carnea*, *grandiflora*, *rosea*, *superba*, and several others, all possessing some distinguishing quality of size or colour.

SACCOLABIUMS.

Apparently the distichous-leaved Old World Orchids such as *Saccolabiums* and *Vandas* are again gaining ground with orchidists. In conversation with a well-known nurseryman recently the subjects of this note cropped up, and I was surprised yet pleased to hear that the demand for them was steadily increasing, not only for the newer, more rare species, but also the old well-tried kinds. These have much to recommend them, and it is remarkable that such beautiful plants have been so long in the background. Though the blossoms are not individually large, yet the number on the racemes and their elegant appearance as a whole cannot fail to please if given a fair trial. Most of the *Saccolabiums* are natives of the hottest parts of the tropics, growing abundantly on the branches of trees in India and about the islands around the Malay peninsula. They obviously require a great amount of heat while making their growth, and are best accommodated in the lightest and warmest part of the East Indian house. Small plants are easily reared in baskets suspended from the roof, while larger, more bulky specimens may have a place on the central stage, either in baskets or pots as preferred. These, too, must not be kept far

from the light, as they do not flower freely if the growth is not well consolidated as it is made.

Clean fresh sphagnum moss and charcoal are all that is required to grow them well, the amount varying according to the habit of the species, large growing kinds, as *S. Blumei*, of course requiring more than such small growers as *S. bellinum* or *S. coeleste*. Like all this class of Orchids *Saccolabiums* dislike frequent disturbance; therefore when repotting or basketing the work must be done thoroughly, not leaving anything behind that can possibly become sour or decayed, and giving as much room as possible, considering the size and health of the plants. A distinct and pretty kind is *S. ampullaceum*, which does not usually exceed 8 or 10 inches in height, and bears thick dark green leaves, from the axils of which proceed the erect racemes of flower. The blossoms are small but crowded in the spikes, and a pretty bright rose colour. Basket treatment is best for this kind, and also for *S. bellinum*, a small growing but large and beautifully flowered species introduced by Messrs. H. Low, Clapton, in 1884. The blossoms of this are produced in February or March, and each measures nearly 2 inches across. The sepals and petals are olive green with spots of brown, the lip pure white with a yellow crest.

S. Blumei is a well-known and handsome species, producing in summer long elegant racemes of rosy pink and white flowers. Large plants of this kind with a dozen or more spikes are noble objects in the Orchid house, and should be more frequently seen. A pure white variety of this species has been exhibited, but it is extremely rare and valuable. A smaller but charming kind is the Siamese *S. coeleste*, which produces at this season dense racemes of flower about 8 inches in length, pale blue in colour, a very distinct feature. A very variable plant is *S. giganteum*, flowering in the depth of winter on dense pendent racemes. The typical flowers are creamy white with purple spots, the lip rose coloured streaked with purple. Other good forms are *S. guttatum*, a large-growing, summer-flowering kind; *S. curvifolium*, a small, free-flowering, and distinct species; *S. Hendersonianum*, and several others. They are all well worthy of more attention at the hands of amateurs and others, who—if they work on the lines indicated above—will find no special difficulty in their culture.—H. R. R.

RAISING AND PREPARING VINES FOR PLANTING.

HAVING read the article which appeared in the *Journal of Horticulture*, July 11th, page 43, "Preparing Young Vines for Planting," perhaps it may be instructive to some readers if I pass a few remarks on the subject, especially after the discussion that has appeared week after week on "Express Grape Growing." I have had experience in a very large way in preparing young Vines for planting, and also fruiting them after they are planted. I prefer the straw-like Vines alluded to on page 495 by Mr. J. Thomson, as planted by Mr. W. Innes, provided they have abundance of fibrous roots, to big, strong-looking canes, which have been grown in bottom heat and highly fed. We have planted both kinds in the same houses, growing them all under similar conditions, and I have noticed that the small canes invariably make the better progress. What is the cause of this difference? I will try to explain.

I was once employed in a large nursery, where pot Vine growing was a speciality. When the Vine eyes were inserted they were placed at once in strong bottom heat, and kept under these conditions right through their principal growing period. They were potted in very rich compost, the final shift being into 10 or 12-inch pots, and highly fed with chemical and liquid manure. These Vines made strong fibreless roots, robust long-jointed canes, with very weak eyes. When such Vines as these are planted, and have heat applied, the buds are excited into growth; but owing to the lack of fibrous roots, the young growth has to depend on the food material stored up in the Vine; when this becomes exhausted the growth is at a standstill till root action takes place sufficient to start them into growth again. I have evidence of this from Vines of both kinds planted alternately, and the difference between them is very striking.

We insert our Vine eyes in very sandy compost, place them in a temperature from 50° to 55°, gradually increasing the heat as the growth advances. We pot in a compost of three parts good loam and one part decayed manure, adding sand enough to insure porosity, finally shifting into 10-inch pots. We never "feed" the Vines, but keep them well watered during their growing period. The canes are topped when about 6 feet long. By not feeding with any kind of liquid manure the Vine makes every effort, by producing fibrous roots, to obtain every particle of food there is in the soil. The canes are not extra large, but have prominent buds, and the pots are full of fibrous roots. When we plant, the roots are liberated, spread evenly out, covered with about 4 inches

of soil, and well watered. These Vines start into growth freely, the mass of fibrous roots pushing innumerable root-hairs, these collect food which supports the growth, and we soon have strong fruitful canes.—GROWER.

[A "Grower," we may add, of a famous collection of Vines, and his success in their culture is the measure of his competency.]

ROYAL HORTICULTURAL SOCIETY'S EXAMINATION. RESULTS.

THE report in your last issue on the results of the R.H.S. examination is, no doubt, satisfactory to some, if not to all. One very noticeable fact, however, was the comparatively small number of candidates who sat. No doubt there is some cause for this, for why should not the number be at least equal to those who sit at the examination in agriculture held by the Science and Art Department, there being considerably over 4000 sitting every year for this science? If the R.H.S. wish to make their examination more popular and a success they will have to consider the needs of the candidates a little more, and try and meet them on more equal terms than at the present time.

Take, for instance, the quantity of men engaged in horticultural work in this district of Herts (over 1000), growing Grapes, Tomatoes, Cucumbers, Chrysanthemums, Palms, Ferns, and pot plants generally, these all being grown under glass. Another section of men in the district are engaged in nurseries where fruit trees, Roses, herbaceous plants, and shrubs are grown extensively. There are others still who are working in private gardens where a large staff of men are kept, their work generally being in separate departments where, unless they have special facility given them, they cannot learn much besides what they are engaged to do.

I do not think it is fair to expect the different classes of horticulturists mentioned above to answer questions out of "Division B, Horticultural Practice," for which four could either of the above sections answer satisfactorily? It may be said in reply that all the subjects should be known before the candidates present themselves for examination. But how are the majority of young gardeners to learn them? Surely not from books? and we cannot all go to an institution like Swanley College.

If a man be growing Grapes, Palms, or Ferns, and thinks he would like to get one of the Society's certificates, do not ask him about growing Peas, or the parentage of Cauliflowers, which—if he studied from books on purpose for the examination—would not be of any value to him in his work; but rather ask him questions about the work in which he is engaged, and expect him to give a satisfactory answer.

It is true no man can be a good gardener unless he understands every branch of his calling; but I fear this knowledge would not be gained before the gardener was too far advanced in life to trouble anything about examinations. It is to young gardeners that the R.H.S. must look for candidates, and there is not many of these who can start at the bottom and work through all departments. The examination under present conditions is just the thing for students at a place like Swanley College, and if it had been arranged specially for that department it could not have been made more suitable. There the students are able to study the different sciences underlying the principles of horticulture, besides having every facility of seeing horticultural practice carried out; and although it reflects great credit on the teaching of the College to see so many of their candidates successful, I cannot help thinking with Mr. A. Dean that there should be a separate examination for them.

Surely there were at least some gardeners who entered for the examination who were equal in their knowledge of horticulture to the ladies who were so successful, for I know men low down on the list who have had the best practical experience possible in gardening, and now occupy some of the best positions in the country. There must be some fault in the examination for this to be so. What I would suggest is that the R.H.S. should alter the method of examination so as to suit all classes of gardeners. They would then give each and all a more equal chance of gaining their certificates, and make it more popular. Division A, Elementary Principles, should remain as they are, for these principles are the very foundation of our work. It matters not whether that work be growing Wheat, Grapes, or pot plants, the facts are in each case the same.

Division B, Horticultural Practice, should be arranged into three sections—(1) Flowers, (2) Fruit, (3) Vegetables; they should be made to embrace the whole subject of gardening by means of a syllabus—e.g., "Fruit" should be understood to mean all kinds of fruit, whether grown outside or under glass. Sufficient questions should be given in each subject to enable the candidate to answer all from one section if he chose to do so. It would also be a great advantage if we could get a weekly gardening paper similar to the *Journal of Horticulture* to give a general outline of the work, for I know from experience that many would sit if they knew what the examination would be like. Take a district like ours, one which is devoted entirely to horticultural work, and yet nowhere in the neighbourhood were there any lectures on horticulture during the past eighteen months. It is in places like this that the advantages of a certificate must be shown to young men, and also what the examination is like, before they will take it up.—W. D., Turnford, Herts.

SEEING that no less than seventeen ladies passed of the 122 having 100 marks and upwards, it would be extremely interesting could one or

two of these persons' papers be published, that readers generally might thus discern how far they were posted in practical as well as in theoretical gardening. I do not for one moment complain of what the ladies have done. Far from it. I rather complain that out of thousands of gardeners, and especially of young ones, so few should have entered for the exam. There can, however, be no doubt but that fully another hour should be allowed for the task of answering the needful number of questions. The most ready of students wants, on first seeing a question, some little time to think it out, so as to give a precise and concise answer.

No doubt many candidates because hurried flounder about somewhat, and especially those who have little practice at composition. Probably another year an effort will be made to have the time extended for the exam unless the number of questions be reduced, but after all eight is not so very many. All that relates to practical gardening under the term of cultivation seems to need more clearly defining and separating from the purely theoretical or physiological.

I found capital work done in answer to many of the papers of questions set in Surrey, that would have entitled the writers to higher positions than they occupied at the R.H.S. examination, but then many of the writers want more time to think out what the questions require than the two and a half hours allotted affords. For that reason it is difficult to make this all too brief examination a fair presentation or test of a candidate's knowledge. The result fairly looked at seems hardly worth so much trouble, but, still, that may be a matter of opinion.—A. D.

[Some of the most successful candidates have told us, that in their opinion, the time allowed for answering the questions is inadequate.]



THE NATIONAL ROSE SOCIETY'S DERBY SHOW.

THE northern exhibition of the National Rose Society, which was held at Derby on the 17th inst., was—if we except that at Birmingham in 1892, when there were 150 more blooms staged—the largest provincial show the Society has yet held. The number of exhibition Roses amounted altogether to 4100, or rather more than 1000 blooms in excess of the average for the previous six northern shows. As regards the general quality of the flowers this Rose show must, I think, be also regarded as having been the best of the season. Taking the three exhibitions of the Society together the total number of blooms staged comes out as 13,200, which makes 1895, as regards the aggregate number of flowers exhibited, a record year.—E. M., *Berkhamstead*.

THE HEREFORD ROSE SHOW.

"HEREFORDSHIRE INCUMBENT" upbraids brother rosarians for not attending the Hereford and West of England Rose show held this year at Great Malvern. There were two reasons why some of us did not attend.

1, The Clashing of Rose Shows.—Great Malvern, Bath, Worksop, Woodbridge, and Helensburgh all on the same day. We went to Bath. The second Thursday in July has been the Bath fixture for some few years. Why did the authorities select this date for Great Malvern show?

2, The Train Service.—If I am not mistaken the last train from Paddington to Malvern is 6.50 P.M. Imagine the hour at which Essex rosarians must cut and stage! Will "Herefordshire Incumbent" kindly point out another train or another route free from changing, and at a more reasonable hour? If there was a little more enterprise on the part of the G.W.R. to bring their train service up to the level of the service of other companies I will warrant him, with such a good prize list as was provided at Malvern, a grand gathering of rosarians. Might I suggest that next year they take the second Saturday in July for their show, as it has been, with the exception of two small shows, a free day for some years past?—J. H. P.

OBSERVATIONS ON THE N.R.S. METROPOLITAN SHOW.

YOUR special reporter's full and accurate account will have been read with much interest by those who were not present at the above show. As I have done in recent years, I should like to give my own general views upon the exhibition, taking such salient points as may seem to me most calculated to interest. I do not write officially, and my opinions may be taken for what they are worth. Some will doubtless differ from me, but, at any rate, as far as I know my judgment is an honest and unprejudiced one.

THE ARRANGEMENTS.

The plan which has been adopted by Mr. Head the last two years has contributed much to the artistic appearance of the exhibition and to the comfort of visitors. Perhaps the long line of boxes reaching from end to end with all their variations of colour had a more striking effect than when the exhibits were broken up as on Saturday into

compartments, but the comfort of not having to press through lines of visitors in order to see the Roses, which were even then seen with difficulty, was so great that no one, I think, regretted for a moment the change which had been introduced.

A HUNDRED EXHIBITORS.

The wide range of districts from whence the exhibits came was certainly remarkable, and showed the enthusiasm of those interested in the culture of the Rose. From north and south and east and west they came, while Scotland and Ireland both sent their representatives. One hundred exhibitors contributed to the goodly array, and although the keen critic would be forced to decide that the anticipations which had been formed of an exhibition deficient in quality was to be expected, yet on the other hand he would be forced to allow it was far better than many had anticipated.

THE TROPHIES.

The Rose growers of East Anglia again asserted their predominance. Two out of the three challenge trophies went there, and three out of the four silver medals for the best bloom were likewise awarded to them, whilst numerous other prizes also fell to their share, and I think that I have never heard more general satisfaction expressed than when it was known that the challenge trophy, the medal for the best H.P., had been awarded to our veteran exhibitor, Mr. B. R. Cant. Mr. Frank Cant ran his formidable competitor very closely, only four points dividing them. I certainly agree with the estimate of the exhibition, that the Teas and Noisettes were inferior to those exhibited at Gloucester, and that the H.P.'s were brighter and fresher. As usual when that exhibitor is in his full force, Mr. E. B. Lindsell's flowers carried off the palm. There is a freshness and substance about them which always makes them attractive. In such a season as this, when the blooms were not interfered with by wet weather, his stand was especially noteworthy. It will be seen that the medals for the best blooms did not go to any outsider. Her Majesty is well known, and this season has suited her admirably, so that the two blooms of Mr. B. R. Cant and Mr. Lindsell were models of perfection. In the Tea class the medals were awarded to two fine blooms—one of *Maréchal Niel*, exhibited by the Rev. A. Foster-Melliar, and one of *Comtesse de Nadaillac* by Mr. F. Cant. They were good unquestionably, but I am pretty sure I have seen better blooms of both varieties.

GARDEN ROSES.

The season had been unfavourable for the exhibition of garden Roses, notwithstanding one of the prettiest boxes I have seen was exhibited by Messrs. Cooling & Son, Bath, and in order to gratify the wishes of those who are ever anxious to know what flowers of this class to cultivate I give their names. Dr. Gull, *Triomphe de Noisette*, *Kaiserin Frederick*, *Abbé Tomason*, *Madame F. Menard*, *Triomphe de Rennes*, *Triomphe de Pernet Père*, *Bennett's Seedling*, *Bardeau Job*, *Madame Geo. Bruant*, *Papillon*, *Madame H. Defeuse*, *Madame Falcot*, *Rugosa*, *Rugosa Alba*, *Celine Forestier*, *Gustave Regis*, *Queen of Bedders*, *White Provence*, *Ruga*, *Renoncule*. Dr. Searle's *Sweet Briar*, *Pissard*, *The Pet*, *Mignonette*, *Jean Drinon*, *Ma Paquerette*, *Crested Moss*, *Malmaison*, *Salet Moss*, *Miniature*, *York and Lancaster*, *Domateil Becard*, *L'Idéal*, *Lucida Plena*, *Musk Rose*, *Opherie*, *Crimson Rambler*, *Marquis of Salisbury*, *Madame Charles*, *Beauté Inconstance*, *Adelaide Ballabre*, *Madame C. Guinnoisseau*, *Madame Falcot*, *Laurette*, *Homère*, *W. A. Richardson*, *Cooling's Single Scarlet*. Messrs. Paul & Son were a good second, and the difficulty of finding blooms for this class was shown by the fact that in the class of eighteen blooms there was only one exhibit. Amongst amateurs Mr. Machin exhibited a very good stand, and no doubt his more northern locality was in such a season as this favourable to him. The blooms were arranged with considerable taste.

NEW ROSES.

A class for new Roses, which was instituted for the purpose of enabling rosarians to see the newest introductions from abroad, seems now to miss its aim, the greater portion of those exhibited being home-raised flowers, many of which are to be seen in many stands scattered throughout the exhibition, and it was not therefore surprising that Messrs. Alex. Dickson & Sons should have carried off the chief honours, and in fact one heard nothing of any new French Rose. With regard to a class for any new seedling Rose there were four exhibits, two by Messrs. Alex. Dickson & Sons, but none of them were considered worthy of the gold medal offered by the Society, although the two exhibited by Messrs. Dickson received cards of commendation, and this does not prevent them from being brought forward again for the gold medal. It is absolutely necessary that great caution should be observed in granting this high award, and it may have been there has been more than once laxity in this matter.

NEW EXHIBITORS.

One is always glad to welcome either new exhibitors or those who, though they may have exhibited before, are taking a more prominent place; thus one is glad to see amongst nurserymen Messrs. Prior & Son of Colchester and Messrs. Townsend of Worcester (east and west) advancing in the character and extent of their exhibits. We do not find amongst amateurs any additions in the larger classes, but the benefit of our local societies was shown when such exhibitors as Mr. Conway Jones and Mr. Washbourne, who distinguished themselves at home, now venturing upon a longer flight, and carrying off prizes at one great show.

ROSES AND THE WEATHER.

One thing I think somewhat surprised visitors and rosarians generally—namely, the high character in which some of the darker Roses have been exhibited. One has noticed this in one's own garden, where not only Roses but other flowers which have continued much longer in bloom than they did in 1893; in fact we have to be careful what general statement we make on the subject of Roses. I stated in a former article that we might naturally expect that the Roses which would stand the test of the exhibition best as to the staging powers would be Roses grown upon stiff soil, but I have a letter before me from my old friend Mr. B. R. Cant, in which he says, "My best plants are on light land, 12 acres just brought into spade cultivation and not worth 10s. an acre." We have but one more of our three great contests to chronicle, but I hope it will be as successful as those which have preceded it. I may perhaps comment on the Derby show in a future issue.—D., *Deal*.

SUMMER PRUNING FRUIT TREES.

THE present is a seasonable moment to write a few lines anent this subject, which is understood by all practical cultivators to be a great assistance to obtaining a full fruit crop in the years to come. Summer pruning, or as some prefer, pinching of the current year's shoots, is a useful aid, but even this practice, no matter how intelligently it is carried out, will not produce a fruit crop alone. The trees thus operated upon must be satisfactory in every other way—roots and branches alike. I am under the impression now that there is some misunderstanding regarding the value and effect of summer pruning fruit trees. Too many persons appear to think that pinching the shoots in June or July will induce the formation of fruit spurs at the base of each shoot, and that a crop of fruit will follow the next year. My object in penning this note is to controvert this idea. Some go further, and say if there is no sign of the formation of a fruit bud in September the shoot should be cut off again, this time lower; fruit buds will then form. The main object of summer pruning is to admit of the free penetration of sun and air to mature the branches and thus assist in the formation of future bloom buds.

These latter are quite distinct from wood growths purely. It is difficult indeed to induce fruit buds to form from purely wood buds. Anyone who will take the trouble to examine a branch of an Apple tree at the present time will find, even now, the next year's fruit buds are formed, and as such will remain in the embryo state for some time. The object, then, of summer pruning is to assist the maturation of the branches by the additional light and air admitted by the removal of all surplus shoots. Apart from assisting the maturity of the branches by the aid of summer pruning, the fruit being more exposed to sunlight colours so much better. It is washed and made cleaner and free from honeydew, dust, and dirt in general. Take for instance Red Currants; there is no comparison in the appearance of fruit obtained from summer-pruned trees and from those not so treated. The colour and cleanly appearance of the former is well worth the trouble involved. An acquaintance of mine who is a hardy fruit tree cultivator of some considerable experience removes wholly many of these surplus shoots, cutting them away as near to the base as possible.

His idea is that they are not required for future fruit production, and are but a hindrance to the maturation of the wood and already forming fruit buds. My plan is to cut away all current year's shoots that are not required for the future extension of the trees, or the filling in of any gaps that there may be adequate space for an extra branch. These I do not cut at all during the summer, at least not until 2 or more feet of growth has been made. Even then where space admits for an extension of the main branches I allow them to grow at will, knowing that fruit will be obtained from these same shoots in the course of two or three years at the most. Surplus shoots I cut back to about four eyes or buds. If they are cut lower there is a danger of the base eyes pushing into growth. The bulk of the shoots pruned in June make another start into growth, these in time need removal also. Not only does the cutting away of these surplus shoots give increased light and air to the branches, but it reduces to a minimum the energy of the tree being diverted into useless channels. The swelling of the fruit is much accelerated by timely summer pruning of useless growth. Another advantage gained by summer pruning is the wholesale destruction of so many insect pests, such as black fly in particular, that infest the tender unfolding leaves. These when cut off and burnt are prevented from transmittance to other trees.—E. M. S.

TWENTY-FOUR DEGREES OF FROST IN THE MIDDLE OF JUNE—A DISCLAIMER.

YOUR readers need not have any immediate fear of the return of the glacial epoch. Locally, it is well known that independent of the influence of varying degrees of atmospheric pressure, the thermometers under the care of "Mr. Thos. Pitts" have previously performed some exceedingly low freaks, yet the fact remains that the most tender vegetation surrounding them recovers from these scathing ordeals without signs of serious injury. Your Editorial footnote to "York's" puzzle (page 32) queries truly, "there is something wrong somewhere." The "Paxton Society," as the responsible authority for circulating through the Press such slang as Mr. Pitts' readiness

to "gamble" on the accuracy of his thermometers, and endorsing it with cordial votes of thanks, has not—well, we will say, added to the dignity of the Society. Judging from the numerous communications addressed to myself as "Secretary" of this Society, it is evident that there is an impression prevalent that I still occupy that position. By your permission I take this opportunity to repudiate any connection with a Society that causes the circulation of such rubbish.—THOS. GARNETT, *St. John's, Wakefield*.

AT a meeting of the Horsforth Gardeners' Improvement Society, the paragraph from the Wakefield Paxton Society in your issue of July 4th, where Mr. Pitts states that he registered 24° of frost between June 15th and 22nd, came up for discussion on the unseasonable weather of the last few months. Our Chairman, Mr. Jewett, who is an old Wakefield Paxtonian, got rather severely roasted about the gullibility of a Society which he has always held up to us as a pattern to copy. He tells us he has been out of touch for a few years with the Wakefield Society, but he thinks there must have been a great change in the Society of late, and does not believe that the body of intelligent gardeners that used to sit around the table (and some of them members from the Walton district) when he was there, would ever have shown such fantastic business capabilities as the taking of such a startling statement without something more than verbal proof of it. I can say from what I have seen since he originated this Society, and of his chairmanship, that Mr. Pitts would have had to bring very demonstrative proof before he would have asked us to give a vote of thanks for such nonsense as 24° of frost in June in Yorkshire. It is time Mr. Pitts gave an answer to the courteous letter from "York" and set the matter at rest.—E. HOULDEN.

HAVING read the report of the Wakefield Paxton Society's meeting in your issue of July 4th, where Mr. Pitts makes the astounding statement that he registered on one night, between the 15th and 22nd of June, 24° of frost, I passed it over as an error; but after reading the note from your correspondent "York," and the footnote added, attesting to the accuracy of the statement being made, I looked forward with no little interest for a reply by Mr. Pitts to "York's" very courteously worded inquiries, but was disappointed.

Perhaps Mr. Pitts is unable to reply owing to pressure of work, which, after 24° of frost in June, must be very heavy. Might I suggest to him a way out of his difficulty, namely, that he should ask E. Simpson, Esq., of Walton Hall, to send us confirmation or refutation of the statement? This gentleman has kept, I believe, a meteorological record of every day for upwards of twenty years, and prior to 1891 these records were taken in the same garden where Mr. Pitts' wonderful frost occurred. I hope this suggestion will help him, or perhaps he could obtain a witness nearer home—Dr. Kendall, for instance.

I have long had great respect for the Wakefield Paxton Society, for its sturdy Yorkshire integrity, and for the good it has done for gardening, but after perusing "The Frost in Yorkshire" paragraph I began to think that there must be something wrong somewhere, when an audience will sit and calmly let such statements get into the Press. It tempts one to ask if the old hands are still at the helm, I mean those who originated and brought the Society up from its infancy, and worked so hard for its success. Have they gone over to the great majority, or have they been superseded by novices?—J. W., *Yorkshire*.

HAWFINCHES.

"W. S.," on page 58, asks for information on hawfinches. Although I am fairly well acquainted with these birds, it is a new feature in their character and habits to hear of their taking Cherries, and I imagine it would be on similar lines to bullfinches taking or destroying Raspberries—viz., for the seeds or kernel contained in the Cherry stones, and the bullfinch for the seed, and not the pulp of the Raspberry. Perhaps "W. S." will kindly notice this, and let us know. Hawfinches in the winter months feed on the kernels of Plum or Damson stones left under trees from fallen fruits, their massive and powerful bills enabling them to crack them as easily as a boy with good teeth does his nuts. They also crack the common nuts, and may be often met with in woods in the winter, searching among the leaves for nuts. They also feed largely on the kernels of the Hawthorn stones, from which I suppose they obtain their name Hawfinch. I remember some years ago seeing quite a number of these birds in the parish of Wootton-Wawen, in Warwickshire, feeding under large Hawthorn trees where the ground was literally smothered with the split Hawthorn stones. In passing I may state that some of the fine old parks in Warwickshire abound with these large Hawthorn trees which provide the fieldfares, redwings, and other birds with an abundance of food from the fleshy outside of the haws, which they swallow and digest, and by the economy of Nature the stone passes from them, and afterwards affords the hawfinch food, second hand, as it were, from the seed. From the closeness of the growth in the heads of these fine old trees they afford shade and shelter for numerous herds of cattle.

I have frequently remarked at the classes where I have given technical instruction on fruit growing in Warwickshire, that had these trees been grafted or budded in their young days with Medlars or Pears thousands of tons of fruit for man might have been grown, and Medlars afford excellent shade on similar lines, while a fine effect is formed by the pure white bloom set in a cluster of fine bright green foliage.

"W. S." asks, Are there any means of trapping hawfinches? Yes; I have caught scores at my Peas, and have two now in a cage caught about a month ago. In giving a course of lectures on horticultural subjects I endeavour to run in at least one on birds destructive to agriculturists and horticulturists, and I have illustrated with a vermin trap how hawfinches, jays, sparrows, and the larger tits may be caught on or near rows of Peas by running a wire through the holes on the treadle, and on these fix a few Green Peas threaded. This may appear to some, as it usually does at a class, cruel.

I think it a matter of sentiment v. sense. If we cultivate our ground, buy seeds, plant, tend, and finally find all our efforts thrown away, it is not only aggravating but senseless to allow hawfinches to destroy crops, as mine were again this year until I caught four of the depredators; three are left, and that is quite enough for breeding next year around here. The two I have now were caught in traps not sufficiently strong to kill the birds, but held them by the neck until I took them out, and they appear none the worse for their perilous position and will become pets. The present is also a good time to commence trapping bullfinches where they are troublesome in winter among the buds. I have usually had some by this time, but have not troubled so far. I had commenced this time last year and caught over sixty in my garden in the season without special effort. A few weeks ago a list of birds appeared in the "Worcester Herald" for special protection under the new Wild Birds Protection Act, and among others the hawfinch was mentioned, the writer adding, "A large increase in these is desirable." What have gardeners to say? I have sent in a list for the guidance of the County Council, but I certainly did not advocate a large increase, interested as I am in all wild birds according to circumstances and habits. As the new Wild Birds Protection Act will affect gardeners to a considerable extent in its operations if carried out, would it not be a suitable subject to ventilate? Some twelve or fifteen years ago we used to get more correspondence on birds in relation to horticulture in the Journal. From remarks I have frequently heard from excellent head gardeners ornithology does not always receive sufficient attention.—JAMES HIAM, *Astwood Bank, Worcestershire.*



EVENTS OF THE WEEK.—Now that the Rose shows are practically over horticulturists will be rather more quiet for a little time. On Saturday the Carnation and Picotee Union will hold its annual exhibition at The Cottage, Stanley Road, Oxford, while on Wednesday and Thursday next the Woking show will be held in the Horsell Cricket Ground.

— WEATHER IN LONDON.—The long wished for rain has at last appeared. Copious showers have fallen in all parts of the metropolis, and good results are already noticeable. In the parks and public gardens vegetation presents a fresher appearance than has been apparent for many weeks, while in the streets the dust has all disappeared and the air is clear and invigorating.

— MEDALS AND SPECIAL PRIZES AT YORK SHOW.—In addition to the awards of gold medals to Messrs. Charlesworth & Co., Messrs. Sutton & Sons, Messrs. Cutbush & Sons, and Messrs. F. Sander & Co., as notified in our report of the exhibition, we are requested to state that the "Veitch Memorial" medal and £5 for Orchids was won by T. R. Jessop, Esq., Roundhay Mount, Leeds (Mr. T. Tyson, gardener), and the "Turner Memorial" prize—a silver cup and £5 for Pelargoniums—by J. T. Kingston, Esq., Clifton, York (gardener, Mr. R. McIntosh).

— THE THIRD INTERNATIONAL AGRICULTURAL CONGRESS is to be held at Brussels from September 8th to 16th. It is under the patronage of the King of the Belgians, and consists of twelve sections. There are sections for agricultural education and for agricultural science, the latter to include chemistry and physiology so far as these apply, besides manure manufacture and food stuffs. There is also a section for plant production to consider seed selection, the cultivation of Barley for malting, irrigation, drainage, and the management of both peaty and mossy soils. Another section treats on colonisation, giving the condition of the countries to which emigrants might go; describes the various crops for warmer climates, and methods of cultivating Grapes, silk, perfume and oil plants, Coffee, Tea, Sugar-cane, and many similar products. A section is devoted to forestry, all other divisions embracing strictly agricultural pursuits, stock farming, dairy work, and pisciculture.

— SOUTHAMPTON SUMMER SHOW.—The schedule of this show, which will be held in Westwood Park, Southampton, on Saturday, August 3rd, and Monday, August 5th, contains particulars of numerous classes, in many of which excellent prizes are offered. As the date of entry is July 29th there is still time for those who desire to compete. Full particulars may be had from Mr. C. S. Fudge, 17, New Alma Road, Southampton, the energetic Secretary.

— SHIRLEY GARDENERS' AND AMATEURS' MUTUAL IMPROVEMENT ASSOCIATION.—At the monthly meeting, held at Shirley on the 15th inst., Mr. R. D. Spencer gave an interesting lecture on "British Herbs and Their Uses." There was a fair attendance of the members, and at the close of the meeting a cordial vote of thanks was accorded to Mr. Spencer. On the 17th inst. a large number of the members and their friends had their first annual outing, visiting the Royal Gardens, Kew. The President (Mr. W. G. Spranger) accompanied the party, and by his kindness, and that of a few other friends, luncheon and tea was provided for the members at the Pavilion in the grounds.

— CALOCHORTI.—I, too, have made a start with these Mariposa Lilies, but it is a feeble one. Still enough of their great beauty and quaint appearance has been seen to make one long for many more. It is a pity the flowers all droop so persistently, thus hiding the quaint markings of the inside of the flowers. Thinking our soil was of too retentive and cold a nature to trust the bulbs in the ground all the winter, I had some wintered in a frame and put out in the spring when growth was apparent. I had holes 1 foot square dug out for each bulb and filled with peat, leaf mould, and sand. Abundance of water this dry weather has been supplied to the plants, most of them have flowered, and have interested all who have seen them.—E. M.

— PRACTICAL GARDENING IN EGYPT.—Mr. Walter Draper has been giving a course of lectures at Ramleh on this subject. The lectures treated of the following matters:—Botanical classification of plants, climate and soil, trees and Palms, arrangement of a garden, the planting of shrubberies and borders, lawns, and flower beds, climbing plants, plants for windy and sheltered positions, Roses, annuals, hedges, conservatories, specimen isolated plants, water gardening and aquatics, potting, bulbs, Chrysanthemums, Cactus and succulents, garden economic plants, Vines, fruit trees, pruning, grafting, and propagating. Mr. Draper, who is an old Kewite, has been appointed Director of the Government gardens at the Barrage, near Cairo. A book on "Gardening in Egypt" may shortly be expected from Mr. Draper's pen.

— A WEEK'S RAINFALL.—The total rainfall for last week was in excess of the average in nearly all parts of the kingdom, the only localities with any general deficit being the east and south-east coasts of England. In other districts the amount varied greatly in different places, and even at closely adjacent stations, the heaviness of some of the falls being due in not a few instances to local thunderstorms. The largest amounts of all appear to have been experienced over our midland, western, and south-western counties. At York, Loughborough, and Oxford the total fall was considerably more than double the average, while at Hurst Castle it was just two and a half times the normal. The least favoured region was again the extreme south-east of England, the total for the week at Dungeness and the North Foreland being considerably less than half the average.

— POPPIES.—Although Poppies are with us to-day and to-morrow fled, still from the great variety in form and colour they form a beautiful and interesting class of flowers. By cross fertilisation for many years I have obtained several very fine fixed sorts. Amongst the Icelanders there are numerous forms and shades of colouring; cupped and flat flowers of clear lemon to rich orange, the same alternations with the whites and terra-cotta varieties, all the sorts having a tendency to become double. I have not seen a double crimson in bloom, but I have a double white, and the yellows are making a strong and rapid effort towards it. Some three or four years ago I grew one weakly plant of the Tulip Poppy with but one flower, so cannot think it would have any influence in crossing other varieties. This year amongst my French Poppies, perpetuated from a penny packet of seeds for upwards of thirty years, there are several fine dark crimson Tulip Poppies. These are large, and show distinctly the black white laced cross inside, while underneath or outside are two black markings so characteristic amongst the French varieties. The foliage of these Tulip Poppies is robust and truly French in character.

— SIR J. T. D. LLEWELYN, Bart., the well-known President of the Horticultural Club, has been elected Member of Parliament for Swansea, of which town he was Mayor a few years hence—a good one, too, and one of the most respected gentlemen in the principality.

— THE GREEK CURRANT CROP promises to be remarkably good, but, so far from rejoicing on this account, the farmers are petitioning the King to prevent the markets from being glutted and the prices forced down. Should this happen, they significantly add that they will be unable to pay their taxes.

— HARVEST PROSPECTS IN AMERICA.—A telegram from the "New York Herald" reckons that the Government reports of the next harvest indicate a yield of 397,000,000 bushels of Wheat, which is a decrease upon 1894 of 14 per cent.; and Maize a possible yield of 2,353,000,000 bushels, which is nearly double last year's crop. The final result is, however, still liable to the chances of the weather.

— THE WESLEY TREE.—It is represented that the "Wesley Tree" at Cambo, Northumberland, is greatly decayed. Various appliances have been used to keep the parts together, supplemented and fortified by a substantial fence. A new tree has also been planted close by, and a stone monument erected by Sir George Trevelyan bears the simple inscription: "John Wesley preached here on his seventy-ninth birthday, June 17th, 1782."

— HORTICULTURAL CLUB.—The annual excursion of the members and their friends, to which ladies are specially invited, will take place on Tuesday, July 30th. The members will meet at King's Cross, Great Northern Railway (Suburban) at 9.30, and proceed by 9.45 train to Finchley, to view Mr. Peter Kay's graperies. Brakes will be ready to convey the party, at 1.15, through Barnet to Hatfield, where the gardens will be open to the inspection of the members, under the guidance of Mr. Norman, the Marquis of Salisbury's head gardener. Members will return by 8.45 P.M. train from Hatfield to King's Cross.

— PRICKLY LETTUCE A NOXIOUS WEED.—Prickly wild Lettuce, *Lactuca scariola*, says the "American Agriculturist," is a very abundant and common weed in the Central States and is sparingly scattered throughout the whole country, having been introduced from Europe. It is an annual weed, flowering in midsummer, and is closely related to the garden Lettuce, but has the leaf, edge, the midrib, and the lower stem covered with prickles. As in the Compass Plant or Rosin Weed, the stem leaves are twisted vertically, with the edges directed north and south so that the sun may shine equally on both sides. Dr. J. C. Arthur of the Indiana Station believes that the plant has many of the weedy characteristics of a successful intruder, and that though its extermination may be impracticable, it should be kept in thorough subjugation by timely mowing and uprooting, so that the seed cannot be ripened. Unless the stem is cut off well below the surface of the ground, the plant will persistently throw out sprouts, which if unchecked bear a profusion of seeds. Its noxious qualities have caused it to be mistaken for the Russian Thistle or Tumbleweed.

— A FINE CURRANT.—At the meeting of the Fruit Committee of the Royal Horticultural Society held on July 9th there was shown from Jersey, under the name of Comet, a very fine sample of Red Currants. There seemed to be no doubt that the variety was Red Cherry, or some other fine-berried sort; but in some cases leafage seems to determine variety more than fruit. In any case, the sample was a remarkably good one. A few days since, when judging at the small show held in Clandon Park, near Guildford, I found there a dish of exceedingly fine Red Currants entirely equal to the Jersey sample. This fact served to render one's satisfaction all the greater that this latter variety had not at the Drill Hall been admitted as new. The sample at Clandon came from the Park Gardens, and later I had the pleasure of seeing the splendid crop growing on about a dozen of rather dwarf compact bushes—a very heavy as well as a very full one. Mr. Blake, the gardener, stated that the culture was identical with that given to other bush fruits; but the sample was splendid, and it may well be a matter for surprise that anyone should grow any other sort, as the bunches were longer and the fruits so much finer than are those of average varieties. The bushes came originally from Messrs. Smith and Sons of Worcester, who can probably give the right name. Of course, I mean the acknowledged name, and not a local one. The wood is of fair average strength, and the foliage good and dark. Such a variety where Red Currants do well should be planted by tens of thousands, as the market returns for such a sample should certainly be fully 20 per cent. higher than can be obtained for inferior fruit.—A. D.

— HAZEL NUTS.—Numerous varieties are cultivated in Kent, but Filberts are more extensively grown than the Cob in the neighbourhood of Maidstone. Ground which is good for Hops is equally good for Filberts. Woollen rags make the best and most lasting manure in the opinion of many growers.

— CELERY COMPANY, LIMITED.—Registered by W. Goulton, 1A, Grove Park Road, South Tottenham, N., with a capital of £20,000 in £1 shares. The object in view is to acquire by purchase 222 acres of freehold land on the Shrub Hill Estate, in the parish of Feltwell, Norfolk, and to carry on business as cultivators of and dealers in Celery. Registered without articles of association.

— DEATH OF MR. T. H. RABONE.—It is with much regret that we have to announce the death of Mr. T. H. Rabone, for the last twenty-six years head gardener and steward to the Earl of Shrewsbury and Talbot, Alton Towers, Staffordshire, and a well-known figure in horticultural circles. Mr. Rabone has been ailing for the past few months, and on Saturday last passed away at the age of sixty-two. He was highly respected by all with whom he was acquainted, and we extend the hand of sympathy to his bereaved family.

— THE COUNCIL OF THE ROYAL BOTANIC SOCIETY has decided to open the gardens to the public every Monday afternoon up to the end of September on payment of 1s., and on August Bank Holiday, when a band will be provided, the same admission fee being charged. An evening fête will be held on July 31st, when there will be a geographical arrangement of plants and an exhibition of living medicinal plants. There will also be an exhibition of artificial flowers, and the girls engaged in the trade will give a practical illustration of work in this important industry.

— FORCING LETTUCES IN POTS.—A transatlantic contemporary states that this has been carried out with much success at the Geneva Experiment Station, New York. The seeds were sown in shallow boxes, and the young plants, when 2 inches high, were put into 2-inch pots filled with a mixture consisting of three parts loam and one part each of sand and well-decayed manure. A bed, consisting of 3 inches of manure and 3 inches of compost, similar to that used for potting, was made up on the side stages of the forcing house, and the pots were plunged in this with the bottom resting on the manure. The pots were placed from 8 to 10 inches apart, according to the space required by the variety; but it was found that when grown in pots, the several varieties make a more compact growth and produce hearts more quickly than when the roots have the run of a bed of rich soil. When the plant is ready for market it is turned out of the pot and dispatched to its destination without disturbing the roots. In forcing Lettuces, it is important to ventilate freely when the weather is favourable to the admission of air, and cultivators are advised to maintain a steady temperature of about 55° by day, and from 45° to 50° by night.

— EXHIBITION PEAS.—A dish of Sutton's Matchless Marrow, shown the other day at Clandon, was one of the finest samples of a Pea on the show table I have yet seen. With regard to requirements in Peas, I find various opinions, as some judges are taken with size and appearance of pod, others like colour, others judge by flavour or sweetness, or tenderness, and so on. There can be no doubt, however, but that colour is a strong feature in show Peas, and there is in that feature almost unanimous opinion. It is not true that colour always indicates flavour and sweetness, but it does generally. A green pea, too, seems to retain its softness longer than a white one does. Seeing that we have now such a wealth of fine cropping and podding Peas, and certainly large enough for anything, if not in many cases too much so, I should like to see raisers aiming to secure depth of colour—greenness—to a greater degree, and more of flavour and tenderness of the peas when shelled. Rather tight pods, long, straight, and narrow, yet not too hard filled, of rich colour, if peas be of good flavour and tender, will invariably secure more prizes on the show table than will the huge puff-podded Peas of which we have seen so much of late, and are now going out of fashion. Sharpe's Queen type of pod is one of the best, and when well presented is found to give the best satisfaction. Whitish or pale green pods and peas are instinctively avoided when handsome well filled green pods are near. I have been somewhat surprised to find such capital Pea samples shown this season in spite of the drought, but I fear the days of Peas for exhibition are nearly over for this season. Only where the soil has been deeply trenched and well manured, and where the rows are well mulched and watered, is there likely to be found good late crops.—D.

— THE TURNIP FLY.—In a leaflet we have just received from the Board of Agriculture there are some interesting particulars concerning the Turnip fly, which is making such havoc with the root crops in many parts of the country. The fly is very small, but it can jump 216 times its own length. It attacks the young Turnips, biting and devouring their soft tissues, and laying eggs on the under side of their leaves. It is said that as many as six generations may be produced in a season. The remedy is the free use of the "Strawsoniser."

— "It is well known," says the "Rural World," "that when the petals of the great Laurel Magnolia are touched, however lightly, the result is a brown spot, which develops in a few hours. The fact is taken advantage of by the South American lover, who pulls a Magnolia flower, and on one of its pure white petals writes a motto or message with a hard sharp-pointed pencil. Then he sends the flower, the young lady puts it in a vase of water, and in three or four hours the message written on the leaf becomes quite visible, and remains so."

— ROOT FUNGUS IN TREES.—A correspondent states in "Meehans' Monthly" that a Peach tree standing near a dwelling was entirely cured of a disease known as "yellows" by having boiling water poured around it. This fact has been known for many years past, not only in connection with the fungus which produces the disease known as the "yellows" in the Peach, but also in connection with similar diseases in other trees, which are also the result of root fungus. The hot water cools a little before reaching the roots, but it is sufficiently hot when it reaches the root to destroy the fungus without injuring the root tissue. Unfortunately a remedy of this kind is scarcely practicable in large orchards, or where Peach growing is done on a large scale. For a few trees in small yards, where they are convenient to the hot-water range, no practice can induce healthier fruit trees than an occasional pouring of hot water around them.

— SARRACENIAS.—The Rev. David R. Williamson writes:—Having recently written to Messrs. F. Sander & Co., of St. Albans, regarding the remarkable characteristics of those interesting plants, several of which I have in my garden, I have received from them the following communication, which I doubt not will interest many of your readers who are fascinated, like myself, by the subject of entomology:—"In answer to your question regarding Sarracenias, we beg to say that the greater part of them are natives of the United States and Southern Canada. An allied plant, *Darlingtonia californica*, is found in California. They are a most interesting class of plants. It is quite true that they assimilate insects, flies, and even cockroaches, and such large insects as the humble bee. To attract their prey the pitchers are provided not only with brighter colours near their mouths, but a sweet substance is also formed around the upper parts of the inside of the pitcher. In many of them, too, short stout hairs are present, pointing in a downward direction, making it an easy matter for an insect to crawl down, but almost an impossibility for it to get back. Insects either crawl or fall down the pitcher, until the narrow part is reached. Here the space is too confined for its wings to be used, and a liquid of a digestive nature is secreted by the plant, to which in a short time the insect succumbs. If in the autumn a pitcher be cut open, it will be found to be full of the wings, scales, and other indigestible parts of insects. In places where flies are very common, an incredible number is caught by each pitcher. The flowers of these plants are also very curious, the style being expanded into an umbrella-shaped process." I think this letter of the St. Albans orchidists is uniquely interesting, whether from a botanical or an entomological point of view; and I am glad they do not object to its publication. I can testify from personal observation that their assertions are correct. Such scientific observations invariably seem more valuable when they are verified by experience. I may state that *Sarracenia flava* is perfectly hardy, and will succeed in any sunny well-sheltered garden. So far as I have been able to discover, they have not much root power compared with other western plants; their strength above ground is therefore all the more surprising, and can only be attributed primarily to their insect-assimilating propensities, whereby their vitality is sustained. They require, I find, to be watered with great regularity in a dry season such as this. Among existing Pitcher Plants the finest are the Bornean *Nepenthes*. Mr. Burbidge was the first introducer of the famous *Nepenthes Rajah*, which he discovered in Borneo, on the slopes of Rina Balu, at an elevation of more than 6000 feet. I had the gratification of seeing it two years ago, through the kindness of the Messrs. J. Veitch & Sons, in their nurseries at Chelsea, where, though it lives, it does not greatly thrive. Even in a temperature perfectly congenial to its nearest relatives it is not quite at home.

— BLACK STRIPE AND SLEEPY DISEASE IN TOMATOES.—I am greatly interested in your articles on "Sleeping Disease and Black Stripe in Tomatoes." I have always hitherto been greatly troubled with "black stripe," and also invariably lost a few plants with sleeping disease every season. This year I have scarcely any "stripe," and have not had a single plant go off "sleepy." The ground in the houses was well watered with a solution of corrosive sublimate for eelworm, and I believe I cleared out the fungus spores at the same time. What do you think?—F. WILLIAMS. [We think you are fortunate. Notes on disinfecting soil, about which you inquire, will be found in our leading article this week.]

— TOTTENHAM CHRYSANTHEMUM SOCIETY.—By the kind permission of Baron Schröder the members of the above Society to the number of fifty paid a visit of inspection to the beautiful residence and gardens of The Dell, Englefield Green, on July 9th. Many thanks are due to Mr. H. Ballantine and members of the staff for kindness and courtesy in conducting the party through the extensive range of houses and grounds, and in doing all they possibly could to make the visit an enjoyable one. An excellent dinner and tea were provided at the Sun Inn, Englefield Green. The first meal was presided over by H. Henderson, Esq., who proved a genial chairman. Drives were afterwards taken into the surrounding country.

— TUBEROUS BEGONIAS IN AMERICA.—The advent of the Tuberous Begonia was, says "American Gardening," hailed with joy, because it was one of the most satisfactory plants in the garden, and it is hardly less valuable as a house plant. For show we have nothing to compare with it, neither have we a plant that is so thoroughly at home in sunshine or in storm as this. The second year of its cultivation in this country we called at a florist's, where it was being grown as an experiment, and asked the grower how he liked it. His reply was, "It is the grandest flower ever introduced into this country." Asked how it compared with the Pelargonium for bedding out in masses he replied, "There is no comparison between them. Take it," said he, "after a shower, and it looks like a duck, while a bed of Pelargoniums looks like a wet hen." The comparison was an honest opinion plainly expressed. Whatever it lacked in beauty it made up in force, for that is precisely the difference between the two.

— MARKET GARDENING IN THE PAST.—In view of the probable attempt to remove the long prevailing agricultural distress in the country, it is both interesting and instructive to look back to the condition of things in the early part of the century, and compare them with present conditions. In "Brayley's Beauties of England and Wales," published in 1810, in writing of the County of Middlesex, he says in 1801 the resident population was 818,129 persons, of whom eight in every 100 were relieved by poor rate, which rate averaged 10s. 10½d. per head. There were then 1132 friendly societies, with a total membership of 72,741. The kitchen gardens in the vicinity of the metropolis averaged 10,000 acres, of which about 2000 acres was wholly cultivated by spade. The Neat Houses (now called Pimlico), comprising about 200 acres, was highly cultivated, the land was well manured, and the annual high state of cultivation averaged £200 per acre, with an estimated profit of £120 per acre, sixty cartloads of manure being used per acre, a constant round of produce beginning soon after Christmas with Onions, Radishes, Spinach, and other seed crops; in February, Cauliflowers from frames planted out, giving place to Sugarloaf Cabbages, followed by Endive, Celery, and other seed crops. The annual produce of market gardens and fruit orchards near the metropolis was estimated at £1,045,000. The nursery grounds at Chelsea, Brompton, Kensington, Hackney, Dalston, Bow, and Mile End occupied 1500 acres, and contained choice shrubs, flowers, and fruit trees. In Middlesex also 3000 acres were planted with Beans and Peas. The fruit gardens (exclusive of those attached to private houses and gentlemen's villas) were over 3000 acres, and lying principally west—towards Hammer-smith, Isleworth, and Brentwood—furnished constant employment to about ten persons per acre, these being increased during fruit season to from thirty-five to forty persons per acre. Rent averaged from 10s. to £10 per acre, and was usually taken in money. Labourers' wages averaged 10s. to 12s. in winter, to 12s. to 15s. per week in summer, those employed in hay or corn harvest getting from 15s. to 18s. weekly with beer and sometimes dinner. Some were engaged by the piece or job, and in the fruit season many women came into Middlesex from Wales to gather fruit, Beans, Peas, and other crops. The waste and common lands averaged from 9000 to 10,000 acres, and within the seven years prior to 1810 over 20,000 acres of common land was enclosed in Middlesex alone.—THOMAS MAY (in the "Echo.")



CHRYSANTHEMUMS OF JAPAN.

THE above is the title of a large-sized folio book, recently published by a Mr. Ogawa at Tokio, in Japan. The work consists of a series of plates representing the Chrysanthemum in a variety of forms, and instead of being produced in the ordinary way the plates are very beautifully executed under the Collotype process. There are three large views of Chrysanthemum plants growing under cover, the back and sides of the structures being composed of matting, and the roofs either wholly of glass, or else partly glass and matting. Two plates depict trained plants with a large number of blooms, each growing in curiously shaped pots, while the remaining illustrations are small-sized flowers of the Japanese type, in which, as is usual with Japanese pictures of Chrysanthemums, a portion of the stem and foliage is given. These do not exhibit evidence of very high cultivation, for the foliage is small and the stems rather weakly. There is no letterpress explanatory of the plates, but the title of the book and the names of the flowers are printed in English. The appearance of this work is but another reminder of the large additions that are being made to the bibliography of a popular flower. At least twenty new books on the Chrysanthemum have been published abroad during the past four or five years, and several others in the same period have been issued in this country.

POPULAR CHRYSANTHEMUMS IN AMERICA.

The opinions of English and American Chrysanthemum specialists differ so greatly as to the relative value of varieties for show purposes that I am tempted to extract from the American "Chrysanthemum Annual" a list of the best varieties that are given in an audit appearing in that work. The votes range from eighteen for the highest to three for the lowest. They are Niveus, The Queen, Vivian Morel, Eugène Dailledouze, Golden Wedding, G. W. Childs, Major Bonnaffon, President W. R. Smith, W. H. Lincoln, Ivory, Harry Balsley, Maud Dean, Miss Minnie Wanamaker, Mrs. E. G. Hill, Mrs. Jerome Jones, H. L. Sunderbruch, Mrs. A. J. Drexel, Colonel W. B. Smith, Domination, Harry May, Kioto, Mrs. C. Lippincott, Yellow Queen. The last six each obtained the same number of votes—viz., three.

Compared with the audit instituted by the *Journal of Horticulture* early in the year this selection will show some curious variations. Chas. Davis, which ranks high in that list, is not mentioned at all in the American audit, although the variety has been well spoken of by American growers. The same may be said of Mdle. Thérèse Rey and Edwin Molyneux. Mrs. C. Harman Payne, G. C. Schwabe, Sunflower, Mdle. Marie Hoste, President Borel, Etoile de Lyon, Miss Dorothea Shea, Stanstead White, Louise, and many others, are all conspicuous by their absence in the American audit.

DETERIORATION OF CHRYSANTHEMUMS.

Complaints are occasionally made that certain varieties once popular and of a high order of merit for exhibition purposes, fail to maintain their reputation after a length of time, and finally degenerate. This, as Mr. E. Beckett points out in his article in the "Chrysanthemum Year Book," is more conspicuous in the Japanese section than in the incurved, and he states that he has never yet heard a satisfactory reason for it. Belle Paule and Boule d'Or are indicated as cases in point, and a solution may possibly be found in the fact that high feeding is practised to a greater extent with Japanese Chrysanthemums than with the older section.

A friend of mine resident in France, who knows something of big bloom culture, strongly advises intending growers to take cuttings from plants not subjected to such a course of treatment as is adopted for the production of large show blooms, but from plants that have been allowed to grow in a more natural method. Plants gorged with manures, he says, are done for when they have bloomed, and cannot produce cuttings fit for the purpose of growing fresh plants from. Those persons who rely year after year for cuttings from their exhibition plants are apt to say that the varieties have degenerated, but the Chrysanthemum, he adds somewhat positively, does not degenerate. If this be correct the remedy would seem to be that in the cases of first-rate varieties which are desired to be retained, a few plants should be put out in a suitable position for the sole purpose of providing a succession of healthy cuttings, to which the grower could have recourse year by year. Grown in a natural manner they should be full of health and vigour, but of course in the case of many growers the space required would be a serious consideration.

If the Chrysanthemum is a kind of dyspeptic subject, whose constitution gets undermined by high living, and there seems to be but little doubt that this is so, those cultivators who desire to keep up a healthy stock of certain favourite sorts may find the above suggestion helpful.

A FRENCH CHRYSANTHEMUM SOCIETY.

To many English growers of Chrysanthemums, but especially to those who know to what a large extent the French raisers have contributed to enrich our show-boards for the past twenty years it will be

a matter for surprise to learn that there is still no such thing in France as a Chrysanthemum society. Exhibitions of the flower have, of course, been held in various parts of the country, but they are seldom held for more than two or three years in succession in the same place, and are always held under the auspices of a local horticultural society.

In an excellent article, chiefly devoted to the Calvat race of Chrysanthemums, by Mr. H. Fatzer, which appears in the current number of the "Revue Horticole" of Paris, reference is made to the time being ripe for some kind of organisation being established that shall undertake work resembling that carried on by the N.C.S. here. The writer is competent to deal with the subject—firstly, because he is one of the leading growers in France; secondly, because he has an excellent knowledge of what is being done in England and America concerning the popular flower; and lastly, perhaps because he is thus able to form an accurate idea of the confusion which is caused by the non-existence of some central body to supervise questions of synonymy, classification, and nomenclature, which must, under present circumstances, be constantly arising in his country.

Almost every year, and our importers and trade growers will readily confirm what I say, new Chrysanthemums have been sent out by the French growers bearing names that they themselves have used over and over again; and it is difficult to see how this can be avoided, as the growers live widely apart, and more often than not can have but little knowledge of what their *confrères* are doing. On this subject alone private protest and public remonstrance in the press seem to be of no avail, and so our catalogues become crowded with numberless instances of different varieties bearing the same name or names so closely resembling one another that the differences are scarcely perceptible.

Fortunately many of these double named Chrysanthemums die out, or else never travel beyond the introducer's nursery, but if the leading French growers could only be persuaded to assemble and form a society which should have for its object among other things the registration of new seedlings, a good work would be done, and one that would be beneficial both to seller and buyer.

Mr. Fatzer advocates a floral committee composed of experts to whom novelties should be submitted for certificates, as with us. He also suggests that shows should be held by this new body, to all of which, and much more beside, it is hoped the French Chrysanthemum growers will give their best consideration.

So long as some such committee or society is non-existent, so long France, in my opinion, is failing to do justice to her great name in horticulture. Great as it is, she ought never to forget that the famous autumn flower which is so largely cultivated in England and in English colonies has contributed in no small degree to popularise the names of many of her most capable and intelligent florists.—P.

BUDDLEIA COLVILLEI.

THIS most beautiful Himalayan Buddleia (fig. 12) was introduced by seeds some fourteen years ago from its native country by Messrs. J. Veitch & Sons, from whom I received two plants about twelve years ago, one of which I planted against a brick wall in my kitchen garden, the other I gave to my next-door neighbour. I believe the frost killed all Messrs. Veitch's plants several years ago, as unfortunately this fine shrub will not stand more than about 28° or 29° of frost with impunity.

My specimen bloomed for the first time in the summer of 1892, when it produced six bunches at the extremities of the strongest shoots. Two of these were drawn in water colours by a lady artist friend, and were most accurately and beautifully reproduced in the Paris "Revue Horticole" of 16th November, 1893. It has also been figured in "L'Illustration Horticole" of Brussels. On the 4th and 5th of January, 1894, we had the severest frost by 6° I ever remember, when the thermometer stood at 3°, or 29° of frost. This killed all the outside branches, and caused all the leaves even on the main stem to blacken and drop off. My experience, however, shows me that when a frost is not severe enough to kill a plant outright it does it good, and in proof of this the shoots and new branches sent out by this Buddleia during the summer and autumn of 1894 were much longer and more vigorous than ever before, some of them measuring 5½ feet in length.

It did not bloom either in 1893 or 1894, nor did I expect it would again do so till we had a very hot and dry season to thoroughly ripen the young wood, and this we certainly had not last summer; yet to my great surprise the shrub bloomed profusely during last May and June, producing over forty bunches of its beautiful pale rose-coloured tubular flowers with a white throat. This shrub was first figured by Sir Joseph Hooker in "Himalayan Plants" from drawings taken on its native mountains; but the colour of the flower does not at all agree with that of my plant.—W. E. GUMBLETON.

NOTES FROM AN IRISH GARDEN.

AMONGST the Roses, now passing the zenith of their glory, on trellis, bower, and bed, traits of the season are markedly conspicuous; some we seldom see in perfection have given of their best, whilst others have

been but poorly represented. A trellis laden with Belle Lyonnaise has had a wonderful crop of its pleasing blooms set in the most luxuriant of foliage. Here this Rose surpasses its rival, being richer hued, more shapely, and not so inclined to *embonpoint* as its fair cousin of Dijon. Reine Marie Henriette has, too, made a brave display, but lacks refinement for cutting purposes. In the beds, Lady Mary Fitzwilliam led the van with grand blooms, its fat buds developing without protection in the warm, dry atmosphere. Her Majesty is now in regal form, the admired of all beholders; undoubtedly this is a fine weather Rose. Ulrich Brunner, which usually does so much towards effect, is this year disappointing, and from present and past observation we shall henceforth call it a wet weather Rose. Very noticeable has been the complete immunity from aphides, and with the exception of Earl of Dufferin, always the first to show traces of mildew, cleanliness and health without labour has prevailed.

In the hardy borders, with many things, it has been a hurried march

propagated; after the drought of that year not a vestige remained. Having again recovered this shallow rooting, moisture-loving plant we do not forget it when the water pot goes round. In the carpet beds broad margins of *Arenaria balearica* stood the winter well under the protecting coat of snow, forming the densest and greenest of carpets; it is, as a permanency, good to have for this purpose, from a labour-saving point of view, and when thus established defies the birds to pull it up.

A useful plant for dividing lines or edgings to larger beds is a dwarf silvery Cocksfoot Grass—*Dactylis glomerata variegata*; by cutting this over about midsummer the after grass, which quickly appears, retains its freshness to the end of the season, otherwise it is apt to get shabby after the flowering period. *Veronica incana* as a flowering plant (not carpet bedder) makes a beautiful line of blue. *Desfontainea spinosa* and *Helichrysum rosmarinifolium* are numbered with the dead, although the winter's tale is more fully told in the shrubbery and kept grounds, where the constant falling of dead leaves from the evergreens is



FIG. 12.—BUDDLEIA COLVILLEI.

past. Clumps of *Delphiniums* 6 feet high, with colour which is always grateful in the garden, varying in shade from the palest corulean to the richest of royal blues, are not less welcome for house decoration, and have good staying powers. From an old friend, who is rich in good things for the garden and generous to boot, I had a specimen at planting time of *Mertensia virginica*, and was pleased and surprised at its duration of blooming. *Arenaria montana*, with flowers as large and somewhat resembling *Saxifraga Wallacei*, is also a good thing, and I think there are few prettier flowers amongst the lowly inhabitants of the border than the soft pink *Phlox frondosa*. Varieties of *Gladiolus Nancieanus*, started in pots and planted out, are now in bloom; these distinct and showy members of the family are worthy of the little trouble bestowed on them. A variety of *Alströmeria*, received under the name of *chilensis*, of a dwarf, stiff habit, has a peculiar and indescribable blending of colour, but is attractive in its way. Our garden prior to 1893 was bright in the early summer with quantities of the little *Mimulus cupreus*, also a yellow sport of it which I had

conspicuous, probably augmented by the drought. One handsome feathery *Deodar* has moulted so completely as to be nude all but the growing points. Laurels, where cut down, are starting strong and vigorous. Two fine *Cordylines*, about 15 feet high, we gave up for dead, but they are again bravely pushing fresh crowns through a tangle of withered leaves. Never have our timber trees carried heavier or more luxuriant foliage; they appear to revel in the summer heat and have escaped the untimely visitations reported from more inland situations.

A peep into the houses (our glass is limited) reveals the glory of a *Bougainvillea* planted out at the warm end of the greenhouse, fully exposed to the sunshine and inimitable in its rich display. Brooking no rivals in its unique colouring, it does not appear to suffer in contrast with a *Plumbago capensis* in proximity—indeed, one can trace a subtle affinity in the two colours. A free-flowering white *Swainsonia* furnishes pretty sprays for buttonholes, almost Orchid-like in delicacy. In a stove, also exposed to the full glare of the sun, our *Allamanda* reigns supreme; supported loosely with fine wires, the pendulous

laterals are for 35 feet run a mass of golden glory. The lion of the place is a *Bignonia grandiflora* covering the roof of a temperate house; this, in blooming, reaches its climax about mid-June, but all too quickly sheds its large orange-scarlet blossoms, with but a few straggling later growths flowering on till autumn. One must not pass over the *Caladiums* in these rambling notes, for thereby hangs a tale recalling the trials of a gardener's life, for were they not tried in the cool under the greenhouse stage for their winter's rest, and rested so effectually that the bulk of those now looked at were provided by generous and wiser friends, who promptly responded to a plaintive appeal when we saw how matters stood? A clever grower once told me he stored his *Caladiums* in a dry, cool place, but he was more clever than we were. Henceforward and for ever I shall adopt the Kildare tactics of an old friend who keeps them (does not lose them) by wet and warm treatment during the resting season.

A general survey of the fruit crops, past, present, and prospective, may be summed up as fair. Strawberries are now (July 10th) all but over. In the earlier stage recourse to watering was necessary to prevent roasting on our free soil. An old plot of *Viscountess*—undisturbed for many years—has given the best results, the ground being entirely covered by foliage was protected from the solar rays. Bush fruits are fairly plentiful; Plums scarce; Apples and Pears medium.

Reports from the Midland counties show that serious damage to the Potato crops resulted from June frosts. This we escaped here, though for several nights temperatures fell perilously close to freezing point. Sufficient rain has now fallen to penetrate to the tubers, and all Potatoes in this neighbourhood promise well. The importance of spraying as a preventive to blight appears to be now fully recognised by Government, and the Agricultural Department of the Irish Land Commission have disseminated leaflets giving all necessary information on the subject. Many practical agriculturists are also giving the matter earnest attention.

In the vegetable quarters of the garden there are no complaints. I am happy to corroborate other testimony which has appeared as to the value of sowing sulphur in the drills with the Onions. It is a cleanly, inexpensive, and non-laborious method, appearing to be as satisfactory as it is simple in dealing with the Onion pest.

Our feathered friends (or enemies) are unusually troublesome. A flying visit from the rooks was paid in the quiet of a Sunday morning, when they cleared off two lines of Telephone Peas with telephonic celerity. Drought makes the birds ravenous; squirrels, too, actively help them to show us (gardeners) we cannot have all our own way. If we could, feathers and bushy tails would, for the present, be banished from the garden.—E. K., *Dublin*.

ROYAL HORTICULTURAL SOCIETY.

JULY 23RD.

THE Drill Hall was not very crowded at the meeting of the Committees of the Royal Horticultural Society on the above date. Orchids were shown in very limited numbers, but hardy and greenhouse flowers made a handsome and varied display. Hardy fruit was well shown, as also were Peas.

FRUIT COMMITTEE.—P. Crowley, Esq. (in the chair); with Rev. W. Wilks, Dr. Hogg, and Messrs. T. F. Rivers, G. Bunyard, H. J. Pearson, H. J. Veitch, J. Cheal, T. J. Saltmarsh, G. W. Cummins, G. Norman, G. Reynolds, F. Q. Lane, G. Wythes, G. Sage, W. Bates, C. Herrin, W. Farr, A. Dean, and J. Wright.

Mr. G. Dyke, Stubton Hall Gardens, Newark, sent his seedling Melon again. It has had an award of merit under the name of Nugget. This was confirmed, as fairly representing the merits of the fruit. Mr. G. Wythes sent a seedling green flesh Melon, but it was passed; a second, a scarlet flesh, from the same garden, better than the other, but not ripe.

Mr. Owen Thomas sent a smooth Melon from Frogmore of the colour of the fruit after which it was named—Orange; handsome, juicy, but lacking aroma. A French variety, evidently early, but the fruits were over-ripe.

The Jadoo Company, Ltd., sent a "root" of Potatoes as grown in the Jadoo fibre, crop good and skin clear. They were grown by Col. Halyard Thompson, Eastcliff, Teignmouth. Messrs. J. Veitch & Sons, Chelsea, sent fruits of *Précoce* Croncels Nectarine. Messrs. Letellier & Fils sent plants of a new thornless Gooseberry from Caen, France. The plants were dwarf and weak in growth, but not highly regarded. Mr. T. F. Rivers stated that he had grown these Gooseberries but had found them of no special value, while Mr. G. Bunyard said that if the plants were strongly grown the spines appeared. A vote of thanks was accorded.

Mr. W. Carmichael (formerly at Sandringham), 14, Pitt Street, Edinburgh, sent more of his seedling Strawberry plants to be tried at Chiswick. Col. Houblon (gardener, Mr. C. Ross) sent a seedling Cherry, but it was passed.

Mr. R. Gilbert sent from Burghley Gardens fruits of "Walburton" Admirable Peach, but the majority of the Committee considered it to be the Late Admirable, very fine, and a vote of thanks was accorded. A new Cucumber sent by Mr. Gilbert is to be tried at Chiswick. Mr. E. Ryder, Northumberland Nurseries, Orpington, sent fruit of the *Duke of York* Tomato, handsome; referred to Chiswick. A silver medal was awarded for plants exhibited in June heavily cropped with medium-sized, handsome-looking fruit. A first-class certificate was recommended.

Messrs. W. E. Wells & Co., Hattonhurst, Hounslow, sent a basket of Madresfield Court Grapes, very fine berries, but not perfectly coloured

(silver Banksian medal). Sir Trevor Lawrence sent pods of the Skinter Pea—pods and peas are all cooked together. It is an old and well-known sort. Mr. H. W. Blake sent very handsome Red Currants—*La Versailles*—a splendid Currant, but wood brittle, and bushes require close pruning. A vote of thanks was given for this exhibit.

A vote of thanks was given to F. J. Griffiths, Esq., Wellington Road, Bilston, for a sample of his preserved Cob nuts, two years old, well kept, but not well flavoured. Dr. King, Spalding, sent fruits of his Moulton Tomato, fruits fine, resembling *Dedham Favourite*, but they were passed. Mr. Peter, gardener to H. P. Sturgis, Esq., Givons Grove, Leatherhead, sent twenty-four dishes of Gooseberries, generally excellent. A small silver medal was awarded.

Messrs. James Veitch & Sons sent an enormous collection of Gooseberries in plates, also heavily fruited cordon trees, as well as a fine collection of Currants, with a trellis of fruiting trees. A silver-gilt Knightian medal was deservedly awarded for this exhibit. Mr. Walker, Thame, also sent a large collection of Gooseberries and received a small silver medal. Messrs. W. W. Johnson & Sons, Boston, sent an imposing collection of Peas, for which a small silver medal was recommended.

FLORAL COMMITTEE.—Present: W. Marshall, Esq. (in the chair); with Messrs. J. Fraser, O. Thomas, H. B. May, H. Herbst, R. Dean, G. Stevens, R. Owen, C. J. Salter, W. Bain, J. T. Bennett-Poë, J. D. Pawle, H. J. Jones, C. E. Shea, J. Walker, H. Cannell, C. Noble, and G. Paul.

Mr. Prichard, Christchurch, staged a large and extremely varied collection of hardy flowers, amongst which were *Statice latifolia*, *Coreopsis lanceolata*, *Campanula rotundifolia alba*, *Galega officinalis compacta*, *Potentilla formosa*, *Spiraea venusta*, *Gypsophila paniculata*, *Funkia lancifolia*, *Gaillardia maxima*, *Scabiosa caucasica*, *Hemerocallis Thunbergi*, *Genista tinctoria elata*, *Liatris spicata*, and *Helenium pumilum*, together with *Phloxes* William Robinson, Charlemagne, Jean Bart, and Pantheon, the whole producing a pleasing effect (silver Banksian medal).

A distinct feature in the hall was the extensive and diversified collection of Sweet Peas staged by Mr. Henry Eckford, Wem. The flowers were shown in long elegant glasses, and their delicate tints of colour were much admired. Amongst many other varieties were noticed, Captain of the Blues, Gaiety, The Queen, Mrs. Gladstone, Lady Grisel Hamilton, Peach Blossom, Countess of Radnor, Lovely, Monarch, Queen Victoria, Duchess of Sutherland, Mrs. Joseph Chamberlain, Duke of York, Mrs. Dugdale, Triumph, Mars, Ovid, Royal Rose, Stanley, Royal Robe, and Novelty. The above are but a small percentage of the varieties, as no less than fifty kinds each distinctly named were staged (silver Flora medal).

From Mr. W. Baxter, Woking, came a small collection of Violas, which included J. B. Riding, White Duchess, Carissima, Duchess of Fife, Countess of Kintore, Archibald Grant, Ardwell Gem, Sweet Lavender, and others. Showy Cannas came from Messrs. Paul & Son, Cheshunt, which include a Comet and Souvenir de la Crozy. The same firm staged *Clematis flammula rubra marginata*, and *Viticella uniflora*. The same firm also staged a fine collection of hardy flowers, composed of *Phloxes* delicata, Molière, Pluton, Le Soleil, and Beatrice, together with *Gypsophila paniculata*, *Campanula carpatia*, *Coreopsis lanceolata*, *Malva moschata alba*, *Potentillas* William Rollisson and Le Vesuve, *Inula oculis Christi*, *Montbretia Pottsi*, *Achillea ptarmica plena*, and many others (silver Banksian medal).

Mr. R. P. Brotherston, Prestonkirk, sent blooms of Carnation Germania. Mr. B. G. Rowntree, Hermitage Place, Stockton-on-Tees, sent plants of *Begonia Marquis of Londonderry*. Messrs. T. Cripps and Son, Tunbridge Wells, sent plants of *Mutisia decurrens* and *Schubertia grandiflora* (bronze Banksian medal). Well-flowered plants of *Streptosolen Jamesoni* and *Campanula Vidalii* were staged by Mr. Downes, gardener to J. T. Bennett-Poë, Esq., Cheshunt. From Messrs. John Peed & Sons, Norwood, came an effective group of *Gloxinias*. The flowers displayed a diversity in variety, and the plants were interspersed with Maidenhair Ferns (bronze Flora medal).

Mr. C. Herrin, gardener to Lady Fortescue, Maidenhead, sent flowers of border Carnation Dropmore Clove, and spikes of *Cirsium Eriophorum*. From the Royal Botanic Gardens, Glasnevin, came flowers of *Crinum Powellii*, *Powellii alba*, and *Yemense*, and *Agapanthus Mooreana*. A small but effective exhibit came from Messrs. John Laing & Sons, Forest Hill, consisting of *Begonias* Mrs. W. J. Bilney, Madame de Falbe, Mrs. Hall, and Mrs. Peek, *Caladiums* Dona, Carmen, Macedo, and Princess Olga, and a plant of *Streptocarpus superba*.

Beautiful spikes of *Canna Queen Charlotte* were sent by Messrs. H. Cannell & Sons, Swanley, who also staged a charming collection of border Carnations and Picotees. Amongst many other varieties were noticed The Governor, Cannell's Scarlet, Esther, J. Crossland, Irene, Brunette, Mrs. Wilson, Alice Ayres, Mrs. Sharp, Raby Castle, W. N. Gales, Princess Maud, Miss Mary Dyke, Guardsman, Andromeda, Duchess of Portland, James Douglas, Alliance, Miss Curtis, Favourite, Mrs. Dodwell, and Little Phil (silver Banksian medal). A fine display of *Liliums* were staged by Messrs. R. Wallace & Co., Colchester, which could not fail to be admired. Amongst others *Liliums japonicum Colchesteri*, *excelsum*, *dalmaticum*, *Catani*, *Browni*, and *longiflorum giganteum* were chiefly conspicuous (silver Banksian medal).

Mr. G. Cragg, gardener to W. C. Walker, Esq., Winchmore Hill, staged a group of *Achimenes*, including *grandiflora*, *Gibsoni*, *Margaretta*, *Admiration*, *longiflora alba*, and *longiflora major*. Most of the plants were shapely and well grown (bronze Banksian medal). Messrs. Jas. Veitch & Sons, Chelsea, sent a group of *Javanico-Jasminiflorum* hybrid

Rhododendrons, which displayed a great variety in colour. The same firm also staged plants of *Davallia tenuifolia* Burkei, and a collection of hardy Water Lilies — namely, *Nymphaeas marliacea chromatella*, *N. tuberosa*, *odorata rosea*, and *Laydekeri rosea*, also plants of *Pavia macrostachya* (silver Banksian medal). Messrs. F. Sander & Co., St. Albans, sent plants of *Begonia* Duke of York.

From Messrs. Jas. Carter & Co., Holborn, came a plant of *Gloxinia* Holborn Gem. Fine Hollyhocks were staged by Messrs. Webb and Brand, Saffron Walden, including *Galatea*, *Norah*, *Harlequin*, and *Rosy Gem* (bronze Banksian medal). Mr. G. A. Farini, Forest Hill, sent a few well grown *Begonias*. Messrs. W. Cutbush & Son, Highgate, sent well grown plants of *Cockscomb* "Cutbush's Giant." A fine collection of *Salpiglossis* in variety together with magnificent spikes of *Pentstemon hybridus grandiflorus* were staged by Mr. Bain, gardener to Sir Trevor Lawrence, Barford Lodge; the flowers of the latter were especially fine and pleasing in effect.

From Messrs. Dobbie & Co., Rothesay, came a large group of Sweet Peas in many varieties, including *Duke of Clarence*, *Duchess of Edinburgh*, *Princess of Wales*, *Queen of the Isles*, *Firefly*, *Stanley*, *Duke of York*, *Emily Henderson*, *Orange Prince*, *Dorothy Tennant*, *Blushing Bride*, *Cardinal*, *Peach Blossom*, *Lady Beaconsfield*, and *Senator* (bronze Flora medal). Mr. W. E. Tidy, Brockhampton Nurseries, Hants, also staged Sweet Peas in quantity and variety, there being amongst others *Royal Robe*, *Splendour*, *Princess Beatrice*, *Primrose*, *Princess May*, *Blushing Beauty*, *Miss Hunt*, *Bronze King*, *The Queen*, *Her Majesty*, *Cardinal*, *Queen of England*, *Indigo King*, *Orange Prince*, *Princess of Prussia*, *Countess of Radnor*, and *Waverley*.

ORCHID COMMITTEE.—Present: H. J. Veitch, Esq. (in the chair); with Messrs. J. O'Brien, De Barri Crawshay, H. M. Pollett, W. H. Protheroe, W. H. White, E. Hill, S. Courtauld, H. J. Chapman, and T. B. Haywood.

A few Orchids were sent by Messrs. J. Veitch & Sons, and comprised *Cypripedium Carnusianum*, a hybrid between *C. Spicerianum* and *C. Haynaldianum*, *Dendrobium porphyrogastrium*, *Miltonia vexillaria superba*, *Dendrobium glomeratum*, and *Phalaenopsis Ludde-violacea*, the result of a cross between *P. Luddemanniana* and *P. violacea*.

From Messrs. T. Cripps & Sons, Tunbridge Wells, came a handsome collection of Disas. The varieties were *D. grandiflora* and *D. c. Crippsi* (silver Banksian medal). Mr. E. Ranson, gardener to J. Gabriel, Esq., Streatham Hill, sent a plant of *Cattleya Rex*, and Mr. G. Cragg, gardener to W. C. Walker, Esq., Winchmore Hill, *Cypripedium Godefroyæ*. The same exhibitor staged *Brassavola Digbyana*, which was accorded a first-class certificate.

Messrs. H. Low & Co., Clapton, arranged a small display of Orchids, in which *Cattleya Leopoldi*, *C. glandulosa*, *C. Eldorado*, *C. Rex*, *Dendrobium speciosissimum*, *Cypripediums lævigatum*, *Curtisi*, and *Javanico superbiens*, *Lælia elegans*, *Lycaste Rossiana*, and others were noticed. *Habenaria rhodochila* and *Epidendrum alatum* came from Mr. W. H. White, grower to Sir Trevor Lawrence, Bart., Dorking, and *Lælio-Cattleya Schilleriana* from J. F. Alcock, Northchurch, Herts.

Mr. H. J. Chapman, gardener to R. I. Measures, Esq., Camberwell, exhibited *Maxillaria ochroleuca* and *Bulbophyllum Sanderianum*. E. H. Woodall, Esq., Scarborough, sent *Cattleya crispa*, Woodall's variety, and W. C. Parkes, Esq., Lower Tooting, a variety of *Cattleya Warscewiczii*. Mr. T. Stafford, gardener to F. Hardy, Esq., Ashton-on-Mersey, sent handsome plants of *Odontoglossum vexillarium rubellum*, *O. v. superbum*, and *Cypripedium Godefroyæ leucochilum* magnificentum.

The Orchids staged by Messrs. F. Sander & Co., St. Albans, were very bright and beautiful, and contained some splendid forms. *Stanhopea Mastersi*, *Cypripediums Aspasia* and *Kimballiana*, *Cirrhopetalum picturatum*, *Angræcum Eichlerianum*, *Cattleyas Gaskelliana*, *Cook's var.*, and *gigas*, *Dendrobium speciosissimum*, *Sobralia xantholeuca*, and *Odontoglossums* in variety.

CERTIFICATES AND AWARDS OF MERIT.

Angræcum Eichlerianum (F. Sander & Co.).—The sepals and petals of this Orchid are pale green, the inner portion of the lip being of that colour, while the outer part is pure white (award of merit).

Brassavola Digbyana (G. Cragg).—This Orchid is so well known that a description here would be superfluous (first-class certificate).

Campanula Vidali (J. S. Bennett-Poë).—The habit of this *Campanula* is semi-shrubby, but the plant is not quite hardy. The flowers are pure white in colour, but having a broad orange band at the base of the flower inside. This is very distinct and strikingly beautiful (first-class certificate).

Cirsium Eriophorum (C. Herrin).—The leafage of this Thistle is downy, and has clearly defined white ribs. The flowers, when fully developed, are rich purplish maroon (award of merit).

Davallia tenuifolia Burkei (J. Veitch & Sons).—This variety is of very graceful habit, drooping after the style of *D. t. Veitchii*, than which the fronds are rather fuller (first-class certificate).

Dendrobium porphyrogastrium (J. Veitch & Sons).—This is a hybrid between *D. Dalhouseianum* and *D. Huttoni*. The sepals and petals are very delicate rose in colour, the outer portion of the lip being of the same shade. The throat has a blotch of brownish-rose (award of merit).

Dendrobium speciosissimum (F. Sander & Co. and Hugh Low & Co.).—The colour of this chaste Dendrobe is pure white, the lip having a strip of bright yellow in the throat, with bright rose towards the back of this organ (award of merit).

Gladiolus Dutreuil de Rhins (W. Bain).—This is a fine variety with bright scarlet flowers having a white centre spotted with crimson (award of merit).

Lilium japonicum Colchesteri (R. Wallace & Co.).—This is decidedly handsome, with flowers of remarkable substance. It is after the style of *Browni*, but certainly distinct. The flowers are yellowish white inside and chocolate brown outside. It is sweetly scented, and known sometimes as *odorum* (first-class certificate).

Nymphaea Laydekeri rosea (J. Veitch & Sons).—This is a charming rose-coloured form with dull white outer petals (award of merit).

Nymphaea marliacea chromatella (J. Veitch & Sons).—This variety has large flowers and handsome mottled leafage. The colour is pale canary yellow (first-class certificate).

Nymphaea odorata rosea (J. Veitch & Sons).—This is a charmingly scented variety, with pure rose-coloured flowers of good size (award of merit).

Pentstemon hybridus grandiflorus (W. Bain).—This is an extremely varied strain as regards colour, the flowers being of grand size and form (award of merit).

Phalaenopsis Ludde-violacea (J. Veitch & Sons).—This is a singularly beautiful little hybrid, obtained from a cross between *P. Luddemanniana* and *P. violacea*, of which the former was the pollen parent. The sepals and petals are deep purplish rose with paler marblings, and the lip is a rich crimson purple. The illustration (fig. 11, page 77) represents this Orchid (first-class certificate).

Sweet Pea Blanche Burpee (H. Eckford).—This is a pure white variety, and almost perfection in shape of flower (award of merit).

Sweet Pea Lady Griseld Hamilton (H. Eckford).—This is a good self, lavender in colour, slightly tinged with mauve on the back of the standard (award of merit).

Sweet Pea Mars (H. Eckford).—A good scarlet variety, very slightly shaded with purple, quite distinct from any other (award of merit).

DOVER HOUSE, ROEHAMPTON.

WHILST at this splendidly kept place there is no lack of objects of interest to the gardener, the marvellously clean, neat aspect of everything is not the least feature. To me as a lover of *Violas* and *Pansies* nothing showed more attractively than did the truly charming garden of *Violas* in one place, and the beds of very fine *Fancy Pansies* in another. Those who have doubted the capacity of *Violas* to make beautiful bedding plants in the south during the summer have but to see what Mr. McLeod has to show them and doubts may be set at rest for ever.

I have seen *Violas* in huge masses in nurseries, in various forms of use in flower beds, and in trial forms in other directions, but never have I before seen them as employed here solely in the formation of a wondrously effective bedding display. The plants occupy a border some 15 feet in breadth, and probably 40 feet in length, in front of one of the large greenhouses. They are planted somewhat parterre fashion, there being two large diamond beds and a round one in the centre of corresponding size, these being environed or outlined by a very narrow alley, and then a long broad front border with several acute triangles fill in the entire area. Large as was the mass of bloom there was nothing whatever gaudy or glaring.

Violas nearly always give somewhat soft hues, whilst all readily blend, so that in ever so extensive an area there is nothing overpowering or inharmonious. Now this *Viola* garden was margined on the front and both ends with a broad belt, some 3 feet across, of a bright yellow variety, *Wemyss Gold*, into which were at intervals blocks of *Archie Grant*, blue; *Mrs. H. Bellamy*, blotched; *Acme*, plum; *The Mearns*, blotched; and *Rob Roy*, bicolor. Then immediately inside of this margin ran a broad line of *True Blue*. The succeeding acute triangles were *White Champion*, very free; and *The Mearns*. The two upper triangles were *Acme* and *Quaker Maid*, a charming mauve-coloured variety. Then the diamond shaped bed in the middle of these triangles had a base of *Countess of Kintore*, and an effective centre of *Archie Grant*. The large round bed in the centre of the garden had for its middle the *Golden Bullion*, with blocks round it of *Max Kolb*, *Edina*, *Acme*, and *Mrs. H. Bellamy*.

Passing on to the other diamond-shaped bed, this was a reproduction of the first one, the triangles being filled with *Blue Cloud*, *The Tory*, *Mrs. H. Bellamy*, and *Greivei*, an old pale yellow, proving still one of the most charming bedders. On the other side of the footpath fronting the garden were other masses or blocks of *Violas* also. By preparing the ground well in the early spring and watering freely, also occasionally pinching out over-bloomed shoots, so as to avoid undue density, also picking off decayed flowers, it is found quite easy to keep up a fine body of flowers all the season. In the autumn cuttings are taken in large numbers from the young shoots. They are set thickly into sandy soil beneath a west wall, and remain there all the winter. Last winter the bed of cuttings was frozen hard for several weeks, but there was no lack of root action, and only some three or four per cent. failed. The planting out was done early in April. These *Violas* were mostly brought by Mr. McLeod with him from Scotland several years since, and this fact to some extent explains the strong penchant thus manifested for what is in the north such a favourite flower.

Fancy Pansies are grown in beds, and include many of the finest varieties, especially the best raised by Mr. Smellie, who has made so high a reputation. Amongst the finest, though all were doing well and blooming finely, were *Tamworth Yellow*, *J. S. Jerome*, *Mrs. C. J. Martin*, *Betsey Kelley*, *Miss Taylor*, *Bob Turner*, *G. Anderson*, *Marmion*,

W. J. Botton, Ellen Paterson, David Rennie, Miss Hudson, and Emmeline, though but a few out of a large collection. These are as cuttings housed in frames during the winter, then planted out in April.

A very marked feature was a row of fine, double Hollyhocks at the back of these Pansy beds, the plants being in good health, a true sign that Hollyhocks can be grown now if well done. Between these Pansy beds are alternated others of choice Carnations just coming into bloom. Dahlias are in a separate quarter, and Stocks of several varieties, Sweet Peas, and Asters, are grown in great quantities to furnish bloom for cutting. Vegetables are first-rate, beds of Onions, Carrots, Beet, and others are all in fine form; so also are Potatoes, Peas, and Runner Beans. There is no department that is not good. The same may be said of fruit, of which there is outside ample promise of all hardy kinds. Raspberries, especially the fine Superlative, are in splendid form, these being grown in several long rows secured to wire trellises.

Mr. McLeod opens out trenches on either side of the rows in the winter, fills up with half-decayed manure, and re-covers with soil. No wonder if in such case and with liberal waterings the crop is indeed a wonderful one. Inside there are fine crops of Grapes, Peaches, Nectarines, Figs, and Melons, and such a display of Tomatoes, tons of these fruits being produced every season. Sutton's Al is very highly favoured here. Plants in the houses are a most taking feature. The collection of Crotons could hardly be excelled in any private place for variety or perfection of colouring. Very fine varieties are Superbum, Golden Dream, Morti, Weismanni, Andreana, and Rodeckiana.

Caladiums again constitute a beautiful feature, the modern varieties are chiefly grown, furnishing a brilliant colouration. Such varieties as Mons. Freeman, Ibis Rouge, Cardinal, Ladas, F. W. Moore, President Devansaye, George Berger, and Comte de Germiny show that the collection is a varied and rich one, for some hundred sorts are grown. Begonias in a broad span house make a fine show; and in a plant stove, singularly effective on the roof, the racemes of flowers hanging down in great profusion, are several plants of *Clerodendron Balfourianum*. So, too, *Allamanda Hendersoni*, *Stephanotis floribunda*, *Bougainvillea glabra*, *Dipladenia amabilis*, and the curious but beautiful *Gloriosum superbum*, are very beautiful. In a greenhouse *Plumbago capensis* is on the roof very charming. More features it is not possible to particularise, but without being a pretentious place. I have visited few gardens where there may be seen in perfection so many attractive features as here.—A.

THE GENESIS OF NEW FORMS AS A RESULT OF CROSSING.

WE have several times made reference to Messrs. Kerner and Oliver's splendid work on "The Natural History of Plants," of which Blackie and Son are the publishers, and now give a citation from the thirteenth number on the above subject, that will doubtless be of interest to our readers.

"The aim of agriculturists has always been so to cultivate their land as to rear plants likely to grow luxuriantly, to bear good fruit, and thus to afford an abundant harvest in return for their pains. Gardeners similarly have made it their endeavour to produce from wild plants races whose flowers are superior to those of the ancestral stock in form, colour, and scent; and the results of their labours are the delight and admiration of all lovers of beauty. In both cases the idea has been to perfect and 'ennoble,' and the means adopted have been successful to a degree calculated to amaze anyone who studies the history of cultivated plants with attention. The methods which led to these results have not always been deliberately adopted, nor have they depended on scientific researches. On the contrary, chance observations made by growers in the course of their dealings with vegetable life as it occurs in nature have been the means of suggesting the first unaided attempts to make crops more productive, fruits and vegetables more palatable, and flowering plants more pleasing to the eye.

"The most important method adopted has been the artificial crossing of the species which are brought under cultivation. When we consider that, from time immemorial, Chinese and Japanese gardeners have produced Asters, Chrysanthemums, Camellias, Pinks, Pæonies, and Roses, of which the majority are the results of crossing, we may assume with certainty that the practice of dusting flowers of one species with the pollen of another species first came into use in those countries. It is true that in Europe the contrivance was known to Rose growers at the time of the Roman Empire, but it was not employed on an extensive scale till the seventeenth century, when the fashion for breeding Tulips and Auriculas became the rage. The gardeners of that day still made a great secret of their mode of procedure, and it was not till the latter half of the eighteenth century that the production of new forms of plants by the aid of artificial crossing was carried on at all generally. For some decades the rearing of these new forms, which are called hybrids, has been one of the most important parts of a gardener's duties, and we shall not exaggerate if we put the number of hybrids hitherto produced in gardens in the course of the nineteenth century at 10,000. Many hybrids which were great favourites only a short time ago have disappeared from our gardens, and have been replaced by others.

"As in so many other matters, the fashion changes; new forms are in constant request, and horticulturists endeavour to meet the demand by introducing wild plants from the most various regions and crossing them with those already under cultivation. It is now no longer uncommon for gardeners, in advertising some plant which has been brought from distant parts, to recommend it to the trade, not on the ground of its own beauty, but because it possesses flowers of an exceptional colour

or leaves of a peculiar cut, and will therefore in all probability, if crossed with other species, yield handsome new hybrids. Rose growers always welcome the discovery of any instance of variation in the wild Rose as an important event, because, by crossing this Rose with others, they are able to produce a large number of new forms, and there is always the chance that one or other of them may find favour with the public. On an average, sixty newly bred Roses come into the market yearly; in the year 1889 the number even amounted to 115. A Rose cultivator at Meidling, near Vienna, grows in his garden nearly 4200 different kinds of Rose, and yet he is still far from possessing all the forms which have been produced in recent times (chiefly by French growers) by crossing one with another. According to his estimate the number of Tea and Indian Roses alone is nearly 1400, and the total number of all the different Roses which the trade has produced up to the present day amounts to 6400.

"The plant forms which are called into existence by the operation of crossing are, in the case of Roses, reproduced largely by means of brood-bodies (cuttings and layers) as well as by budding and grafting (see vol. i., p. 213); but the first origin of the new forms is always to be traced to crossing. This statement applies also to many other plants of which gardeners have taken possession, and especially to cases where propagation by seed requires more time and trouble than multiplication of brood-bodies. The kinds of Tulips, Gladiolus, and Lily produced by crossing are propagated most easily by means of bulbs, and the tuberous Begonias, Dahlias, and Gesneraceæ by tubers, whilst Pinks, Pelargoniums, Cactuses, and many others are most rapidly reproduced by cuttings. Moreover, these methods ensure the preservation of the peculiarities of the new forms unchanged, and such perpetuation of characteristics would be much more difficult to achieve if the plants were propagated by means of seeds. On the other hand, a number of new forms which have originated as the results of crosses effected in gardens, such as those of *Petunia*, *Portulaca*, and *Viola*, are reproduced with less trouble and greater rapidity by seeds, and that method is in such cases preferred to the cultivation of brood-bodies.

"The statement that new forms of plants are bred originally in gardens by any other method than that of crossing is incorrect; it is sometimes made in ignorance, but sometimes also with the intention of deceiving. In former times gardeners believed that, in order to produce new forms, it was sufficient to plant different species in close proximity to one another. The idea was that if the seeds of such plants were taken and sown in good soil, there would always be found amongst the seedlings a few forms differing from the parent; these were to be selected for especial care in cultivation, and to be treated as starting points of new forms. The gardeners who acted on this assumption had not, it is true, themselves crossed the flowers; and if this was all they meant, there was no falsehood in the statement. The operation of crossing was, however, performed without their knowledge by hive and humble bees and other insects, and the planting together of the different species was only of advantage inasmuch as it facilitated the conveyance of pollen from one species to the stigmas of another.

"A celebrated grower of the old school once assured me, in all seriousness, that he did not himself cross the plants that he reared, but that he had repeatedly observed that early in the morning, soon after a flower opened, it put forth infinitesimally fine threads which radiated in all directions and reached across to the flowers of other plants, forming in a short time a web like that of a spider! I would not have mentioned this statement were it not for the importance of pointing out the unreliable character of so many of the statements made by gardeners, especially in the past; and I repeat that the person responsible for the above communication is a well-known and much-esteemed horticulturist. Gross inventions such as the above would, of course, be at once seen through and rejected by any thoughtful man; nevertheless, in some instances reports of growers, likewise untrue or inaccurate, but not bearing the stamp of improbability so plainly on the face of them, have been credited, and have even found their way into books, particularly into those whose authors have omitted to confirm the reports by watching the garden experiments from beginning to end themselves. The statements are then not infrequently quoted as 'results obtained by trustworthy experiments made by gardeners,' and relied upon for the foundation of 'laws based upon facts;' theories are then built up upon them, and are copied from one book to another. It becomes very difficult afterwards to get rid of such propositions, especially if they afford support to the hypotheses of distinguished savants."

THE PROFITABLE UTILISATION OF GLASS HOUSES IN THE WINTER.

[Silver Medal Essay by Mr. G. HART, Buckingham, Old Shoreham, Sussex.]

IT is comparatively easy to utilise glass structures in a profitable manner in the summer, but to make the houses pay in the winter is much more difficult; yet that they can be made to pay then even in these days of strong competition there is not the least doubt. I will endeavour to show how this can be done, and as I consider actual experience of considerably more importance than theory, I shall describe the kind of houses which I have had to profitably utilise both winter and summer. Let me say at the outset that there are many failures in trying to grow too many varieties of plants and crops. It is best to make a speciality of a few, growing them in the best manner, and

placing them on sale in the best condition. For the purpose in question I recommend to be grown Chrysanthemums, Carnations, Arum Lilies, Roses, Spiræa japonica, Violets, Daffodils, Mushrooms, Seakale, Mint, and Strawberries.

Now as regards what flowers pay best, I certainly place the Chrysanthemum first. I should not, however, think of growing a few plants of many varieties, but, on the contrary, many plants of a few good late kinds. I have never experienced any difficulty in disposing of first-class samples from the end of November till the new year at a good price. Second-class blooms are of little use, and third-class produce useless. When we hear so much about the Chrysanthemum not paying, it is generally about the latter part of October and beginning of November, when the markets are glutted with outdoor grown flowers cut from plants that have not had much care taken of them as regards disbudding and watering, and housed early in October. Consequently the flowers are small and have to be sold at so much per dozen bunches, instead of so much per dozen blooms.

My advice is, Leave the early and midseason varieties alone. But I fancy I can hear someone asking, "What am I to supply my customers with till the late blooms are ready?" Of course, if the grower is his own salesman, and has a good connection with the shops, and has been in the habit of selling to them all the summer, they would naturally look to him for the early Chrysanthemums, and he would be a very unwise man who did not study his customers, even if he did not make much by them at a particular time.

EARLY CHRYSANTHEMUMS AND THEIR CULTURE FOR MARKET.

To growers who must have early blooms, I recommend the following varieties:—Miss Watson (a splendid decorative yellow and very free, in the style of Elaine), Lady Selborne, William Holmes, Source d'Or, Madame Lacroix, Vivian Morel, and Charles Davis. The best way I have found to treat these is to insert the cuttings close together in boxes in January, and stand them on a shelf in one of the houses, as soon as rooted placing the plants singly in 4-inch pots. When growing freely and about 4 inches high, pinch out their points. On growth commencing after the pinching place the plants in a cold frame, and with air admitted to them on all favourable occasions they will be hardy enough to plant out of doors by the first week in April, 3 feet apart. Continue to top the shoots till the first week in June, when all topping must cease, place a stake to each plant, and keep the shoots loosely tied to it. About the middle of September cut round the plants with a spade, and at the end of the month dig them up with a good ball of soil and plant them thickly in a house that has had Tomatoes growing in it during the summer. The soil that the Tomatoes have been growing in will suit the Chrysanthemums. After planting give a good soaking of water, and syringe the plants morning and afternoon, till all signs of flagging ceases, disbud to one flower on a shoot, and afford abundance of ventilation in fine weather. By being treated as advised labour is reduced to a minimum. The blooms average 3s. per dozen bunches, and considering the small cultural outlay, they pay to grow, but nothing like the late varieties that I will next mention, and describe my treatment.

GROWING LATE CHRYSANTHEMUMS.

The varieties are W. H. Lincoln, Lady Lawrence, and Leon Frache. The last-named is described in some catalogues as tinged with pink, with but me it comes a pure white, and being a free grower and bloomer is decidedly a good market variety. The above trio I can strongly recommend, but there is no doubt that Mdlle. Thérèse Rey will become the leading market white when it is better known.

For late blooming I insert the cuttings from the end of February till the end of March, in boxes, in a cold brick pit kept closed. They are slightly sprinkled on bright days, and the glass covered with mats at night in case of frost. As roots are emitted the plants are placed singly in 3-inch pots and stood in a cold frame, air being gradually and increasingly afforded; they will endure full exposure without flagging. When about 4 inches high they are topped, and when growing freely again shifted into 5-inch pots, and as soon as they have taken hold of the new soil they are stood out of doors in an open position. By the second week in June they are placed in their flowering pots (9-inch), in compost of three parts loam, one part each of manure and sand, with half a part of leaf mould. They receive their last topping about the 10th of July. I never plant my late varieties out in the open ground, as I am of opinion that the disturbing of the roots just when the buds are forming is the cause of so many shoots going blind, or having deformed buds. I do not feed the plants much after they are housed, excessive feeding being at least one cause of the damping that we hear so much about.

I usually house the plants during the first week in October. They are arranged in two span-roof houses, each 60 feet long, 20 feet wide, 10 feet high at the ridge, and 2 feet from the ground to the eaves; heated with four rows of pipes, the first row being fixed 2 feet from the outside wall, and the other two rows 8 feet apart, well ventilated at the top and sides, and having a good water tank in the centre. Air is freely admitted by top and side ventilators on all favourable occasions, but the houses are never entirely closed. The pipes are heated to keep the temperature from 50° to 55°. By treating the plants as described, and disbudding to

one bud on a shoot, we have from twelve to eighteen good blooms on each plant, and I have never had any difficulty in disposing of them from the end of November till Christmas at an average of 3s. per dozen blooms. Some have fetched 5s. per dozen blooms in Christmas week. And here let me advise the grower of blooms for market to cut them with as long stems as possible, as good flowers are often spoilt for decorative purposes on account of having scarcely any stems.

SMALL DECORATIVE PLANTS.

Another profitable way of growing Chrysanthemums is to insert cuttings singly in 3-inch pots about the 20th of May, and when rooted and the plants growing freely top them, and as they begin to break shift into 6-inch pots for flowering. Plants treated thus will carry five and six good-sized flowers and make splendid decorative plants. They do not flower before December is well advanced, when they sell readily on an average of 8s. per dozen plants. W. H. Lincoln is especially adapted for this kind of culture, as being of dwarf habit it requires no sticks and it is a splendid keeper. Along the front of these houses, between the walls and first row of pipes, is a capital place for growing early Mint. If the roots are taken up from the open ground the end of November, buried about 2 inches under the soil, and given a good



FIG. 13.—MR. G. HART.

watering, a plentiful supply of fine green Mint will be had early in the months of January and February, when it will fetch from 3s. to 4s. per dozen bunches.

From the roof, shelves are fixed for growing Strawberries, and if the plants have been well prepared during the summer and put on the shelves towards the middle of December, the fruit should be fit for market by the end of February or beginning of March, according to the amount of sunshine experienced, when, if the fruit is a good colour and size, it will sell from 10s. to 12s. per lb. The varieties I grow are La Grosse Sucrée and Vicomtesse Hericart de Thury.

Along the front of these houses is also a splendid place for bringing on Daffodils for flowering, and I find Spiræa do remarkably well there, as standing on the ground they keep moist, therefore reducing the labour of watering, throwing up good sprays of bloom and abundance of dark green foliage, which is most essential when the plants have to be marketed.

After the Chrysanthemums have been cut down it is not necessary to keep all the old stools. The plan that I adopt is to shake out as many as I think I shall want for propagating, and pack them close together in boxes, so that they can be put into as small a space as possible. By doing away with the Chrysanthemums room is afforded for potting on the Tomato plants previously raised from seeds in another house, so as to have them ready for filling the houses as they become empty, as well as for thinning out the Spiræas as they require it, and affording them space for development. We must neither waste space nor spoil plants if we are to make the most out of glass structures all the year round.

THE CULTURE AND VALUE OF ARUMS.

The Arum Lilies I find very remunerative, and consequently grow a large number of them. I flower my plants in pots, and keep them indoors until Easter, be it early or late, as that is when the spathes command the highest prices. As soon as Easter is over I stand them outside, and give very little water. I do not mind the leaves being touched with a late frost, as I never found that it hurt the crowns. After they have been standing outside for about six weeks all the old soil is shaken from their roots, and the smaller crowns separated from the flowering ones, they are then planted out a foot apart on a piece of rich ground. If the summer is very dry they receive two or three good soakings of water. At the beginning of September they are carefully

lifted, and potted in three parts good loam and one part manure, three plants being placed in a 10-inch pot; they receive a good watering, are stood in a shady place, and well syringed morning and afternoon. Early in October they are housed in a lean-to structure, 60 feet long, 16 feet wide, 15 feet high at the back, 2 feet 6 inches in front, and well heated. They are afforded adequate air and water in a temperature of 45° until November, when it is gradually raised to 60°. The plants are then syringed about two o'clock, the result being a succession of spathes of good quality, from Christmas till Easter under good feeding. Green fly is sometimes troublesome, and if not promptly subdued will seriously impair the value of the spathes. Their average selling price at Christmas time and Easter is 6s. per dozen, at other times 3s. per dozen.

ASPARAGUS PLUMOSUS NANUS.

The back wall of this house is covered with *Asparagus plumosus nanus* planted in a border 2 feet wide, 18 inches deep, and well drained, the soil being three parts good fibrous loam, one part manure, and a half part of coarse sand. The treatment the Arums receive suits it well, as it throws stout growths 6 to 8 feet in length, giving abundance of side sprays, which I find sell much better than Maidenhair Fern.

(To be continued.)

ROSE AND HORTICULTURAL SHOWS.

NATIONAL ROSE SOCIETY, DERBY.—JULY 17TH.

THE unanimous opinion of exhibitors was that the above surpassed any provincial Rose show for universal good quality. The blooms throughout were particularly bright and even. If there was some measure of disappointment in the classes for garden Roses and other displays at both Gloucester and the Crystal Palace there was little room for complaint at Derby; indeed, the Secretaries endorsed our opinion that it was the best of the three meetings this season. Taken on the whole, we did not think the Teas quite so good as at Gloucester, but the Hybrid Perpetuals and general high quality were a surprise. So good was the show that very little space was unoccupied; indeed, the exhibits were somewhat cramped in more than one class.

NURSERYMEN.

In the Jubilee trophy class for thirty-six singles, and to which a gold medal is also given, eleven good stands were placed in competition, the place of honour being awarded to Messrs. Harkness & Sons, Bedale, Yorks, who staged magnificent examples of Charles Lefebvre, Madame Eugène Verdier, Horace Vernet, S. M. Rodocanachi, Dr. Andry, Duchesse de Morny, Dupuy Jamain, Queen of Queens, Comte de Raimbaud, Her Majesty, Duke of Edinburgh, Gustave Piganeau, Fisher Holmes, Lady M. Fitzwilliam, Général Jacqueminot, Countess of Rosebery, Prince Arthur, Marie Verdier, Marie Baumann, Mrs. John Laing, A. K. Williams (medal), Ernest Metz, Alfred Colomb, Etienne Levet, Charles Darwin, Sir R. Hill, Comtesse de Ludre, Ulrich Brunner, Exposition de Brie, Lady Sheffield, Duke of Teck, Star of Waltham, Duchess of Bedford, Barthélemy Joubert, Earl of Dufferin, and John S. Mill.

Mr. B. R. Cant, Colchester, was second with a little smaller set of blooms, Lady H. Stewart, Comte Raimbaud, A. K. Williams, Duke of Edinburgh, Victor Hugo, Comtesse de Ludre, Horace Vernet, and Duke of Wellington being his best. Messrs. A. Dickson & Sons, Newtownards, Ireland, were a good third. A seedling resembling a pale yellow Souvenir de S. A. Prince, and another somewhat after the style of Lady M. Fitzwilliam, were among the best.

Five competed in the premier class of seventy-two varieties, and here Messrs. Harkness & Sons were again in front of Mr. B. R. Cant. The best flowers were Ulrich Brunner, Etienne Levet, Marie Baumann, Horace Vernet, Dr. Andry, Duke of Connaught, Charles Lefebvre, Général Jacqueminot, Prince Arthur, A. K. Williams, Dupuy Jamain, Prince C. de Rohan, and Victor Hugo. Mr. B. R. Cant was second, and but very little behind the winner. Duke of Wellington, Victor Hugo, Comte de Raimbaud, Countess of Rosebery, Duke of Edinburgh, and Madame Cusin were good. The third prize went to Messrs. A. Dickson & Sons, Newtownards, for very creditable blooms.

The competition was keen and numerous for thirty-six varieties, three of each, Messrs. Harkness eventually winning again. Their best trebles were Général Jacqueminot, Victor Hugo, A. K. Williams, Horace Vernet (good), Charles Lefebvre, and a set of their new Rose called Merrie England. The latter is a peculiarly striped sport from Heinrich Schultheis. Once more Mr. B. R. Cant, Colchester, followed very closely with an even exhibit, containing a grand Duke of Fife; Messrs. A. Dickson & Sons, Ireland, again a close third.

There were nine lots of thirty-six singles, distinct. First, Messrs. Cocker & Sons, Aberdeen, whose best flower was a La Fraicheur. Messrs. D. Prior & Son, Colchester, had very fine stands for second; and both theirs as well as Messrs. Townshend & Sons of Worcester seemed to us to be as good as the Scottish blooms. For eighteen varieties, three of each, seven competed, Messrs. D. Prior & Son, Colchester, winning with some good trebles. Messrs. J. Townshend & Sons, Lower Broad Heath, Worcester, second; and Mr. G. Mount, Canterbury, third.

AMATEURS.

The amateurs' Jubilee trophy and gold medal was awarded to Mr. E. B. Lindsell, Hitchin, who also secured the silver medal for the best Tea, and also one for the best H.P., both blooms being in this box. The varieties were Her Majesty, Earl of Dufferin, Marchioness of Londonderry, Charles Lefebvre, Marie Baumann, Louis Van Houtte, Mrs. John

Laing, Alfred Colomb, E. Y. Teas, Duke of Edinburgh, Maréchal Niel, A. K. Williams, Comtesse de Nadaillac (medal), Xavier Olibo (medal), Catherine Mermet, Horace Vernet, Ulrich Brunner, Sir Rowland Hill, Victor Verdier, Duc d'Orleans, Madame Hoste, Fisher Holmes, Lady Sheffield, and Prince Arthur. A weak flower in Madame Hoste was the only fault here. H. V. Machin, Esq., Gateford Hill, Worksop, had a good Horace Vernet, Prince Arthur, Her Majesty, and Charles Lefebvre in his second prize stand: the third going to Mr. A. Whitton, Bedale Yorks.

Only five competed for the cup (value £10) kindly given by the Right Hon. Sir W. Vernon Harcourt, which was easily secured by Mr. E. B. Lindsell, Hitchin. The best of his thirty-six varieties were A. K. Williams, Duc d'Orleans, Charles Lefebvre, Marie Baumann, Louis Van Houtte, and Fisher Holmes. Mr. W. Drew, Ledbury, was second; a grand Jean Soupert, A. K. Williams, and Louis Van Houtte being among them. The Rev. J. H. Pemberton, Havering-atte-Bower, came third with a good stand. Mr. E. B. Lindsell was again first for eight distinct varieties, three trusses of each, staging a very full box. Mr. H. V. Machin, Worksop, and the Rev. J. H. Pemberton following.

The Crown Derby vase, given as first in a class for growers of less than 2000 plants of exhibition varieties, was won by Mr. J. Parker, Oakfield, Hitchin, with a young and fairly clean assortment of flowers. Mr. E. Mawley, Berkhamsted, was a close second, and R. E. West Esq., Reiga te, third.

For growers of less than 1000 plants, Mr. Whittle, 56, Belgrave Avenue, Leicester, was in front, but closely run by T. Tatham, Esq., Wilmslow Park, Wilmslow; Conway Jones, Esq., Hucclecote, Gloucester, being third. Six distinct singles, open to growers of less than 500 plants, was a strong class, Mr. G. Moules, Hitchin, winning with a grand six, A. Colomb, A. K. Williams, Fisher Holmes, Duke of Connaught, Comtesse de Nadaillac, and Camille Bernardin being the varieties. H. O. Landon, Esq., Brentwood, was second, and Mr. J. Parker, Old Headington, Oxford, third. Mr. Whittle, Leicester, won in a class for four trebles; Mr. J. Parker, Oxford, and Mr. J. T. Marsden, Silverdale, Carnforth, being placed second and third.

A piece of plate, presented by the Mayor of Derby, for twenty-four blooms, distinct, was won by Mr. A. Whitton, Bedale; Mr. H. V. Machin, Worksop, and Mr. W. Boyes, Derby, being second and third.

For nine distinct, singles, T. Tatham, Esq., Wilmslow, was a good first among seven competitors, Horace Vernet, Alfred Colomb, Fisher Holmes, and Ulrich Brunner being his best. Second and third went to Mr. W. Jackson, Mansfield, and Mr. James Brown, Heaton Mersey, Manchester.

Mr. J. T. Marsden, Silverdale, Carnforth, was first for six Teas or Noisettes; Miss Mellish, Worksop, second; and Mr. Boyes, Derby, third. The above three classes were open only to amateurs residing north of the Trent.

In an extra class for nine blooms of any one variety, except Teas and Noisettes, Mr. Machin, Worksop, won with Prince Arthur; Mr. W. Drew, Ledbury, being second with Mrs. J. Laing; and the Rev. J. H. Pemberton third with A. K. Williams. For six of any one Rose Mr. J. Brown, Heaton Mersey, Manchester, Mr. Whittle, Leicester, following. Mr. Jones had Prosper Laugier under the name of Madame Prosper Laugier, two very distinct varieties.

Mr. H. V. Machin, Worksop, won for six new Roses, the Rev. J. H. Pemberton being second. With the exception of La Fraicheur in the winning stand this was a very weak class.

TEAS AND NOISETTES.

For an open class of twelve trebles, distinct, eight competed, the prizes going to Messrs. D. Prior & Son, Colchester; Mr. J. Mattock, New Headington, Oxford; and Messrs. Cocker & Sons, Aberdeen, in like order. This was a uniform exhibit, but contained few grand flowers.

In the nurserymen's class for eighteen distinct, singles, Messrs. D. Prior & Son, Colchester, were again in front, Maréchal Niel, Innocente Pirola, Jean Ducher, and Marie Van Houtte being grand. Messrs. Dicksons & Sons, Newtownards, Ireland, and Messrs. J. Cocker and Sons, Aberdeen, following. Here we had Ireland, Scotland, and the East of England among the winners. Messrs. D. and W. Croll, Dundee, had the silver medal Tea in Marie Van Houtte among this class. Mr. J. Mattock, New Headington, Oxford, won for twelve Teas, Maréchal Niel, The Bride, Marie Van Houtte, and Edith Gifford being the best. Messrs. J. Burrell & Co., Cambridge, and Messrs. Townshend and Son, Worcester, followed.

For twelve distinct Teas, open to all amateurs, Mr. O. G. Orpen, Colchester, was well before A. Hill Gray, Esq., Bath, who had so overdressed his blooms that they were considerably bruised. We noted a grand Maréchal Niel in the winning stand, and for some time doubts were held between this and the silver medal bloom of Mr. E. B. Lindsell's. S. P. Budd, Esq., Bath, was third. For nine blooms of any Tea or Noisette, Mr. H. V. Machin won with Edith Gifford; A. Hill Gray, Esq., following with Comtesse de Nadaillac. For growers of less than 500 plants W. Drew, Esq., Uplands, Ledbury, was first in a class of nine single trusses. Mr. W. Whittle, Leicester, taking the same for six singles where less than 200 plants are grown. An extra class for amateurs, six distinct, three of each.—First, A. Hill Gray, Esq., Bath; second, H. V. Machin, Esq., Worksop; and third, O. G. Orpen, Esq., Colchester. For six of any Tea or Noisette the Rev. F. R. Burnside, Sutton-on-the-Hill, won with Marie Van Houtte.

OPEN CLASSES.

For twelve new and distinct Roses Messrs. A. Dickson & Sons, Newtownards, won with a good but weaker stand than at the Crystal

Palace. Shandon, Countess of Caledon, and Lady Moyra Beauclerk were the best. Messrs. B. R. Cant & Son, Colchester, followed with fairly good blooms; Messrs. Paul & Son, Cheshunt, being third.

A gold medal was awarded to Messrs. A. Dickson & Sons for H.P. Helen Keller, and a card of commendation for Lady Moyra Beauclerk.

For twelve of any white Rose Messrs. Townshend & Son, Worcester, won with The Bride, being followed by Messrs. D. & W. Croll, Dundee, with some good Innocente Pirola.

Messrs. Townshend & Son were also first for twelve of any yellow Rose, showing a pretty box of Marie Van Houtte; D. Prior & Son, Colchester, being second with Maréchal Niel.

For twelve of any light Rose, eight lots of Mrs. John Laing were staged, and one of Her Majesty. The latter was a grand box, and won for Messrs. Dickson & Sons, Newtownards. The second was awarded to some very bright blooms of S. M. Rodocanachi, which could not by any stretch of imagination be called light. Messrs. Mack & Son, Catterick Bridge, were the exhibitors.

Twelve stands were staged in the class for a dozen crimson Roses, Messrs. Harkness & Sons being first with A. K. Williams; D. Prior and Son second with Horace Vernet; and R. Mack & Son third with the same as the winning variety.

GARDEN ROSES.

Amateurs.—Twelve bunches, distinct, not less than three, nor more than six trusses to a bunch. H. V. Machin, Esq., Gateford Hill, Worksop, was well in front, Bardon Job, Camoens, Laurette Messimy, L'Idéale, and Perle d'Or being good. Miss Mellish also from Worksop was second.

Open.—Messrs. Paul & Son, Cheshunt, won with a very good lot of eighteen bunches, Marquis of Salisbury, Camoens, Madame Falcot, Gustave Regis, and W. Allen Richardson being the best. D. & W. Croll, Dundee, and J. Cocker & Sons, Aberdeen, followed. H. V. Machin, Esq., Worksop, was a good first for a display of Roses and foliage; Mr. J. Mattock, New Headington, Oxford, being second. The latter had not sufficient water at the base to stand well.

WATERFORD.—JULY 17TH.

THE summer show of this old-established Society took place on 17th inst. in the ornamental grounds attached to the County Court House, the plants, fruits, and flowers being shown in a large marquee, 200 feet long, and the vegetables in the large hall of the former. The immediate patron is the Marquis of Waterford, Curraghmore (gardener, Mr. Singleton), who sent many good things, some not for competition; but the Society has an enterprising Committee, and two energetic Secretaries in Mr. W. Richardson, Prospect House, and Mr. D. M. Cantwell, Newtown. The grounds were finely laid out, and lend themselves admirably with the adjoining town park to an agreeable promenade, the band of the 3rd Buffs discoursing a choice selection of music in the evening. The sections comprised plants both for gardeners and amateurs, cut flowers similarly, fruit and vegetables, and in every case a distinction was made between those who keep a regular gardener and those who enjoy the real delight of doing their own gardening.

In plants of ornamental foliage Captain De La Poer, Killenagh, had admirable specimens of Palms, Cycas, and Yuccas, and easily won the first prize (gardener, Mr. Ferne). The second place went to that good patron of gardening in Waterford, W. G. D. Goff, Esq., Glenville (gardener, Mr. Innes), who, beside Palms, had fine, well-coloured Crotons and Caladiums, but on the whole smaller specimens. Mr. C. E. Denny, May Park (gardener, Mr. Coghlan), won first for floriferous specimens of Fuchsias, Zonal, Ivy-leaved, Coleus, and double Begonias, Mr. Richardson (gardener, Mr. Stack) getting second for Zonal, single and double, and Ivies, Cockscombs, and first for Gloxinias, single Begonias, and second for double Begonias. The only other formidable competitors to those gentlemen in this section being Mr. Singleton from Curraghmore, and Mr. Innes from Glenville. In every case the specimens were creditably grown and bloomed. If anything further deserves special mention it is Captain De La Poer's exotic Ferns.

In the amateur plant class the first prize for Fuchsias, Zonals in variety, Coleus and Musk, went to Mr. D. Cantwell, Newtown; second for Fuchsias going to Mr. Croker, Daisy Terrace; and first for double Begonias to Mr. Alletson, John's Hill; Mr. C. Donney, The Mill, securing first for a tastefully arranged window box.

Cut Flowers.—First for Dahlias and Zinnias went to M. A. Power, Esq., Bellevue (gardener, Mr. Fitzpatrick); second to Mr. A. Robertson, Newtown (Mr. Egan), and first for Pansies and Phlox Drummond. First for Carnations Lord Ashbrook (Mr. McKellar), and also for double Begonias, with second for Roses, the first for Roses going to Mr. Richardson. The chief exhibitors in the amateur classes showing fairly good blooms were Mr. Cantwell, Roses, Zonals, and Carnations; and Mr. Croker, double Dahlias; and first for Pansies Mrs. O. W. Cuffe, Woodlands.

Fruit.—This was a strong section, especially in black Grapes, Peaches, Melons, and Currants, while more than a dozen varieties of fine specimens of Gooseberries were shown. First prizes for black Grapes, Peaches, and White Currants went to Curraghmore; second for black Grapes to Mr. A. White (Mr. Taylor, gardener), Newtown, and also for white, Mr. Goff securing first for really fine white bunches; Mr. Bagge, for Mr. Arthur White, receiving first for red and amber Gooseberries, Strawberries, and second for Raspberries. Lord Ashbrook obtained the first prize for a scarlet-fleshed Melon.

In the fruit (amateur) section the chief exhibits were shown by Mr. Ridgeway, Newtown, Gooseberries in variety; Currants of sorts by Mr.

Cuffe, Woodlands, and Raspberries and green Gooseberries by Mrs. Snow, Blenheim.

VEGETABLES.—As usual the classes here were very well filled, and the exhibits, although early in the season for many things, highly creditable, especially Cauliflowers, Lettuces, Cabbages, Onions, Tomatoes, and Potatoes, the chief exhibitors being Messrs. Singleton, Fitzpatrick, Coghlan, Stack, Bagge, Innes, McKellar, and Taylor. We regret the limits of our space do not permit in this and other departments a more extended notice, as well as some equally creditable shown by amateurs.

In the nurserymen's class, Mr. Hartland of the Lough Nurseries, Cork, had no competitor, and his exhibits included of cut blooms twelve of the newer Roses in one stand and twenty-four in another, each different; twelve Pelargoniums in trusses of three, single, and equal number of double, and a similar exhibit of Zonals, and twenty-four magnificent blooms of single and double Begonias, very select varieties. This exhibit was highly creditable to the Cork firm, and showed gardeners what they must aim at, besides giving an object lesson in setting up for effect. Messrs. Saunders & Son, nurserymen, Cork, presented two challenge cups for double and single Begonias and Roses, and they were won respectively by the Secretary (Mr. Richardson) and the Marquis of Waterford.

In complimenting all concerned on this fine show, we have only to add every satisfaction seemed to be given by the Judges—Messrs. Phelan, Spring Gardens, Clonmel; Herne, gardener to Duke of Devonshire, Lismore Castle; and your correspondent—W. J. MURPHY, Clonmel.

NATIONAL PINK SOCIETY (NORTHERN SECTION).—JULY 20TH.

THIS Society held its annual exhibition at the Botanical Gardens, Manchester, on Saturday last. The show could not be called a successful one, the date being altogether too late for the Pink bloom, and many prominent exhibitors were consequently unable to compete.

Unfortunately the Pink Society has no control over the fixing of the show day, which has to be the one chosen by the Manchester Botanical Society for its annual Rose show. This arrangement is a very unsatisfactory one so far as the Pink growers are concerned, and it would be well to try to make some alteration in this respect. There were few novelties of note. Mr. E. Shaw of Moston exhibited two seedlings named Mrs. Shaw and R. G. C. Mowbray, and for the latter he obtained a first-class certificate. The awards were as follows:—

Class 1, twelve dissimilar Pinks, not less than six varieties.—First, Mr. T. Lord, Todmorden, with Ernest, Modesty, John Love, Emily, Minerva, Ada Louise, Boiard, Empress of India, and Maggie. Second, Mr. J. W. Bentley, Middleton, with Boiard, Bertha, John Ball, Emily, Mrs. Dark, and Modesty. Third, Mr. E. Shaw, Moston, with R. G. C. Mowbray, Mrs. Barlow, Alderman Thorpe, Mrs. Shaw, John Ball, and seedlings. Fourth, Mr. J. Edwards, Blackley, with Bertha, Rosy Morn, Undine, Alderman Thorpe, Extra, Dan. O'Rourke, and seedlings.

Class 2, six dissimilar Pinks.—First, Mr. Edwards with Amy, Alderman Thorpe, John Ball, Bertha, Boiard, and Empress of India. Second, Mr. Lord with Godfrey, Modesty, Emily, Ernest, Boiard, and Ada Louise. Third, Mr. Bentley with Adelaide, Boiard, Bertha, Emily, Mrs. Dark, and John Ball. Fourth, Mr. Shaw with Alderman Thorpe, R. G. C. Mowbray, Mrs. Barlow, John Ball, Mrs. Shaw, and a seedling.

Class 3, six Pinks, not less than three varieties.—First, Mr. Edwards with Bertha, Undine, Rosy Morn, and John Ball. Second, Mr. Lord with Mrs. Dark, Emily, John Ball, Bertha, and Modesty. Third, Mr. Bentley with Emily, John Ball, Boiard, and Mrs. Dark. Fourth, Mr. Shaw with John Ball, R. G. C. Mowbray, and Mrs. Shaw.

Class 4, three Pinks, a red laced, a purple laced, and a black and white.—First, Mr. Edwards with Bertha, Miss Pomroy, and Empress of India. Second, Mr. Bentley with Emily, Miss Pomroy, and Mrs. Dark.

Class 5, single blooms, red laced Pinks.—First and second, Mr. Lord with Bertram, and third with Empress of India. Fourth, fifth, and sixth, Mr. Shaw with R. G. C. Mowbray.

Class 6, single blooms, purple laced Pinks.—First and third Mr. Lord with Bertha, fourth and fifth with Emily. Second and sixth, Mr. Bentley with Emily.

Mr. Edwards won the premier prize for the best purple laced Pink with Bertha; and Mr. Lord had the premier red laced pink in Godfrey. A prize was also awarded to Mr. T. Fitton of Middleton for a group of Pinks shown as grown.—J. W. B.

NATIONAL CARNATION AND PICOTEE SOCIETY.—JULY 24TH.

THE Southern Section of the above Society held its annual show at the Crystal Palace on the above date. The flowers were staged on tables placed in the centre transept, and the effect of the whole was very pleasing. Most of the classes were well filled, and though in some as many as eight prizes were awarded, there were exhibitors sufficient to claim the whole. The quality was good throughout, and Midland growers were well represented, several of the premier prizes going into the neighbourhood of Birmingham. It would be an advantage if in the future those in authority could arrange for the judging to commence at the time appointed, and not three-quarters of an hour late, as in this case. So far as the number and quality of exhibits are concerned the executive will have reason to feel satisfied with their venture at the Crystal Palace. As the show occurred so close to the time of going to press we are only able to give a curtailed account, and below is appended list of the principal prizewinners.

In the premier class for twenty-four blooms, flakes and bizarres only,

the first prize fell to Mr. R. Sydenham, Birmingham, who staged compact flowers of Mrs. Kingston, Miss C. Grahame, George Melville, Lord Salisbury, Lady M. Currie, Sarah Payne, Thalia, Othello, John Harrison, Master Fred, J. S. Hedderley, Sportsman, George R. Helgrave, and Crista Galli. Messrs. Thomson & Sons, Spark Hill, Birmingham, were a creditable second, the stand containing good flowers of Jas. Douglas, Florence Nightingale, Edward Adams, and others. The third prize fell to Mr. Chas. Turner, Slough. Mr. A. R. Brown, Handsworth, Birmingham, was first for twelve flakes and bizarres with Master Fred, George Melville, George, Thalia, Othello, Lord Salisbury, J. S. Hedderley, Feron, Harmony, Gordon Lewis, Miss C. Grahame, and Thaddeus. Mr. C. Phillips, Bracknell, Berks, was second; and Mr. A. Midhurst, Oxford, third.

For six dissimilar Carnation blooms first honours fell to Mr. W. Spencer jun., Barnet; the second to Mr. J. J. Keen, Southampton; and the third, Mr. W. L. Walker, Reading. Mr. R. Sydenham was again first for twenty-four Picotee blooms with white ground; particularly fine in the exhibit were Gannymede, Favourite, Mrs. Kingstone, Mrs. Beale, Amelia, Little Phil, and Lena; the second prize fell to Mr. Charles Turner; and the third to Messrs. Thomson & Sons. In the class for twelve Picotees Mr. A. R. Brown was first, showing good blooms of Brunette, Miss Anderson, Ne Plus Ultra, Miriam, Little Phil, and others; second honours fell to Mr. M. Rowan, and third to Mr. C. Phillips, Bracknell, Berks. Mr. A. W. Jones, Handsworth, Birmingham, claimed first honours for six Picotees with white ground, who staged excellent flowers of Norman Carr, Brunette, and Mrs. Burnett, amongst others. Mr. W. Spencer jun., was a creditable second; and Mr. Charles Harden third.

For twelve Picotees with yellow ground, Mr. C. Blick, gardener to Martin Smith, Esq., Hayes, was a good first. Amongst other creditable flowers were Mrs. Robert Sydenham, Voltaire, Cowslip, and Golden Eagle. Mr. Charles Turner was granted the second place; Mr. James Douglas following with the third. For six Picotees with yellow ground the competition was very keen, there being no less than eighteen entries. The first place was taken by Mr. A. R. Brown, who showed well shaped flowers of good size; and the second award fell to Mr. W. Spencer, jun. In the class for twenty-four Selfs and Fancies, in not less than twelve varieties, Mr. Blick, gardener to Martin Smith, Esq., Hayes, was an excellent first, the stand containing good flowers of Duke of Orleans, Phoebe, Haye's Scarlet, Waterwitch, Proserpine, Mrs. Eric Hambrough, Eldorado, Ceres, Braw Lass, Elmira, The Dey, Seagull, Exile, and May Queen. Mr. Charles Turner was second with a good even exhibit. Mr. James Douglas, gardener to Mrs. Whitbourne, Great Gearies, Ilford, followed with third.

For twelve dissimilar blooms the first prize was gained by Mr. R. Sydenham with excellent flowers of Cardinal Wolsey, Miss A. Campbell, Uncle Tom, Janira, Victory, Sardun, Western Glory, Corunna, Raby, and others. Mr. John Walker, Thame, was a good second; and Mr. Charles Harden, Dover, followed with third. In the class for six dissimilar blooms Mr. A. W. Jones, Handsworth, Birmingham, claimed premier honours with Royal George, Romulus, Mirabilis, Duke of Orleans, White Queen, and a seedling. Mr. J. D. Foulkes, Chester, was second; and Mr. W. Spencer, New Barnet, third. The first prize for a single self of any colour fell to Mr. A. W. Jones for Germania, and Mr. R. Sydenham being second with Uncle Tom. Mr. Charles Turner was first for a single Fancy bloom with Primrose Dame, and Mr. Aubrey Stirling, Blackheath Park, second.

For six Carnation and Picotee blooms, first honours fell to Mr. M. Orr, Bedford; the second to Mr. E. Colby Sharpin, Bedford; and the third, Mr. M. V. Charrington. Mr. E. Colby Sharpin was first for two cut blooms, raised from seeds supplied from the Carnation Society, with beautiful flowers; Mr. J. F. Kerr, Southend, was second; and Mr. M. V. Charrington, Edenbridge, third.

Mr. Chas. Blick was a capital first for a group of Carnations arranged for effect, the plants and flowers being exceptionally fine. For a group of Carnations, not to exceed 30 feet, Mr. Jas. Douglas was first, and Mr. E. Charrington, Chislehurst, second. Mr. C. Blick was first for a dinner-table decoration, formed of Carnations and Picotees; the arrangement was very tasty, Asparagus Fern being used with the flowers. The second prize fell to Mr. F. W. Seale, Sevenoaks; and the third to Mrs. Monter, Upper Norwood. In the class for twelve Carnation blooms, with a spray of foliage attached, Mr. A. Spurling was first; Mr. Chas. Harden second; and Mr. Jas. Douglas third.

For the best self-coloured border variety Mr. Jas. Douglas was first, Mr. A. Spurling second, and Mr. G. H. Sage, Richmond, third. For six blooms arranged with spray of foliage Mr. J. F. Keen was first, Mr. G. Chaunders, Oxford, second, and Mr. T. E. Henwood third. Mr. A. Spurling was also first for six varieties of self-coloured border Carnations, the second prize falling to Mr. Jas. Douglas, and the third to Mr. H. W. Weguelin, Teignmouth.

For nine varieties of flake, bizarre, or fancy Carnations Mr. Jas. Douglas was first; Mr. A. J. Saunders, gardener to Viscountess Chewton, Cobham, Surrey, followed with second, and Mr. H. W. Weguelin third. Mr. Chas. Blick gained first prize for buttonholes of Carnations, and the second award fell to Mr. Chas. Harden. For three sprays of Carnation and Picotee blooms, first, Mr. Chas. Blick; second, Mr. J. R. Chard, Stoke Newington; third, Mr. C. Harden. For a vase of Carnations and Picotees Mr. M. V. Charrington was first, Mr. Jas. Douglas second, and Mr. E. Charrington third. Miscellaneous exhibits were staged by Messrs. H. Eckford, H. Cannell & Sons, T. S. Ware, W. E. Tidy, J. Prichard, and B. Ladhams.



FRUIT FORCING.

Peaches and Nectarines.—*Early Forced Houses.*—Trees of Alexander, Early Louise Peaches, and Advance or Early Rivers Nectarines, will now have the buds sufficiently plumped and the wood matured to permit the roof lights being removed, which should not be further delayed, if not already done. This is a commendable practice, as it prevents over-maturity in the buds, lessens the danger of their dropping, and the trees are cleansed and refreshed by the dews and rains, not the least of its advantages being the thorough moistening of the border in the autumn. Where the lights are not moveable air should be admitted constantly to the fullest extent, the border properly watered, and the trees syringed occasionally so as to keep the foliage free from red spider.

The varieties of Peaches such as Hale's Early, A Bec, Stirling Castle, Royal George, Dymond, Grosse Mignonne, Bellegarde, and Noblesse, and such Nectarines as Lord Napier, Elruge, and Dryden, which were started about the new year, will be cleared of the fruit, and the trees put in order for perfecting the growths. Wood on which the fruit was borne will have been removed, reserving extensions; all superfluous growths have also been cut away, so that the trees have the full benefit of light and air by the foliage being fully exposed, influences essential to forming and perfecting the blossom buds and the thorough maturation of the wood. Syringe the trees, and cleanse them of insects if necessary by the prompt application of an insecticide, and supply water, or in the case of weakly trees, top-dressings of chemical manures washed in, or liquid manure at the roots. Mulching will also tend to keep the roots active at the surface and prevent the premature ripening of the foliage. Admit air to the fullest extent. When the buds are plumped and the wood hard and brown where exposed to the sun, the roof lights may advantageously be removed.

Successional Houses.—Trees started in February and being of the approved standard second early and midseason varieties, which are much better than the very early sorts for general cultivation, have the fruit ripe and ripening. The fruits are magnificent in colour and the quality is high, the juice being luscious, and that of Nectarines singularly sweet. As the fruit is cleared off the trees cut out the wood that has borne fruit, and thin the growths where too close, or where the foliage cannot have the essential exposure to atmospheric influences. Cleanse the trees of dust and red spider or insect pests by means of the syringe or engine, if necessary using an insecticide. Keep the borders thoroughly moist, feeding trees that have carried heavy crops or are at all weakly. Avoid, however, making the soil sodden by thick and heavy applications of liquid manure, or inducing growth by too abundant top-dressings of the advertised fertilisers. Stop laterals to one joint, or allow a little extension if the trees are weakly or have the buds in an advanced state, preventing the foliage ripening prematurely by continuing the root action with growth. When the buds are well formed the roof lights may be removed in showery weather, and where this cannot be done the fullest amount of ventilation should be given, as the weather has been singularly favourable for bud formation. The exposure to rains and dew has an invigorating effect, doing no harm except where the trees are too vigorous and the wood ripening unkindly.

Houses with Fruit Swelling.—Trees started in March have the fruits in a forward condition where they have stoned satisfactorily, as they do when the growth is not too luxuriant or improperly formed and matured. The conditions essential to a satisfactory growth and crop are—(1) a border composed of rather strong loam, inclined to clay rather than sand, and preferably marly, or with old mortar rubbish or chalk, to afford calcareous matter; (2) good drainage, consisting of a foot thickness of rubble, with a sloping bottom to a drain for carrying off superfluous water; and (3) neither too wide nor too deep borders—2 feet being ample as regards depth, and not more than the width of the trellis the trees cover when full grown. Cultural conditions play an important part in the matter of the fruit stoning, the border being properly watered and supplied with food, the shoots thinly trained, no overcropping or neglect of thinning in the early stages, and a genial atmosphere, so as to insure steady, progressive growth.

The leaves overhanging the fruit should be drawn aside, and depending specimens raised by means of laths placed across the trellis wires, so that the apex will be to the light. Water the borders copiously as required, and feed with liquid manure or top-dressings of the advertised fertilisers washed in. Keep the surface mulched with short, sweetened, or spent lumpy manure, just a little to keep the surface uniformly moist and encourage surface roots. Avoid a thick mulch or material likely to form a close soapy mass and exclude air. Ventilate early; in fact leave a little air on constantly, syringing by 7 A.M., and through the early part of the day ventilate freely. When the sun commences to lose power in the afternoon reduce the ventilation, and raise the temperature to 85° or 90° by its agency about 4 P.M., with a good syringing and damping; but it must be done with judgment, for when the water hangs for any length of time on the fruit during the last swelling process it is liable to damage the skin, causing it to crack, and giving the fruit a musty flavour, therefore have the fruit dry before

nightfall, and when the day is likely to be dull omit the morning syringing. Directly the fruit commences ripening cease syringing, but afford air moisture by damping the paths and borders in the morning and afternoon, ventilating rather freely in the daytime, and sufficiently at night to insure a circulation of air.

Late Houses.—In order to assist the swelling of the fruit observe the conditions advised in the preceding paragraph. If wanted to accelerate the ripening ventilate rather freely in the early part of the day and up to 1 P.M., then keep the heat obtained by reducing the ventilation so as to secure 80° to 85°, and at about 4 P.M. close the house, syringing well, and no harm will come if the mercury rise to 90°, ventilating about 6 P.M., so as to let the pent-up moisture escape and the temperature gradually cool down. Keep the shoots tied down as they advance, allowing no more than are necessary for next year's bearing or for furnishing the tree. Let all have space for development, with full exposure of the foliage to light and air. Keep laterals stopped to one leaf, also retain growth to attract the sap to the fruit. If there are any gross shoots which push laterals from the leaf buds, cut them back to where the buds remain intact, or, if likely to derange the equilibrium of the tree and the equalisation of the sap, cut them off altogether, as they only tend to promote gumming, imperfect setting, and certain casting of the fruit in stoning. Draw the leaves aside or away from the fruit, raising it from the lower side of the trellis, and let it have as much light as possible, the sun acting directly on the apex. This will be uppermost when the fruit is put up for sale or dished, hence the necessity of having the chief colouring there, and as the colour is so is the flavour.

Unheated Houses or Wall Cases.—Where there are early varieties in these—such as Alexander, Waterloo, Early Louise, Early Beatrice, and Early Rivers—the fruits are ripening or ripe; these should not be syringed, but the trees must not lack water at the roots, and the borders should be damped, as moisture is necessary for the health of the foliage. Afford top-dressings of the advertised fertilisers washed-in, or supply liquid manure from tanks properly diluted. House sewage may be used for this purpose, and its unpleasant smell may be subdued by using 1 lb. of sulphate of iron to every 100 gallons, mixing well a few days before use. This will convert the sewage into a more or less double sulphate of ammonia and iron, the latter being ammoniated, and then it loses any deleterious properties it might otherwise have in the somewhat larger amount given. Iron is an essential plant food, but often worse than useless in the soil for lack of nitrogenous matter for ammoniation. Even without the direct application of the sulphate the sewage causes the foliage to assume a dark glossy hue, and this—the amount of chlorophyll in the leaves—practically determines the colour (when properly exposed to light) and quality of the fruit.

Keep the growths thin, every shoot having space for development and proper exposure to light and air. Syringe about 7 P.M., the house having a little air constantly; increase the ventilation with the advancing temperature, contriving to have it full at 75°, or if it is desired to accelerate the ripening keep through the day at 80° to 85°, but always with ventilation, and close early to maintain the temperature, but not to raise it above 90°. Syringe again in the afternoon about 5 P.M. This attended to, and the operation being effective, there will not be any red spider, the roots being properly supplied with water and nourishment. Timely thinning increases the size of the fruits retained, and having been attended to early the fruit is a good size by the time the stoning is completed, when the final thinning should be given. It is a mistake, however, to leave many more for stoning than will be ultimately allowed to ripen, for it is really the stoning that is the exhausting process.

Cucumbers.—The growths should be thinned as occasion requires, looking the plants over twice a week, it being easy to rub off a starting shoot in the wrong place or for which there is not room, and the points of unruly growths may be nipped off without prejudice. It is different when the manipulations are distant, then the amount of trimming is considerable, the wounds are correspondingly large, and the foliage impaired by the previous crowding and afterwards sudden exposure. This is how Cucumbers are weakened and less able to contend with their enemies. Remove exhausted growths to make room for young bearing shoots. Keep the shoots well stopped to one joint beyond the fruit, or at the fruit if the plants are vigorous and showing no signs of exhaustion. Always allow weakly plants more extension, and crop them lightly. Remove bad leaves as they appear, always having an eye to the first speck of abnormality on the foliage, whether caused by red spider, thrips, white fly, or mildew. These pests have an abhorrence of sulphur, especially the fumes, which are given off more or less under the solar heat acting on surfaces coated with the flowers. Mildew spores are just now very abundant in the atmosphere, and are settling on Plantains and Dandelions; indeed, many of these are already white with the over-spreading mycelium, erect hyphæ, and shed conidia. Have an eye, therefore, to Cucumber plants, preferably dusting a little sulphur on the plants, or where the sun can act on it, as a precautionary measure. Maintain a steady root action by necessary bottom heat, and give due attention to watering two or three times a week. The bottom heat should be 80° to 85°, top heat 70° at night, 75° by day, 80° to 85° with sun, closing early to increase to 90°, 95°, or 100°. Syringe in the afternoon of hot days, avoiding late syringing, for the foliage should be dry before sunset so as to not be unduly prejudiced by incumbent water. Commence ventilating early, it being important that the foliage be dry before the sun acts powerfully upon it. Shade so as to prevent scorching and flagging. The plants for autumn fruiting should now or soon be placed on hillocks or ridges moderately firm, maintaining a moist genial atmosphere, and they will soon grow sturdily and show fruit abundantly.

THE KITCHEN GARDEN.

Endive.—A good supply of well grown, properly blanched Endive is usually fully appreciated during the autumn and winter, and if more is prepared than is needed for salads, it can be cooked as a vegetable. Any sown much before the present time is apt to run to seed prematurely, but the plants raised from the middle of July till the middle of August can usually be depended upon for doing good service. The Moss Curled is the first ready for use, but does not keep well or stand a moderately severe frost. A good selection of Green Curled and the Improved Broad-leaved Batavian are what can be confidently recommended, the last-named more nearly approaching a Lettuce, and keeping better than any other variety. Sow in drills a foot apart, watered prior to sowing if the ground is dry. Any that have already been raised should be thinned out, and some of them transplanted, the others remaining 6 inches apart where sown. They will grow and press against each other, blanching of hearts being the result without further trouble. That is the easiest way of providing early Endive.

Lettuce.—In the autumn the Cos Lettuces fail to blanch well, but are often wanted for mixing with Endive. As a rule larger breadths than usual should be sown now, and again early in August, and one of these may give a capital supply of Lettuce for late cutting. The remainder of the seeds of white or green Cos varieties might be sown and a portion of Brown Cos, with still more of All the Year Round or other hardy Cabbage variety. It is the latter type that can be most depended upon, as they are frequently good when the Cos varieties are indifferent. Prepare the sites, sow the seeds, and do the necessary transplanting much as advised in the case of Endive.

Winter Spinach.—More often than not really good crops of winter Spinach are not obtained owing to undue delay in sowing the seeds. If the plants are to be serviceable during the winter they must be nearly or quite fully grown before severe frosts set in. For this important crop the ground cannot be too well prepared by cleaning and smashing the lumps, and a surface dressing of soot, or if the ground be rich, lime would be beneficial. These dressings should not be dug in, but only lightly forked into the surface. Ground newly cleared of early or second early Potatoes, and for which it was well manured, ought to suit winter Spinach admirably. For the earliest sowing the rows should be 15 inches apart. If after drawing the drills these are found to be dry, thoroughly moisten them and sow the seeds. Victoria is a very fine variety and suitable for present sowing, with Longstander for succession.

Parsley.—There is a never failing demand for this, and every effort should be made to keep up the supply. Where the early sowings have not done well, only patches of plants showing in places, advantage should be taken of a showery time to transplant some of these, raising them out of the ground with a fork, the aim being to save the strong tap root. Those disturbed, but not wholly lifted, to be refixed and watered. It is not too late to sow more seeds. Sometimes it happens that the smaller or younger plants survive frosts that destroy the extra fine plants. The commoner forms are the hardiest, extra fine curled or "double" Parsley being the first to succumb. It will be quite useless to sow on dry ground, therefore well moisten the seed drills.

Vegetable Marrows.—These have done remarkably well, and are cropping freely. Those nearly or quite on the level have felt the drought less than those on raised beds or heaps of manure. Instead of allowing the earlier fruits to attain a great size only to be thrown away keep cutting them as fast as they are large enough for use, and that whether they are wanted or not. Unless this is done many of the fruit now showing will probably turn yellow and drop off. Quite small fruit cooked and served as grown are far superior to those sliced and denuded of seeds.

Tomatoes Under Glass.—Plants trained up the roof, and nearly cleared of their first heavy crops, may be made to produce ripe fruit in abundance next autumn and winter. Remove much of the old foliage, allow side growths to form on the main stems, and reserve a portion of these for laying-in and cropping. If plentiful stop these growths a joint beyond where a cluster of fruit is set, but if somewhat scarce allow them to extend, and train irregularly with a view to having the roofs thinly covered with fruiting growths. Closely remove all superfluous side shoots. The plants, whether rooting in pots, boxes, or ridges of soil, should have some of the latter removed from the roots, and a top dressing of fresh fibrous loam and manure applied at once, a free circulation of warm dry air is a good antidote for atmospheric diseases of a fungoid nature. A house newly cleared of Melons or Cucumbers would be just the place for a winter crop of Tomatoes, and young plants ought to be ready for planting now. The crops must be set on the plants before the days become short and dull, otherwise they will most probably be very light. First give the house a thorough cleaning in order to get rid of insect pests, and freshen up the soil previously used for either Melons or Cucumbers for the Tomatoes. Plant 15 inches apart, and train to a single stem up the roof. Nothing is gained by disposing them more closely together, but on the contrary, the greatest weight of fruit is grown by those more thinly planted. Frogmore Selected, Sutton's Al, and Ham Green Favourite, are among the best for present planting.

TRADE CATALOGUES RECEIVED.

W. Cutbush & Sons, Highgate.—*Bulb List.*
W. B. Hartland, Cork.—*Daffodil and Tulip List.*
J. Peed & Sons, West Norwood.—*Bulb Catalogue.*
G. Petrick, Ghent.—*Plant Catalogue.*

THE BEE-KEEPER.

APIARIAN NOTES.

THE HONEY YIELD.

It is to be feared the honey yield from Clover in many districts will turn out a failure, and honey is scarce accordingly. The best results I have witnessed are in a friend's apiary of Lanarkshire hives, near the best Clover fields I have seen this year. All his hives have one crate of sections, or supers filled with spotless, sealed combs. I enclose with this MSS further proof of the superiority of full-sized hives.

I thought perhaps it would interest you to hear how I have been getting on in the bee-keeping line this season. The hive that I wrote to you about some time ago, which I thought was queenless, has turned out all right. The queen was late in commencing laying, but soon made up for lost time. I have taken one eight-bar super off it, and I see that a second one is nearly ready for removal. That will be a finish for this year. I extract the honey, as comb honey will not sell here. This same hive yielded 60 lbs. of extracted honey last year. I sold what I had to spare at 1s. 4d. per lb. It has not swarmed this time; it is a Lanarkshire. A standard frame hive is nowhere in comparison with one of them. Another Lanarkshire hive swarmed on June 20th, a very fine swarm indeed. I did not expect it to swarm, as it was a cast of 1894, and the bees were working well in the super. On the 19th I examined it, and found six queen cells in the top brood box sealed. It was my intention to rear two young queens. I examined the hive the day after the swarm had issued. On looking through the brood box I found all the queen cells empty; an opening had been made at the side of the cells to get the queens out. I next examined the bottom box (I had two brood boxes on), and found four more queen cells that had been served the same way. I also found a young queen not sealed over. On examining the hive on July 6th this queen had hatched out. She crept on to my hand, flew about 20 yards, and returned to the hive; she has not commenced to lay yet, at least she had not a few days ago. Is it usual for bees to behave in this way in regard to destroying young queens?—C. R.

Only one-half of my hives are supered, and have had one swarm only. The stock with all the others are killing their drones, although there is abundance of honey in their hives. Young queens for 1896 will have to be raised and isolated at the Heather, where they will be in a few days.

I have nothing new to report on preparing and moving bees to the Heather. After my hives are supered a few seconds is all the time necessary to shut the bees in and ventilate them for their long journey. I never lost a hive from breakdown of combs nor smothering during my fifty years' experience, nor ever had bees escape to sting or annoy anyone, and I have had some difficult routes to take them to different parts on the coast. On one occasion I was being launched into the sea along with a barrow and twelve hives. The night work moving them thirty miles away gives me many amusing incidents to think and speak of, but the narration would be too prolix for the Journal.

QUEEN CELLS DESTROYED.

In reply to "C. R.," it is quite common for bees to gnaw the sides of queen cells to destroy the inmates when not intent on swarming, but why they will at the same time bring forward others is where the mystery lies. It is usual for bees in spring, long before they are crowded in the hive, to raise one or more young queens, which sometimes, but not always, supersedes the queen regnant. If every gardener were to keep one hive with the intention of using the profit from it, as provident money, either by way of insurance or of keeping himself in a benevolent society, much good might result from the course.—A LANARKSHIRE BEE-KEEPER.

RE-QUEENING STOCKS.

No time should now be lost in re-queening stocks that are headed by old queens which were hatched previous to 1894. These should all be replaced by young fertilised queens of the present year, and if previous instructions have been carried out there will be no lack of young queens for the purpose. I have upwards of twenty queens that were fertilised during the two or three bright days experienced three weeks ago, and these without a single exception are now laying. During the next few days these will be introduced to those stocks that have old queens or are otherwise unsatisfactory, and will, under ordinary circumstances, give the best results next year. By following a few simple rules no loss of young queens will occur.

The plan I prefer is the direct introduction system. This is done by examining the stock about mid-day which it is intended to

re-queen. After quieting the bees with a little smoke—the less used the better—commence by examining the centre combs, as the queen is usually found on these. As soon as found remove her, and replace the combs in the hive, covering them up as warmly as they were before. Then go to the hive in which the young queen has been reared and remove her, placing her quite alone in a small box. Place the box containing the queen in a warm place until late in the evening, then take a light, and the box containing the young queen, to the stock from which the old queen had been removed, lift a corner of the quilt, and with a puff of smoke drive the bees down between the frames, open the box, and permit the queen to run down; replace the quilt, and do not examine the stock for at least forty-eight hours. By this means I have introduced a great number of queens without a single failure.

Caging the young queens is another simple way of introducing them. There are various cages used for the purpose, and those I have often used are home-made, and answer the purpose well. Take a piece of perforated zinc about 3 inches square, turn the edges down about half an inch, place the queen on the comb, and place the cage over her, firmly pressing into the comb. Forty-eight hours afterwards liberate her, and the bees will take readily to her.—AN ENGLISH BEE-KEEPER.



* * All correspondence should be directed either to "THE EDITOR" or to "THE PUBLISHER." Letters addressed to Dr. Hogg or members of the staff often remain unopened unavoidably. We request that no one will write privately to any of our correspondents, as doing so subjects them to unjustifiable trouble and expense.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Bee subjects, and should never send more than two or three questions at once. All articles intended for insertion should be written on one side of the paper only. We cannot reply to questions through the post, and we do not undertake to return rejected communications.

Books (A Reader).—Flower gardening is dealt with in the "Garden Manual," that may be had from this office, post free, for 1s. 9d.; and also in "Garden Plants and Flowers," published by Macmillan & Co., which can be purchased from any bookseller for 1s.; "Table Decoration," by W. Low, published by Chapman & Hall, will probably suit you. The price is, we believe, about 5s.

Carnation Seedling (T., Guernsey).—The flower sent is that of what should prove a good border variety, but is of no special value. The colours are "run," the centre petals of the blooms are small and imperfect, besides which it is practically scentless.

Mushroom Spawn (J. P., jun.).—The Mushroom spawn in the bricks appears quite healthy, there not being any foreign body in them likely to interfere with the Mushroom mycelia; at least, there is no fungus present on the threads, or any on the bricks outside of a parasitic nature. It is beyond explanation how the low forms of fungi gain access to certain substances, but the spores have been present in the material used for covering the bricks or in the atmosphere, and have simply germinated and developed in the presence of suitable nutrition and enviroinal conditions. The spawn, if anything, is drawn too much outside of the bricks and too highly developed, yet there is little, if anything, to cause anxiety.

Grapes Scalded (A. D.).—The berries of the Lady Downe's variety are scalded, this variety being more subject to it than any other sorts, it frequently scalding badly when the berries on adjoining Vines, as in your case with Black Hamburgh and Foster's Seedling, are not affected. It almost invariably occurs when the Vines are kept rather close and the atmosphere moist towards the close of the stoning process, usually from a fortnight to three weeks before changing colour for ripening, and is considered to be due to the Grapes then requiring a drier atmosphere or the dispersal of the moisture before the atmosphere is heated by the sun considerably more than the berries. But various theories have been advanced, yet there is no question about the prevention, which consists in admitting a little air constantly, and keeping a gentle warmth in the hot-water pipes, so as to maintain a night temperature of 65° to 70°, and insure a circulation of air. This, with admitting air early in the day, or before the sun acts powerfully on the house, and increasing it rather liberally with the advancing heat, has been found successful, it being only necessary to continue it for the time mentioned or until the berries generally commence changing colour, when the danger of scalding is over. The Madresfield Court berries are fairly good, but not coloured.

Paulownia imperialis (R. L.).—The tree must be growing in an unsuitable soil or situation, as, apart from the actual injury to the texture of the leaves, they have an extremely unhealthy appearance. We do not think, the cause you assign could have produced such effects without seriously damaging the tree.

Asters Dying (Charles Bellis).—The plants have the appearance of being overdone with liquid manure, or some substance which has destroyed the roots and tissue at the collar. On this point you offer no evidence. We made an examination of the dead tissue, but found nothing on the roots except the mycelium and a few outgrowths of a fungus (*Fusarium myosoides*), which causes the sudden collapse of *Myosotis* and similar plants, including *Calceolarias*, that are grown frequently on the same ground. The spores are in the soil, and appear to follow on plants with a fibrous root formation. Dressings of lime and change of ground are the best preventives. As a remedy a quick acting disinfectant is advised, such as soluble phenyle or creolin, a wine-glassful to 4 gallons of water.

Diseased Tomatoes (H. M.).—The Tomatoes sent were perfectly fertilised, and probably attacked by the destructive parasite *Cladosporium lycopersici*, though not in an advanced form. Most of the Tomato fungi are in their earlier stages quite superficial, so that if remedies are applied in good time recovery appears possible. The fungus spreads from the leaves, also from one fruit to another, till at last leaves, stems, and fruits collapse. All badly affected fruits should be gathered and burned; the house kept warm, dry, and well ventilated; and the plants thoroughly sprayed with Bordeaux mixture—say 2 ozs. of sulphate of copper dissolved in half a gallon of water in a vessel by itself, slacking 2 ozs. of quicklime in another vessel, and forming a thin whitewash. Then pour this into a vessel containing the sulphate of copper solution slowly through a hair sieve; add water enough to make 3½ gallons, stir well, and apply to every part of the plants, coating them evenly with the thinnest possible film of the Bordeaux mixture. This must not be applied to ripe fruit.

Marguerites (P. F.).—These are propagated by cuttings of the young growing shoots, and root freely at almost any period of the year. For bedding, they can either be rooted early in September or early in the spring. We prefer the latter, because large plants can quickly be produced by liberal treatment. From June to September they root freely in any sandy soil in cold frames, either singly, or a number together in pots. Cuttings are liable to damp during the autumn, but root readily enough in a temperature of 60° during the spring months. Plants rooted in August, grown cool, and their shoots pinched, will flower towards the end of March. Cuttings rooted early in the spring will succeed these. Root a few at intervals of a month or five weeks, and you should not be without flowers. Plants rooted in April and May, and then grown outside, will flower splendidly during the autumn. If you want large specimens, plant out spring-rooted cuttings; lift and pot them in September; winter them in a cool house, and they will yield quantities of flower in the spring.

Carnation Souvenir de la Malmaison (T. R.).—If your plants are dwarf with good stout shoots at the base, transfer them to pots 2 inches larger. Drain the pots liberally, and press the soil moderately firm. Do not disturb the old balls farther than is necessary to remove the drainage. The soil may consist of good fibry loam two parts, the other part being composed of leaf mould, sand, and decayed manure. One-seventh of the latter will be ample. Stand them outside and water carefully afterwards. If possible peg the shoots down on the surface of the soil after they are potted. If you wish to preserve the plants for flowering another year, and the growths are long and straggling, the shoots may be trained carefully to stakes after the plants have been potted. When this is carefully done straggling plants may be considerably reduced in height and converted into creditable bushes that will flower again freely another year. To increase the number of your plants, the shoots may be taken, inserted singly in small pots, and stood under hand-lights until they are rooted. The plant may also be placed out in a sloping direction, and all the growing shoots layered, which, when rooted, can be taken up and potted.

Dendrobium Wardianum (Amateur).—The fact of *Dendrobium Wardianum* throwing out new growths from the old pseudo-bulbs may or may not indicate indifferent treatment. If the bulbs in question produced during the spring a fair complement of flowers, it shows that they had been properly ripened and otherwise well treated, and the growths are an advantage rather than otherwise as affording a means of propagation. If, on the other hand, they did not flower or only sparingly, then it is evident that something has gone wrong in the annual routine of the plant's growth. A frequent cause of the flower buds giving place to growth is allowing too much atmospheric moisture during the early stages, and as last season was by no means an ideal one for ripening the growth this may also have contributed to it. The young shoots will be better left on the plants until next spring, when they may be cut off and either potted separately or grouped to form a better specimen. Orchids can, of course, be forced by placing in great heat and moisture, but it would not be advisable for any of them, and positively fatal to many. The stewing steamy heat arising from damping, overheated pipes is not good for any kind of vegetation, and certainly not Orchids, that of all plants delight in a fresh, airy temperature. The fibre you speak of is an excellent rooting medium for Orchids, and we have had good results from its use, especially with *Odontoglossums*. If by ordinary peat you mean that generally used for

the usual run of stove and greenhouse plants, the Fern roots are certainly preferable to this, but not to the best heath peat as usually recommended for Orchids, this material being much more long lasting, and not so likely to sour from continual watering.

Insects on Vine Leaves (Medico).—The minute specks on the under side of the leaves are the so-called red spider in various stages of development, from the egg to the perfect mite (*Tetranychus telarius*), with eight seven-jointed legs. It is one of the worst pests of Vines, and is chiefly due to a deficiency of atmospheric moisture and lack of water or nourishment at the roots. Sulphur fumes are the most fatal to it (and all mites) of any known substance, but they must not be from burning sulphur, as then vegetation is seriously, if not fatally, injured. In the case of unheated houses flowers of sulphur may be placed on slates or iron plates, and placed on shelves where the sun can act directly on them. Some prefer placing the sulphur in saucers, setting them on shelves, with water sufficient to cover the sulphur, and the water vapour being given off, acts well on the red spider. We prefer to heat the pipes to as near boiling as they can be without making the water boil, and whilst hot paint them with a cream formed of flowers of sulphur and skim milk, applying with a brush, so as to put on a light coating. The house being closed, and kept so for about an hour, there will usually be fumes given off sufficient to kill the red spider, when the pipes may be allowed to cool down, and the usual routine followed. The sulphuring must not be overdone, or it will injure Grapes with tender skins, such as Muscat of Alexandria and Frontignans, but with cautious use it has no injurious effects. After the pipes are cool, or next day, the sulphur should be wiped off the pipes, but some leave a little on, so that when the pipes are heated they give off slight fumes from the sulphur, which act well against both fungi and red spider. Maintain a moist atmosphere by sprinkling the floor and border, and supply top-dressings of the advertised fertilisers washed in or liquid manure to the roots. This and a slight use of sulphur is all that is necessary.

Names of Plants.—We only undertake to name species of plants, not varieties that have originated from seeds and termed florists' flowers. Flowering specimens are necessary of flowering plants, and Fern fronds should bear spores. Specimens should arrive in a fresh state in firm boxes. Slightly damp moss, soft green grass, or leaves form the best packing, dry wool the worst. Not more than six specimens can be named at once, and the numbers should be visible without untying the ligatures, it being often difficult to separate them when the paper is damp. (*W. M. M., Ross-shire*).—1, *Cattleya gigas*; 2, *Cattleya Rex*; 3, *Cattleya Mendelli*; 4, *Dendrobium nobile album*. (*No Name*).—1, *Lilium croceum*; 2, *Cytisus*, probably *racemosus*; 3, *Campanula rapunculoides*; 4, *Epilobium angustissimum*; 5, *Anchusa sempervirens*; 6, *Aristolochia clematitis*. (*F. M. W.*).—1, *Adiantum pubescens*; 2, *A. tenerum*; 3, *A. Moorei*; 4, possibly a seedling from *Pteris cretica*; 5, *Pteris cretica*; 6, *Asplenium viviparum*. (*D. F.*).—1, *Veronica rupestris*; 2, *Doronicum austriacum*; 3, *Viburnum Opulus*; 4, *Cassinia fulvida*. (*Grateful*).—*Acineta chrysanthra*.

COVENT GARDEN MARKET.—JULY 24TH.

SUPPLIES shorter owing to the rain.

FRUIT.

	s.	d.	s.	d.		s.	d.	s.	d.
Apples, Nova Scotia, per barrel.. ..	0	0	to	0	0	Currants, per half sieve ..	3	0	to 5 0
„ Tasmanian, per case	0	0	0	0	0	Grapes, per lb.	0	6	1 6
Cherries, per half sieve ..	4	0	5	6	0	Lemons, case	10	0	15 0
Cobs, per 100 lbs.	0	0	0	0	0	Peaches, per dozen	2	0	3 0
						St. Michael Pines, each ..	2	0	6 0
						Strawberries, per lb. ..	0	4	1 0

VEGETABLES.

	s.	d.	s.	d.		s.	d.	s.	d.
Beans, Kidney, per lb. ..	0	6	to	0	0	Mustard and Cress, punnet	0	2	to 0 0
Beet, Red, dozen	1	0	0	0	0	Onions, bushel	3	6	4 0
Carrots, bunch	0	3	0	4	0	Parsley, dozen bunches ..	2	0	3 0
Cauliflowers, dozen	3	0	6	0	0	Parsnips, dozen	1	0	0 6
Celery, bundle	1	0	1	3	0	Potatoes, per cwt.	2	0	4 0
Coleworts, dozen bunches	2	0	4	0	0	Salsafy, bundle	1	0	1 6
Cucumbers, dozen	1	6	3	0	0	Seakale, per basket	0	0	0 0
Endive, dozen	1	3	1	6	0	Scorzoneria, bundle	1	6	0 0
Herbs, bunch	0	3	0	0	0	Shallots, per lb.	0	3	0 0
Leeks, bunch	0	2	0	0	0	Spinach, bushel	1	0	1 6
Lettuce, dozen	0	9	1	6	0	Tomatoes, per lb.	0	3	0 4
Mushrooms, punnet	0	9	1	0	0	Turnips, bunch	0	3	0 6

AVERAGE WHOLESALE PRICES.—CUT FLOWERS.—Orchid Blooms in variety.

	s.	d.		s.	d.		s.	d.		s.	d.
Arum Lilies, 12 blooms ..	3	0	to	4	0	Pansies, various, dozen					
Asparagus Fern, per bunch	2	0		4	0	bunches	1	0	to	2	0
Bouvardias, bunch	0	6		1	0	Peas, Sweet, doz. bunches..	2	0		4	0
Carnations, 12 blooms ..	2	0		4	0	Pelargoniums, 12 bunches	4	0		9	0
„ dozen bunches..	4	0		8	0	Primula (double), doz. spys.	0	6		1	0
Cornflower „ ..	1	0		2	0	Roses (indoor), dozen ..	1	0		2	0
Eucharis, dozen	1	6		2	6	„ Moss, per dozen ..	1	0		2	0
Gaillardias, doz. bunches..	2	0		3	0	„ Tea, white, dozen ..	1	0		2	0
Gardenias, dozen	2	0		4	0	„ Yellow, dozen (Niels)	3	0		6	0
Geranium, scarlet, doz.						„ Safrano (English),					
bunches	4	0		6	0	dozen.. .. .	1	0		2	0
Lilac (French) per bunch	4	6		5	0	„ Yellow, dozen blooms	0	9		1	0
Lilium candidum, 12 blooms	0	6		1	0	„ Red, dozen blooms ..	1	0		2	0
„ lancifolium, 12 blooms	1	6		2	6	„ various, doz. bunches	3	0		6	0
„ longiflorum, 12 blooms	3	0		4	0	Smilax, per bunch	2	0		4	0
Marguerites, 12 bunches ..	1	6		3	0	Stephanotis, doz en sprays	1	6		2	0
Maidenhair Fern, dozen						Sweet Sultan, doz. bchs.	3	0		4	0
bunches	4	0		6	0	Tuberose, 12 blooms.. ..	0	4		0	6
Orchids, dozen blooms ..	1	6		12	0						

PLANTS IN POTS.

	s.	d.	s.	d.		s.	d.	s.	d.		
Arbor Vitæ (golden) dozen	6	0	to 12	0	Heliotrope, per dozen	..	4	0	to 6	0	
Aspidistra, dozen	..	18	0	36	0	Hydrangeas, per dozen	..	12	0	42	0
Aspidistra, specimen plant	5	0	10	6	Lobelia, per dozen	..	3	0	4	0	
Calceolaria, per doz.	..	4	0	6	0	Lycopodiums, dozen	..	3	0	4	0
Coleus, per doz.	..	2	6	4	0	Marguerite Daisy, dozen	..	6	0	9	0
Dracena, various, dozen	..	12	0	30	0	" Yellow "	..	9	0	18	0
Dracena viridis, dozen	..	9	0	18	0	Myrtles, dozen	..	6	0	9	0
Euonymus, var., dozen	..	6	0	18	0	Palms, in var., each	..	1	0	15	0
Evergreens, in var., dozen	6	0	24	0	" (specimens)	..	21	0	63	0	
Ferns, in variety, dozen	..	4	0	18	0	Pelargoniums, per dozen	..	8	0	12	0
Ferns (small) per hundred	4	0	6	0	" scarlets, per						
Ficus elastica, each	..	1	0	7	0	dozen	..	3	0	6	0
Foliage plants, var. each	2	0	10	0	Rhodanthe, per dozen	..	4	0	6	0	
Fuchsias, per dozen	..	4	0	6	0	Roses, per dozen	..	8	0	24	0
Geraniums, Ivy, per dozen	4	0	6	0							



LESSONS BY THE WAY.

WITH a rainfall less than in 1893, the year of the great drought, there is so much variety of growth and condition among farm crops now as to afford a curious and interesting sight even to the casual observer. To those who wisely strive to go deeper—to learn something of the cause of what they see, and to apply the lesson to their own practice, the condition of crops now is eminently suggestive. Hay crops are so short and thin as to be difficult to collect after they are mown. Oats not half the usual height, prematurely ripe, many a field of Winter Oats being mown quite a fortnight before the usual time. Even in Scotland have we seen Oats in full ear that were barely 2 feet in height. Worse than this, infinitely worse, are those cornfields with scarcely half a plant, with weeds rampant; the whole thing a caricature of farming. We see Oats grown to the exclusion of Wheat very generally now. If they are well grown they are still profitable; yet it is exceptional to see anything like a full crop of Oats. One of the most useful lessons by the way now is the different aspects of this corn crop. Under really good management there are some grand crops of Oats notwithstanding the drought. Said an intelligent North Derbyshire farmer to us recently, "I believe my Oat crop this year will average 80 bushels an acre." He then went on to tell us of his system of tillage and manuring, both thorough and well-timed. Yet even he was surprised when we told him that we regard 80 bushels of Oats as the minimum yield under good culture.

In connection with this there is again abundant proof that with thorough autumn tillage, early sowing, good seeds, and drilling in with it a full dressing of pure chemical manure, the crop is very little affected by drought. By early sowing enough of the manure is dissolved and taken up by the soil to keep the crop growing briskly, and if sown thickly the surface is covered so early by the plant as to keep out much of the drought. But the farmer must know what he is about in using manures. Our advice was sought early in the present month by a farmer who had been using sulphate of ammonia freely under the impression that it was a complete plant food, in proof of which he handed us a large placard, of which hundreds had been spread about his country side by an enterprising gas company. Great indeed was his surprise when we told him that when used alone, as it had been by him, it was a mere stimulant and nothing more; that for surface dressings to growing crops nitrate of soda was generally preferable. Here was another instance of a farmer ignorant of the first principles of his calling being misled by the statements of dealers, and wasting his means on a fertiliser about the properties of which he was ignorant. Our moral in connection with corn-growing is to till well, sow well and early, and feed well if you would have it answer, and be practically independent of trying seasons and extremes of weather, and

that though the straw may be somewhat short in a long drought, yet the corn ears may be full and the yield satisfactory.

Among root crops wherever early sowing was done in a good rich seed bed the plant is both strong and full, but where the sowing was late the flea has pounced on the plant as soon as it was up, sweeping off the whole of it, so that sowing has been repeated three or four times. This is a terribly destructive pest, which surely might be kept under by means of prevention. In a leaflet just issued by the Board of Agriculture we are told that in 1881 the losses through the Turnip fly or flea (*Phyllotreta nemorum*) amounted to over half a million of money. In the account of its life history it is stated that "It passes the winter in beetle form under clods and stones, in tufts of grass, among weeds, and under rubbish of various kinds by the sides of fields, hedgerows, and ditches. It is thus sheltered during the winter, and it is sustained throughout the early springtime until the Turnips have sprouted on wild cruciferous plants, such as Charlock, Hedge Mustard, and wild Radish." Therefore, say we, keep down Charlock, let your autumn tillage be thorough, and allow no rubbish heaps on or near the land.

WORK ON THE HOME FARM.

Again has the value of some extra green crops been realised, pasture very generally being so brown and bare that without some other food cattle especially have been sadly pinched. Vetches and Clover have been of the greatest service for mowing or carting to the stock out on the pasture. Much of the second crop of Clover is short in growth and has come into blossom early, but is nevertheless of the greatest service for sheep folding. A 30-acre meadow which fell in hand at Lady Day laid for hay had a poor crop except in a few places. We had these mown and the grass carted off, the remainder being left for the bullocks, which we are thus able to provide with a full bite so as to keep them going well till the aftermath is ready for them. Mention is made of this, not as superior practice, but as turning things to account by going a little out of the beaten track and adapting ourselves to circumstances.

Barometrical indications are for showery weather now, which will much assist the growth on pastures, help root crops, plump corn ears, and soften the hard clods of fallow land, so that cultivators and harrows may be set going to good purpose, the land cleaned and got into proper condition for early sowing this autumn if wanted, or for ridging later on for winter. Where such land is infested with Charlock all seeds near the surface will germinate now; then by shallow ploughing or a turn with a light cultivator or horse hoe the Charlock plant is destroyed and other seed brought to the surface to germinate in its turn.

Corn harvest will be early and short with favourable weather, and stubbles should be broken up and cleaned as fast as they are ready. Much of the Barley is changing very fast, and with some showers now to plump it good bright malting samples may yet be forthcoming. Of Wheat there is nothing hopeful to say; much of it is so light and thin on the ground that it will not pay expenses. On the other hand, some of it is a really fine crop, very much in response to the treatment of the land in which it is growing.

METEOROLOGICAL OBSERVATIONS.

OAMDEN SQUARE, LONDON.

Lat. 51° 32' 40" N.; Long. 0° 8' 0" W.; Altitude 111 feet.

DATE.		9 A.M.				IN THE DAY.				Rain.	
		Barometer at 32°, and Sea Level.	Hygrometer.		Direc- tion of Wind.	Temp. of soil at 1 foot.	Shade Tem- perature.		Radiation Temperature		
			Dry.	Wet.			Max.	Min.	In Sun.		On Grass.
1895.											
July.											
		Inchs.	deg.	deg.		deg.	deg.	deg.	deg.	Inchs.	
Sunday	.. 14	29.780	62.9	51.2	N.W.	65.0	71.9	58.7	125.2	54.2	—
Monday	.. 15	29.978	60.7	53.4	S.W.	64.1	70.4	50.4	115.2	45.0	—
Tuesday	.. 16	30.000	61.3	54.1	W.	63.2	70.5	53.3	101.9	47.8	—
Wednesday	.. 17	29.867	66.0	59.2	S.W.	62.9	81.9	54.1	118.6	48.4	—
Thursday	.. 18	29.820	69.4	61.9	S.	64.0	76.6	57.6	118.0	52.1	0.460
Friday	.. 19	29.628	62.9	58.2	S.W.	64.4	71.6	57.1	120.8	56.3	0.251
Saturday	.. 20	29.575	57.2	56.3	S.E.	63.0	67.8	54.9	97.8	50.2	0.320
		29.807	62.9	56.3		63.8	73.0	55.2	113.3	50.6	1.031

REMARKS.

- 14th.—Alternate cloud and sunshine.
 15th.—Generally overcast in morning, some sunshine in afternoon.
 16th.—Spots of rain early, and overcast almost throughout.
 17th.—Overcast morning, frequent sunshine in afternoon. spots of rain in evening.
 18th.—Occasional sunshine, but generally cloudy; steady rain from 7.30 P.M. to mid-night.
 19th.—Rain from 4 A.M. to 5 A.M., then overcast; bright breezy morning; occasional thunder and sharp showers in afternoon; fine evening.
 20th.—Continuous rain from 4 A.M. to 11 A.M., followed by high wind and alternate sunshine and showers.
 Temperature near the average; the long drought broken by three consecutive days of moderate rain.—G. J. SYMONS.

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1s. 6d. per Ounce.

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	Per Ounce.—s. d.
EARLY NONPAREIL CABBAGE	0 8
ENFIELD MARKET do.	0 6
EARLY RAINHAM do.	0 8
RED DUTCH do.	0 9

ONION.

	Pkt. Ounce s. d.
WEBBS' RED GLOBE TRIPOLI .. 6d.	1 6
LARGE FLAT RED TRIPOLI .. 6d.	0 10
GIANT ROCCA 6d.	0 10
WHITE LISBON	0 6

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	Per pkt., -/6; per oz., 1/6
Ellam's Early Dwarf, very early	-/4; " 1/-
Enfield Market	-/6
Improved Dwarf Nonpareil	-/3; " -/10
Wheeler's Imperial	-/4; " 1/-
Early York, dwarf	-/6

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	Per pkt., -/6; per oz., 1/6
WHITE ELEPHANT TRIPOLI. The largest of all the Tripolis	per pkt., -/6; per oz., 1/6
Red Italian Tripoli	-/9
Giant Rocca, very fine	-/4; " 1/-
White Lisbon, the best for using green in Spring	Per lb., 4/6; per oz., -/6

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Journal of Horticulture.

THURSDAY, AUGUST 1, 1895.

HARDY FLOWER NOTES.

SWIFTLY fly these summer days, and looking back on their rapid flight the season seems to remind us of the words of Samuel Rogers, when he says of human life that it "glimmers like a meteor and is gone." Yet we cannot but feel that the beauty of the hardy flowers, although now past its zenith, is imprinted with indelible letters on our memories, and that for some time to come from day to day new and varying impressions from the same source will give us fresh and lasting enjoyment.

The earlier flowers have fulfilled their mission, and seem to shrink from the public eye now that they have assumed their quieter attire, and are seeking to perpetuate their race by means of their seeds. Looking at them now one thinks of Ruskin's words:—"The flower is the end or proper object of the seed, not the seed of the flower. The reason for seeds is that flowers may be; not the reason of flowers that seeds may be." Some scientific readers may smile at the great writer's words, but there are facts which could be adduced in favour of Mr. Ruskin's view were this the time and place for such a discussion. We who love flowers for their beauty seek to find this in all aspects, and even in its seed-bearing stage the plant displays much to study and to think of. How varied are these seed vessels, and how diverse these seeds in form and in colour! One could spend days in seeing and thinking over these seed vessels; the manner of their opening; the seeds themselves; and the many contrivances by which their dispersal and germination is secured.

But our thoughts are drawn from the flowers, which in their present garb are so unlike their former selves, and dwell with pleasure on their younger sisters clad in the gayest and brightest colours, relieved, however, by contrast with some which always don a quieter costume.

The Rose, which is not content to enchain us with its colours and its form alone, seeks to allure us with its dainty fragrance, still ornaments the beds or borders, or hangs in festoons from the house. The Lily in several forms still attracts us, although the purest and fairest of all—the Madonna Lily—no longer upholds her claim to be the "lady of the flowering field." On the

Hawthorn arch behind the house hangs a curtain of the green leaves of *Clematis flammula*, covered with clusters of pretty star-like white flowers. Perennial Peas clamber up the hedges and over the summer house, and *Tropæolums* and other climbers strive to attain a height whence they can look down on their less aspiring sisters on the rockeries and in the borders below. These rock plants are to some extent bereft of their brightness as their season of "intensest life" is now over, but here and there are some plants still in flower giving the welcome colour we desire. *Gypsophilas* hang pendent over the stones.

Spurred *Linarias* with coloured lips upraise their heads or modestly prostrate themselves to the earth. Succulent *Sempervivums* from roof and wall and from rockery and border thrust out their thick stems, on which are borne their starry blooms. Sedums, too, their closest kin, are present with white, or yellow, or red flowers, in crowded heads, whose shades it is vain to endeavour to tell of. Dwarf Bellworts are still in beauty. Schafta's Catchfly is bright with its pink flowers. The little *Tunica Saxifraga*, with its modest beauty, looks gracefully from its allotted place. The little *Cyclamen europæum* has begun to droop its crimson flowers. Besides these there are others which tell us that the rock garden may still have its attractions to keep us from being fascinated by the more brilliant border flowers, for with *Heucheras*, *Potentillas*, Alpine Pinks, *Violas*, Snapdragons, St. John's Worts, and *Myosotis Welwitschia* we have something always to see as we walk along these narrow paths among these denizens of the rocks.

The beauty of the border flowers is of a more obtrusive kind, and the casual observer is attracted by their brighter colouring, their taller stature, and their more striking flowers. As I write, in the last week of July, *Delphiniums* are yet in flower, and their noble stature and bright colours draw universal admiration. Yet it is only the true lover of flowers who sees to the full this beauty, for the shading of the many exquisite tints and colours in the flowers cannot be seen at a glance, and it is only on close inspection that this is observed. The pencil of the artist cannot truthfully depict it, much less can the pen of the writer describe in words the wonderful tinting of the blooms, and so we must content ourselves with asking the reader to examine for himself, satisfied that he will at once admit that these words are not unduly eulogistic. There are *Sunflowers*, too, with *Heleniums*, *Inulas*, *Chrysanthemums*, and other composites; *Malvas* and *Sidalceas*; *Monardas*, with their bright heads of bloom; *Mulleins*, *Prunellas*, *Oenotheras*, tall Bellflowers, *Phloxes*, *Pentstemons*, *Veronicas*, Kämpfer's *Iris*es, *Carnations*, *Achilleas*, *Eryngiums*, and many others to dwell on, and from those in flower, or only shortly past, we may select a few for notice.

Attracting universal admiration, from its pretty habit and the purity of its white flowers, is the charming little *Campanula isophylla alba*, which can hold its own among the many plants of this beautiful genus, and which the owner of the choicest rock plants may add to his collection with advantage. It is a native of North Italy, and was introduced about 1868, being justly honoured with a certificate from the Royal Horticultural Society in 1888. It is very pleasing with its fresh green leaves, and its stems, which bear corymbs of flat erect flowers, hang gracefully over a ledge when grown in suitable positions. It is by no means a disadvantage that this Bellflower blooms later than many, and thus adds to the season in which we can enjoy the dwarf *Campanulas*. It is unfortunate, however, that it does not appear to be hardy everywhere, and that at certain seasons it is subject to the attacks of slugs. I have occasionally to surround it with a zinc ring in spring to ward off the ravages of these pests. *C. isophylla alba* seems to like a little lime in the soil, and should have a rather sheltered position in light soil.

Another very beautiful little *Campanula* of an entirely different character, but which is also apt to fall a victim to slugs, is *C. Waldsteiniana*, a native of Hungary, whence it came in 1824.

It is of slender, erect habit, and grows from 4 to 6 inches in height. Each stem produces from three to four flowers at the top. These flowers are erect, about half an inch across or a little less, and of a pretty violet-blue colour. *C. Waldsteiniana* is growing here on a ledge of rockwork in sandy peat with a little grit in the soil.

The *Tradescantias* or Spiderworts do not appear to be very popular plants, yet they seem to be worthy of a little more attention than they receive. The first to be introduced was that known as *T. virginica*, of which Parkinson says, "This Spiderwort is of late knowledge, and for it the Christian world is indebted much to that painful, industrious searcher, and lover of all Nature's varieties, John Tradescant, who hath imparted hereof, as of many other things, both to me and others." John Tradescant, who was appointed gardener to Charles I. about 1629, was a great traveller, and many plants were introduced by him on his return from his frequent journeys. But in addition to the interest the plant has acquired by reason of its having received Tradescant's name, the Spiderwort has other claims to our notice. It is free-flowering and free-growing, flourishing in almost any soil and position, preferring, however, a fairly moist soil, and is pretty enough with its three-petalled flowers on stems from which are produced long sprawling leaves, that seem from their length to have given the idea of the popular name of Spiderwort.

The best known are the varieties of *T. virginica*, of which there are several colours and shades, there being blues, purples, and whites, and double blue, double purple, and double carmine varieties also. Then there are *T. congesta*, light blue, and *T. subaspera*, of a shot-purple colour. All are very pretty, and, with the exception of *T. congesta* and *T. subaspera*, which are about 2 feet high, are about 18 inches in height. They begin to flower here in June, and last in flower for two or three months. The individual flowers only last a very short time, whence in some places the *Tradescantia* is named "The Life o' Man," but they are produced in succession over a long period. The leaves are long and narrow, and like many other North American plants these Spiderworts are hardy.

There is a rare and beautiful little *Potentilla* here of which I should like to know more, but information seems difficult to obtain. I have known it for a good many years from seeing a solitary plant in a friend's garden; but it appeared to be difficult of increase, and its name was unknown, so that one found a difficulty in obtaining it, especially as I had never seen it in any other private or public garden. Last year, however, one of my correspondents whom I had asked if he knew it, replied that it was probably one he had got some years ago as *P. Macnabiana*, but which was not that plant, and sent me a small plant which proved to be the one desired. It is of prostrate habit, and has flowers of a pretty copper colour, with a spot of red at the base of the petals. These are about three-quarters of an inch across, and look very pretty indeed on the rockery, where they are much admired.

Since beginning this note I have had a further search among my books, but cannot trace the name of my plant. I am, however, strongly of opinion that it is one of a good many hybrids which were raised in the first half of the century between some of the earlier cultivated species. The many hybrid *Potentillas* now in our gardens show that much may still be done by taking in hand some of the dwarfer species so suitable for the rock garden.

—S. ARNOTT.

STRAWBERRIES.

JUDGING from the reports published from other districts, and coupled with the experience of our own, this season of 1895 has been a satisfactory one for Strawberries; in fact, I should think it has proved to be a record year, as never do I remember the crop being so good, either in point of quantity or quality. True, a few heavy waterings had to be applied, as probably without this such a satisfactory record would not have been chronicled. Where this

element was lacking, or not applied in time, the crop, no doubt, has been below the standard.

In our own case it was just given in time, and before the plants commenced to feel the ill effects of the prolonged drought. It is not daily dribblets that such a plant as the Strawberry needs, but about three thorough waterings; then with this, coupled with the mulching of litter laid between the rows to keep the fruit clean, the fruit will swell and ripen satisfactorily. The water by being directed into the heart of each plant, the whole ball of soil about the roots is thoroughly soaked, whilst the fruit laying around the plants is kept clean. I have just made these few observations on watering in passing, as it may fall on "good ground," and prove of benefit for another season.

I may also say a few words *re* liquid manure for Strawberries growing in the open air, as in these days of progress in fruit culture, when fruit growing is being taken up on all sides, and in almost every garden, liquid manure enters largely into the mind of the "embryo" fruit grower. Whether it is always advantageous is another matter, but it is certainly good in its place. My advice is never to apply it after the fruit is set. It might benefit the plants, but not the fruit, which lying as it does close on the ground, liquid manure taints it, and is very disagreeable to those who may have to partake of it. I have even seen sewage recommended for Strawberries. The best time to apply this or liquid manure is in the winter or autumn, though it would prove of benefit now to plants which have borne a crop of fruit, and are required for another season. Whether it is always advisable to retain the plants is another question, which brings me to the point as to how long should Strawberry plants remain to prove profitable.

Soils, position, and variety often make a difference as to what period the plants should remain, but I have come to the conclusion that two years is ample. In many cases good crops may be secured the third season; but with well cultivated plants the second year's fruiting is always the best, and not caring to have a tail end periodically I make a fresh plantation every season. The "annual" plants produce the earliest and finest fruits. This point of earliness is well worth taking into account, as with these young plants there is quite a week in the time of their being fit for gathering over even two-year-old plants. Whether these young plants will reach to this satisfactory stage the first season after planting will depend on the time of planting, condition of plants, and, of course, the state of the ground.

If the plants are ready, the last week in July is the most suitable time for planting, or at any rate not later than the middle of August. Put out at this date, the plants also being satisfactory, quite large stock will be produced, capable of producing an abundance of fruit the season after planting. For this early planting the plants must either have been layered in small pots or between the rows in some rich, lumpy compost, such as loam and horse droppings. Layered thus, and with ample room allowed between the layers, the plants may be lifted, with good balls of soil attached, and planted direct into their fruiting quarters. The ground should have been prepared according to the natural staple, texture, and fertility, and the planting must proceed quickly and be well done.

Some soils will only need well forking over, with the addition of decayed manure and burnt refuse. The latter supplies that desirable element, *i.e.*, potash, so essential for this fruit, and also in stiff or heavy soils assists them mechanically. Other soils which had been well prepared for a previous crop, such as early Potatoes or Cauliflowers, may be in a condition to support a Strawberry crop with merely forking the soil over so as to become pulverised. But even in these cases, if there is the least doubt as to its fertility, do not omit manure and burnt refuse. Some soils may need bastard trenching.

For many years Mr. Douglas at Loxford Hall used to work on the system of bastard trenching on the gravelly and poverty stricken soil in that garden, and also proved that the annual system of Strawberry culture was the best to pursue; in fact, I believe he was one of the pioneers of this course of Strawberry culture, and the crops and quality produced were of the highest order. It will therefore be seen that this popular fruit, like all others, succeeds with the least trouble on soils naturally adapted for its culture; yet the most sterile land may be brought into a fit state by adopting measures according to local circumstances and surroundings.

Planting must be done carefully and firmly, pressing the soil about the plants with the fingers, leaving a basin-like cavity round each, as a better means of water reaching the balls, so that the plants may become quickly established. One or two waterings may only be needed, whilst if the weather should be dry and the soil naturally light, several may be required. Keeping the runners closely picked off, and the Dutch hoe run over the surface occasion-

ally to keep down weeds, will be all the attention needed to produce satisfactory plants.

With the advance of fruit culture, so also is there a decided gain in the varieties growers now have to select from, and for which we have mainly to thank Mr. Laxton and his sons, who with characteristic energy and perseverance have worked on until now there are grand Strawberries, good alike in condition, cropping qualities, and flavour, the latter being no mean trait, without which no Strawberry can be considered first-class. Royal Sovereign, Latest of All, and Monarch are a noble trio. Of course, the latter has not yet been put into commerce, but by what I have seen of it as exhibited by Messrs. Laxton, and also judging by the observations of a gentleman who had seen it at home, Monarch is likely to prove a standard kind.

Gunton Park and Lord Suffield are also excellent Strawberries, and likely to be grown much in the future. Of course, we all have a good word for some of our old favourites, such as President, which this season with us has developed its highest qualities. Dr. Hogg, Sir Charles Napier, Vicomtesse Hericart de Thury, and others, which often seem peculiarly adapted for some soils and districts, may fail utterly in others. I will give a notable instance. Sir Joseph Paxton will not succeed at all in this garden, although considered a good Strawberry soil, and the main of other varieties succeed.—A. YOUNG.

DO LEAVES ABSORB MOISTURE?

I SHOULD like to make a few more remarks on this question in answer to those of your correspondents in last week's issue, pages 75 and 76. Being a gardener, I have seen Vine leaves, and those of other plants, freshen after the foliage has been wetted either with the syringe or watercan, and, like your correspondent "Greenhorn," I thought it was due to prevention of evaporation from the leaf, as I then thought evaporation and transpiration meant the same thing.

After carefully considering this matter I was forced to give this idea up, and accept that the freshening of leaves was due to the closing of the stomata, which was caused by the coldness produced by the evaporation of the water from the surface of the leaf, this giving the roots time to absorb sufficient water to again make the cells of the leaf turgid.

When the paths and walls of houses are damped and the ventilators closed, flaccid leaves on plants soon freshen. In this case freshening is no doubt owing to transpiration being reduced to a minimum, which is due to the light being obstructed by the condensed water covering the glass; the roots being then able to supply sufficient water for the plant to regain its turgidity.

Cut grass, when covered with dew would be under similar conditions to leaves put under water, and would be able to absorb water through their stomata, or any surface not covered with cutin or wax.

Perhaps the words "under ordinary circumstances" was not quite so clear as it might have been. What I wished to convey to your correspondent was plants growing—like Vines and Tomatoes under glass, which do not have their foliage wetted after the early stages of their growth, and plants growing under natural conditions and having sufficient water at their roots. I do not think it can be claimed that leaves are under ordinary circumstances when they are cut from the plant and then exposed to dew or placed under water.

Your correspondent, "Greenhorn," says "I seem to agree with both sides, and so will be right anyhow." To this I may say I have only stated facts as they occurred to me, for if I had given a logical answer to his question I must have said "Yes," for it is well known to students of botany that *Salvinia natans*, which is an aquatic plant found floating on the surface of ponds, bears on its upper surface four rows of flat aerial leaves, while below it gives off two rows of submerged root-like organs which perform all the functions of roots, but are in reality highly modified leaves, no true roots being present.

In reply to Mr. G. Henslow's remarks I may say that the absorption of water through the pore of the stomata is not so inconceivable to me as its passage through the cuticle and cells of the epidermis, as I consider the attraction for water by the cells forming the middle part of the leaf is sufficient to overcome the air within the intercellular spaces when water is required. Although the pores of the stomata are so small they can be seen with a very low power of the microscope, but the strongest power will not reveal any holes or pores in the cell walls of the root hairs, and yet water passes through them. Where is the difficulty of accepting that water can pass through the stomata?

I did not wish, when answering the question, to go into the whole province of botany; for if I had I should have required more space than the Editor would have allowed. For all practical

purposes we might accept as true that plants do not absorb water by means of their leaves unless they be wetted with rain or dew, and are wanting it.

The proofs brought showing that leaves do absorb water if exposed to dew is not sufficient evidence to say water or watery vapour does not pass through the stomata; for is it not a fact that the leaves used, which absorbed the largest amount of water, are those having the most stomata on their surfaces, those having the least number absorbing very little? I think it much easier to accept that water passes through the stomata in some leaves than through the impervious cuticle, which may also be covered with wax. For are not these impervious substances for the purpose of protecting the water from evaporating from the underlying cells? and as they will not allow water or watery vapour to pass from inside to outside, it seems hard to believe that it is able to be absorbed so easily.

The leaves of some cells do not develop cutin or wax, others which do have cells in the epidermis where water can pass through; while others have hairs specially adapted for the absorption of water. Many other instances might be given, but these are of no practical value to us engaged in horticulture.

I find, as your correspondent says, "no stomata on the upper surface of the Ground Ivy," but it is covered with a large number of hairs, and the cells of the epidermis are not very much cuticularised, so that I think it quite an easy matter for water to pass into these leaves under these circumstances.—W. D., *Turnford*.

LITTLE FOLKS' GARDENS.

To look back, far back, over the snows of many winters to the earlier days of life's springtime may be taken as the antithesis of looking ahead. We may, and do, derive strength and comfort in the present from the boundless possibilities held out by hope for the future. Not less may the past contribute its quota to the higher ends of life. Even to the busiest man, urged on by the severely practical spirit of the age, there come momentary halts when, by means of some simple flower or subtle perfume, he is wafted back to the long ago, and he thinks of his earliest efforts in the cause. Reviewing the opening chapters of life is not, I think, a betrayal of weakness. They are there, as indelible as they are indispensable to the volume when *finis* shall be written, and the moral shall be extracted by others for their benefit.

The last tributes of respect paid in these pages to some distinguished gardener, which ever and anon occur, leave, with some at least, the desire to trace a successful life to its source, were it possible to do so; but to accomplish this we should, indeed, have to go very far back. Yet, without these retrospective glances, we cannot accord that measure of sympathy to the little folks of the present generation which is due to them, or unbend from the loftier ideals we are ever pursuing—seldom reaching; hence, without recalling a past—the past—children's gardens and children's gardening are set aside as puerile, beneath notice.

It would, I think, be a fatal mistake to have in view the idea of grafting old heads on to young shoulders, but rather should we in the initial stage aid the development of that innate love of nature characterising our race, that it may not perish by inanition nor be malformed by neglect. Inculcate the doctrine of love which preserves and does not destroy, and encourage the purest of human pleasures. The making of gardeners has nought to do with this question, so far as competition in life is concerned. Train the earliest footsteps of the child in the way they should go, and the dawning intellect will readily grasp the spirit of that unwritten law which enforces respect for bed or border, flower or fruit, and I venture to add be the means of regarding the gardener's incumbrance in a different light from that in which it is often viewed.

As an instance of what may be done, a garden in this neighbourhood furnishes a practical example. This garden—which does not measure its interest by the extent of its acres—is partly surrounding an old-fashioned poly-gabled house, under the windows of which a little formal bedding is tolerated, sufficient to give that variety which is charming. Knowing, as I do, the keen interest which is taken by the family in its quaint old-world garden, where scarce a plant, tree, or shrub has not a history attached to it, one would reasonably suppose that here, of all places, little feet never stray, or small hands meddle; in short, that any gardener with an incumbrance would be *de trop*. As a fact, the gardener at H—— is in that respect one of the most heavily encumbered men that I am acquainted with, and neither is his progeny fenced in nor hedged about by such warnings as are deemed necessary in public gardens or elsewhere. Love, not

fear, is the safeguard. Sympathy and encouragement take the place of prohibition or coercion. I have not peeped into the gardener's snug little cottage, or fathomed the mystery of the nightly bedding-in of the olive branches, but they are a healthy well-cultivated lot, possessing a full share of animal spirits; nevertheless I do occasionally investigate a series of little beds at the rear of the dwelling, where all the variety conceits, so dear to the childish mind, are fully displayed, and the best endeavour is annually rewarded by the prize of half-a-crown from "the Mistress." Moreover, on Saturdays, when the school doors are closed, the garden gates are open to admit some half-dozen of the incumbrance—boys and girls—who may be seen actively engaged in the garden proper, weeding, sweeping, or watering; whilst on certain feast days, movable according to the season, the little gardeners for the nonce suspend the gleaming of erudition to gather the ripe Gooseberries, or other crop, to be afterwards rewarded by "the Mistress" with a basket for home sampling. So are they early trained into desirable habits, and appear to be so much a part and parcel of the place that should any change occur—of which there is no probability—I should expect to see the worthy Mistress advertising for a gardener with an incumbrance.

There appears to be some harmonious chord connecting child-life with the flower-world, and it is a matter of surprise—nay, even of regret—that the claims of little folks of all degrees should not have due recognition. It is their prerogative; deprive them of it—of the pleasure of having a little plot of their own, their very own—and they will fully justify the harsh-sounding term of incumbrances, for Nature will then assert her rights in some way more or less disagreeable. The claims of youthful gardeners are justly recognised in many of our industrial schools or institutions, and various good habits inculcated contemporaneously with primary instruction in the art of gardening. This is beyond the subject of the present paper; it is, in fact, a comparatively far advanced stage. I would have the indentures of my young apprentices fixed from such time as these young lords (and ladies) of creation commence to assert the dignity of the species by rising from the quadrupedal attitude of going on all-fours, and from such time should they have the facilities for gratifying the instinctive craving.

To realise how much, how important, this is to a child, we must again look back to our own experience, and note how much joy, sunshine (the griefs are forgotten), and happiness were derived from that tiny garden we called our own. Still, having the memory of some difficulties encountered as a small landed proprietor, I would request, on behalf of our little gardeners, that they should not be relegated to some dark shady corner because "it is of no use—nothing will grow there." Give them the advantages which are indispensable to ourselves, and if they conduct their operations on lines which no fellow can understand, be sure they understand it themselves, and "... every minute as it springs conveys fresh knowledge on its wings." It is a stage I would not abridge by any consideration of the mess they make or the failures they court, for every failure is a step to success. Supply a few roots, a few seeds, with a little advice judiciously timed, but let them have a good deal of their own way in the preliminary stage; they are keen observers, and like older folk can best learn something by experience.

We can, even in these times, afford to unbend a little to enter occasionally into the mimic joys and troubles of miniature workers. Statesmen bearing the burden of a nation's cares have done so, and in the act have found a safety valve to high pressure. Herein lies an apology, if one is needed for introducing matter so childish where we look for, and find, the more exalted expositions of horticulture. Here, too, am I afforded an excuse for touching on a matter relevant to the question, viz., children's literature as far as matter pertaining to gardening is concerned. Little folk have, I observe, a very large measure of faith in whatever they find in print, as undoubtedly they should; hence writers in catering for them should take heed that no stumblingblocks are placed in their way. I am led to these remarks by a short article in a well-known magazine for children describing the Pitcher plant, in which we (self and children) find that "It can be grown in a basket on our window-sills . . . with no more trouble than Geraniums." From the writer's remarks I conclude that his description is a jumbled one of the *Sarracenia*, the *Nepenthes* and the *Marvellous*, as he goes on to say "The pitcher has no handle, but it has a hinged lid, which remains open all day and shuts at night." There is no difficulty in recognising the plant described as a *Nepenthes*, but a variety only existent in imagination. Not so with my juvenile critics whose faith in the book, though somewhat shaken, still leads them to think that I have not the right kind of Pitcher plant. Truly, these are small matters to us elders, but not entirely indifferent ones, for to the little folk "wrong teaching is as fatal as ignorance."—NEMO.

PHILADELPHUS BOULE D'ARGENT.

THE popularity of the Mock Orange is decidedly on the increase, and the one depicted in fig. 14 will give stimulus to the movement, for it is of undoubted value. The plant is of the same habit of growth as its single relatives, but only attains to a height of about 2 feet. The growths, as will be seen by the engraving, are clothed with double white blossoms of good size and substance. It was accorded a first-class certificate at the Drill Hall recently, where it was staged by Messrs. T. Cripps & Sons, Tunbridge Wells.

PROFITABLE EMPLOYMENT OF GLASS STRUCTURES IN WINTER.

(Silver Medal Essay by Mr. G. HART, Buckingham, Old Shoreham, Sussex.)

(Concluded from page 90.)

TREE CARNATIONS.—This is a flower of great value to the market grower, as for good blooms in the winter months I always find a ready sale. It is a flower that will keep in good condition for a long time, and stands travelling and packing remarkably well. There are a number of fine varieties in commerce, but the sorts I find do best are Miss Jolliffe, pink; Alegatière, bright scarlet; and La Zouave, red. I take the cuttings (or pipings) at the end of January, and insert them five or six round the sides of 4-inch pots in a compost of one part loam, two parts leaf mould, one part silver sand, and put them under a hand-light in a temperature of 65°. As soon as rooted they are potted singly into 3-inch pots, and returned to the same temperature, topping the plants when established and the temperature is reduced to 50°.

As soon as these are full of roots the plants are transferred to their flowering pots, 6 inches in diameter, in a compost of three parts turfy loam, one part leaf mould, one part sand, with a good sprinkling of charcoal to keep the soil open. After this potting the plants are kept close for a few days till they begin to grow again, when air is admitted night and day. About the first week in May the plants are stood outside on a bed of ashes, where they remain until the beginning of September, when they are removed to a half-span greenhouse 60 feet long by 20 feet wide. The front of the house is 6 feet high, 3 feet being brickwork, and 3 feet glass sash-lights used for ventilation, but air is also admitted at the top. The house is fitted with a stage 3 feet wide, running along the front and two ends on a level with the top of the brickwork. Along the back wall is a border 18 inches wide, and in the centre of the house is a ladder stage of six shelves, made to take to pieces in the summer. There is a path 2 feet 6 inches wide between the front stage and the middle one, and between the middle stage and the border, the house being heated by six rows of pipes, four rows being fixed under the front stage and running round the house, two rows under the centre stage, and having a water tank at one end.

After the plants are housed, air is left on at the top and bottom for the first fortnight, so as not to give the plants too sudden a change, and the temperature is gradually raised to 55° or 60°, at which it is kept all the winter. By treating the plants in this manner I get a number of good blooms from October to March, which sell readily at from 3s. to 4s. per dozen. The secret of growing the Carnation during the winter is to be careful not to overwater the plants, and to give air at every opportunity.

The back wall of this house is covered with the double scarlet Pelargonium E. V. Raspail, planted in the border. The plants are cut back in June, and when breaking freely they receive a good top-dressing of loam, manure, and sand. From September, till they are cut back again the following June, some hundreds of dozen bunches of bloom are cut, which sell at from 2s. 6d. to 6s. per dozen bunches, according to the season.

Suspended from the roof are two shelves, one on each side of the ridge, on which Strawberries are grown. The plants are introduced in December from a cooler house, and are stood in saucers containing some good turfy loam and manure. The plants root through the bottom of the pots into it, and it serves as a stimulant when they are swelling their fruit. The heat and air necessary for the Carnation suit the plants well. The result is a good crop of fine fruit about the middle of February or beginning of March, according to the amount of sunshine experienced, and for the Strawberries from 10s. to 12s. per lb. is obtained.

Standing on the front stage, and trained 2 feet apart up the roof, so as not to exclude the light from the Carnations, I have Roses in pots. During the first week in September the plants are top-dressed, or, if they require it, they are repotted into larger pots in a compost of two parts turfy loam, one part decayed manure, and a little bone meal. The pots are then plunged in ashes outside, and the first week in November they are pruned and taken indoors to a temperature of 45°. At the beginning of December they are placed on the front stage of the Carnation house to flower, which they begin to do in the middle of January. The best varieties for this treatment are Madame Falcot, average price 2s. 6d. per dozen; climbing Niphetos, 3s. per dozen; and Catherine Mermet, 6s. per dozen. The plants remain in this house till the beginning of May, when they are stood outside under a south wall, and their shoots tied to wire, where they remain till the following autumn.

Under the middle stage I grow Seakale, and if the crowns are home grown I consider it one of the most paying crops. As soon as the leaves die off the crowns are dug up, all the side roots removed, and made into cuttings about 6 inches long for another year. As the crowns are trimmed they are laid in ashes till wanted for forcing, which I start the first week in December, as it is Christmas time and through January when Seakale commands the best price. I purchase a number of Orange boxes, and partly fill them with old potting soil, placing the crowns in them about an inch apart. When filled I place a piece of board over the top to keep off the drip, cover the whole over with bags or mats to exclude light and air, and stand them close to the hot-water pipes, the result being in about three weeks some fine Seakale, perfectly blanched, for which I get 1s. 6d. to 2s. per dozen crowns. As fast as the crowns are cut they are pulled out, and others put in their places.



FIG. 14.—PHILADELPHUS BOULE D'ARGENT.

Never water unless the crowns are starting into growth and the soil is very dry, or it will make the crowns decay. Under the front stage in this house I grow Lily of the Valley, packed in shallow boxes (2 feet long, 9 inches wide) quite closely together. Then I get some boards and case part of the hot-water pipes in, covering them with 4 inches of cocoa-nut fibre refuse. On this I stand my boxes of crowns, put panes of glass over them, and cover the glass over with moss until they begin to grow and show their flowers, when they are gradually uncovered and brought to the light. By this means I get good trusses of bloom, with abundance of foliage, for which 1s. 6d. per dozen from December to the end of January is obtainable. As the crowns can be bought wholesale at 30s. per 1000, this price leaves a good profit for the grower. In this house I sow some Tomato seeds at the beginning of December. For this purpose I use boxes, covering them with panes of glass till the seed germinates, so as to have plants ready to fill the houses as they are emptied of their winter occupants. As will be seen this is not the sort of house one would think of building in the present day for market use, but it is one that I had to profitably manage.

In the Violet we have a plant that flowers with the greatest freedom during the duldest months of the year, and in my opinion Marie Louise is the best variety, as it is very free, continuing in bloom from September till March. At the beginning of March the plants receive a top-dressing of sifted leaf mould worked well in between them, and by the second week in April they have made a number of splendidly rooted runners. The old plants are then lifted, the runners being planted on an east border, which had previously had a quantity of leaf mould and road grit dug into it. I plant 9 inches apart in rows 1 foot asunder, as I find this allows ample room to keep the soil stirred between them during the summer. All the runners are pinched back as fast as they appear, and the plants are syringed in the evening if the weather is hot and dry. Never allow the plants to get dry at their roots, or red spider will make its appearance on the leaves, and once it gets a firm hold it is very difficult to get rid of. Besides checking the growth it causes the leaves to damp off very badly when housed in the winter, the blooms being very poor in consequence.

During the first week in September the plants are carefully lifted and planted in a low span-roofed house, 50 feet long, 12 feet wide, and 8 feet high, having a path down the centre 2 feet wide, with a 4½-inch brick wall on each side 2 feet 6 inches high, leaving two beds each about 4 feet 6 inches wide. The Violets are planted in a compost of equal parts loam and leaf mould, receive a good watering, and are syringed for a week or ten days, by which time they will be growing freely again. All the air possible is admitted until frost sets in. The house is heated with flow and return pipes, which run round the house. Ventilation is afforded at the top and sides, and there is a good water tank at one end.

By giving the Violet this treatment, and keeping the temperature about 45°, with plenty of air, abundance of blooms of fine quality will be had, and sell at 1s. 6d. to 2s. per dozen bunches according to the season. Never pick the blooms till they are fully expanded, as it is surprising what a size they attain after they appear to be fully expanded. Along the centre of this house I also have a shelf fixed for growing Strawberries. The plants are put in during December, and as they come on gradually I get a fine crop of fruit about the beginning of April, when the prices will be from 4s. to 6s. per pound.

To grow Mushrooms is, I think, one of the most profitable ways of utilising glass houses in the winter, providing manure can be procured cheaply. I have a span-roof house, 60 feet long by 20 wide, and 10 feet high, ventilated at the top and bottom, heated with four rows of pipes, the first row being fitted 2 feet from the outside wall, and the other two rows 8 feet apart, and having a water tank in the middle. I have been in the habit of making up a Mushroom bed in the soil that had grown Tomatoes in during the summer. It is taken out, and the bed made up 8 inches in depth at the beginning of October, with manure previously prepared. The temperature of the house is kept about 55°, and by the end of November I begin to cut Mushrooms. From this bed I have cut over 450 lbs. of Mushrooms, which have sold at from 1s. 3d. to 1s. 6d. a pound. I usually cover the bed over with long litter shaken from the manure, but as soon as the Mushrooms appear all the litter is taken away, as it is a saving of time to be able to see at a glance which are fit to cut. The Mushroom bed is cleared out about the beginning of February, and the house planted with Tomatoes over the Mushroom bed.

On planks resting on the pipes I grow Spiræas, standing the pots in saucers to avoid wetting the Mushroom bed when watering the plants. This I consider a most profitable plant to grow for market, as given heat and water it can be had in bloom with very little attention. The clumps are potted into 5 and 6-inch pots early in November, stood outside, and about 3 inches of cocoa-nut fibre refuse is covered over them to prevent the pots breaking in case of frost. The earliest plants are drafted into heat early in November, so as to be in flower for Christmas and the new year. Others are put in at intervals, so as to keep up a succession till Easter. At Christmas and Easter the average selling price is 8s. per dozen, and between that time 6s. per dozen. Easter is, however, the best time to have them in flower, as they are then much sought after for church decoration. Good clumps can be bought wholesale at £5 per 1000, and drafted into the houses, as I have explained, they give a good return to the grower.

As regards bulbs, I do not find there is much profit to be made out of them, the only thing being they help to keep trade together during the duldest time of the year. I grow a number of the double Daffodil (*Telemonius plenus*), as I find it gives a good return for the outlay, and it is a bulb that forces very easily. There is a good demand for the blooms in the early part of the year. I procure the bulbs as early in September as possible, and plant them in boxes, these being stood in the open, and covered with 3 or 4 inches of ashes till the boxes are full of roots. When they begin to make leaf growth they are uncovered and taken to a cold house, and as they are wanted to come into flower they are taken to houses having a temperature of 60°, where they will flower in about fourteen days. By this means it is easy to have them in flower from December till they come into flower outside. From the end of December till the end of January is when they pay best, as they will average 1s. 6d. per dozen blooms, and as good flowering bulbs can be bought wholesale at £2 per 1000 it gives the grower a good return for his outlay. Daffodils require abundance of water when growing, and must never be allowed to get dry at their roots.

In conclusion, let me say that if the above crops are grown well the cultivator will find that his houses are quite as remunerative in the winter months as they are in the summer.



THE "QUARTERLY" ON ROSE CULTURE.

I DESIRE to call attention to a most interesting article on "Ancient Rose Growers" in the July "Quarterly." It occurs in a review of Mr. Foster-Melliar's great work, and Mr. W. Paul's exhaustive work, "The Rose Garden," ninth edition. The reviewer is at once master of terse English and of his subject. His own theory, well developed, is that "Rose culture may claim to be quite the oldest and the most highly developed of the many struggles of man with Nature," which I apprehend has been—

"Often thought before, but ne'er so well expressed."

He considers that the Rose originated, like our first parents, in Central Asia; that it was probably brought to Greece, perhaps with the alphabet, by the Phœnicians. He corrects the common idea with regard to Sappho's Rose Ode, and shows that it should really be attributed to one Tatius, A.D. 500.

He then, which is peculiarly interesting, traces down the old Cabbage (*pace* Dean Hole, let us rather say *R. centifolia*) from the time of Herodotus, in fact far further back; quoting in his reference to the Gardens of Midas a description of a Rose, "so sweet that no other can vie with it, and the blossoms have as many as sixty petals apiece." Another popular error is grappled with, which attributes this Rose bringing into England to Edmund Crouchbeck, Earl of Lancaster, in right of his wife Lord of Provins, in 1277. It is shown it was the Provins, not the Provence, a crimson single flower, brought from Palestine by the Crusaders, not the good old pure rose coloured—dare I say again—Cabbage.

The difficult question of the perpetual, or, at least, twice-bearing Pæstum Roses, is also gone into; and it is explained that probably in Virgil's time, when Roses were budded and grafted and pruned hardly less than nowadays, this Lucanian Rose garden was probably the Cheshunt or Colchester of the day. "What a place!" (says Addington Simonds). "Deep loam reclaimed from swamps, and irrigated by perpetual streams." An old woman once remarked, "Her husband was enough to irrigate an angel."

My recollection of Pæstum certainly is that its Roses would certainly not lack the incentive. The little known distinction is then drawn very clearly between the true York and Lancaster and the *Rosa Mundi*, a striped Gallica, which is sometimes confused with it. If I might make one possible addition to this excellent article it would be to point out that, according to Miss Strickland, this Rose did originate about the time of the happy close of the Wars of the Roses, just when people were beginning to hope that Henry of Lancaster would marry (as he did after Bosworth) Elizabeth of York. "In 1493 great crowds," she writes, "went to behold a natural prodigy of a Rose bush which produced blossoms where the rival colours of York and Lancaster were for the first time seen blended. This the English considered an auspicious omen." This statement is strengthened by a happy quotation from the poet Gray:—

"Above, below, the Rose of Snow,
Twined with her blushing foe, we spied
The bristled Boar, in infant gore,
Wallows beneath the thorny glade!"

The allusion, of course, is to Richard's supposed murders of his nephews, of his badge the boar, and to his crown after Bosworth being found in a Thorn bush.—A. C.

OBSERVATIONS AT THE N.R.S. DERBY SHOW.

THIS northern exhibition was intended more especially for the convenience of northern growers, both as to place and date, and we are therefore not surprised to find that they come out in full force; although, like as the northern men have sometimes stirred the equanimity of our southern growers, so some of the southern men have taken their share of the spoil from the north. As far as the general character of the Roses is concerned it was (notwithstanding some remarkable exceptions) like that of its two predecessors, the flowers were smaller than usual, and lacked substance. The Teas were not so good as at the Crystal Palace or at Gloucester, which still may claim the pre-eminence in that class of flowers.

NOTABLE ROSES.

As might have been expected Messrs. Harkness & Sons carried off the premier prizes amongst nurserymen, and many of their flowers showed that deep and intense colour which we are accustomed to associate with northern climes. Gustave Piganeau, although I do not much care for the flower, was very fine. Horace Vernet was grand in colour. S. M. Rodocanachi, Victor Hugo, Marchioness of Londonderry, Mrs. Sharman Crawford (both of these last-named Irish flowers) were exceptionally good. Sir Rowland Hill, which we have not often seen well shown of late, but which when in good form is a valuable addition to any stand, was excellent, as was also Her Majesty, which has retained throughout the season the high position with which it commenced, a grand box of it, exhibited by Messrs. Alex. Dickson & Sons of Newtownards, fully bearing out what has already been said concerning it.

THE CHAMPION AMATEUR.

In the amateurs' division Mr. E. B. Lindsell swept all before him, fully establishing his title as the champion amateur; not only did he carry off the trophy and the gold medal and other prizes, but his box contained the two silver medal blooms, Xavier Olibo (H.P.) and Comtesse de Nadaillac (Tea). I am not quite sure that both Horace Vernet and A. K. Williams in the same stand were not better flowers, but then Xavier Olibo is much more rarely seen and looked for, and probably this had its weight.

OUR LEADING NORTHERN AMATEUR.

Mr. H. V. Machin, who is entitled to this distinction, had excellent flowers, many of them very bright in colour and good in form. His box of Hon. Edith Gifford comprised nine most perfect and finished blooms, and showed how well Teas could be grown in Nottinghamshire.

NEW ROSES.

The stands for new Roses have been for many years somewhat disappointing. French raisers do not now seem to be able to give us anything to surpass or even equal the productions of former years. I hear of one, Countess de Litta, which I have not seen, which is promising. Stands for new Roses are now mainly occupied with our home productions; thus the first prize was awarded to Messrs. Alexander Dickson & Sons for a stand containing Shaughraun, Marchioness of Londonderry, Lady Moyra Beauclerk, Captain Hayward, Mrs. Sharman Crawford, Erin-go-bragh, Countess of Caledon, Killarney, Shandon, Con, Eileen, and Madame Jules Finger. It will be seen that these, with two exceptions, are seedlings of their own raising. Some already in commerce, and well known and appreciated; others not well known to English growers. They also exhibited two Roses for the gold medal, Helen Killac, which received that award, and Lady Moyra Beauclerk. The former is a deep Rose with a fine form, and with a slight purplish tint in it. Lady Moyra Beauclerk is a pink Rose, which I should have been inclined to look on as a H.P., but which, according to the prevailing fashion, was classed as a Hybrid Tea. If this had been exhibited in good condition I think it is most likely it would have been awarded a gold medal also, and it is just possible that it will be more appreciated than the former.

GARDEN ROSES.

Garden Roses were well exhibited, the northern climate enabling Roses to be shown which were long past in the south. The best collection came from Mr. H. V. Machin, which was tastefully arranged, and comprised bunches of the small Polyantha Roses, the charming L'Ideal, and the bright Bardou Job. Messrs. Paul & Son had a beautiful stand of eighteen in which was Madame Moreau, a very beautiful yellow Rose; Messrs. Croll & Son of Dundee came a close second with a fine stand in which Gloria Mundi was conspicuous for its intense colouring, being much deeper than we can get it down in the south. The display of garden Roses I think still leaves much to be desired, although that staged by Mr. H. V. Machin was very tasteful and effective. I noticed one exhibit where an attempt had been made to relieve the flatness by using baskets. This struck me as being a right move, but the whole was spoiled by having a row of boxes with single blooms in them in front. Of course there is the difficulty that when an exhibitor brings his garden Roses to the tent he has other classes in which he is interested, and can hardly spare sufficient time to arrange them to his own satisfaction, and so the finish which ought to be given to them is too much overlooked.

MR. BOYES.

The thanks of the National Rose Society are greatly due to Mr. W. Boyes for the energetic manner in which he has endeavoured to advance its interests at Derby. It is not a Rose-growing centre, and consequently that effective assistance which was rendered by the Committee at Gloucester was absent at Derby; but Mr. Boyes worked with a will, and I am afraid damaged his own chances of success by his keen desire that all should go well for the Society. The day, which threatened early to be rainy, was fine, and favourable to the staying powers of the Roses. The interest which the National Shows evoke amongst rosarians is evidenced by the fact that several gentlemen frequently travel scores of miles for the pleasure of being present. And so has ended the season of 1895, as far as the National is concerned. There are a few shows still to be held, but it is virtually over; and while it has proved a disappointing season, it has been a much better one than we could at one time have anticipated.—D., Deal.

NOTES ON POTTING.

THERE is an old saying and a true one which says, "If a thing is worth doing at all it is worth doing well," and perhaps in no other operation connected with gardening is the proverb more applicable than in potting, for on it depends to a large extent success or failure in plant cultivation.

Many and useful are the lessons which have been from time to time laid down in these pages on this important work, so often, in fact, that a repetition of them may to many appear uncalled for and unnecessary. Be that as it may, there are doubtless some to whom further hints may prove beneficial, and it is to those who are young in the calling and

anxious to learn that I would chiefly address these remarks. So varied are the methods of treatment required for different plants, and to such an extent do the opinions of experienced gardeners differ, that it seems almost useless to set down hard and fast rules to be applied to any operations connected with horticulture.

To meet with this difficulty careful observation and sound judgment must be brought into play, and one thing be always borne in mind, that nothing but failure was ever the outcome of slovenly or careless potting. It is one of those lessons, and there are so many of them, in which theory and practice must work together in perfect unison if success is to be the reward. How often have growers been puzzled to know the reason of the downfall of promising plants, which might have been traced to indifferent potting? To all young gardeners I would say, Pay careful attention to this important work if you would be successful in your calling. There are few plants which do not suffer if this operation is badly performed, while, on the other hand, all benefit by it being done properly.

Many are the details connected with potting that to the casual observer might appear unnecessary and dispensable, but we shall do well to bear in mind that the man who pays careful attention to small things is often the one who succeeds. In the spring and early summer when, as most gardeners know from experience, there is a great deal to be done with but a little time to do it in, potting is often effected hurriedly, sometimes carelessly, in order to push forward some other work that may be waiting; but if such be the case, and from whatever reason, there is certainly nothing gained by it, but rather in the end loss. Much better is it when potting plants to pay strict attention to all necessary details, and so far as this part of their welfare is concerned (and it is no small one) insure success.

In casting a cursory glance at some of the particulars connected with this important item in a gardener's duties, it is necessary that none but clean pots should be used. True, plants are removed into dirty ones, often without much apparent injury being done, and when, as is often the case, time is short and labour scarce there seems to be a justifiable excuse for this, but on the other hand it is one of those details which a methodical gardener would not on any account omit, and after all it is the man who works by system, even if it takes a little longer to do it, who succeeds.

Anyone inexperienced might naturally ask the question, What difference does it make? This is easily answered by anyone versed in the art. If a plant is placed in a clean pot, it may be at any time turned out without breaking the ball or injuring the roots in any way, while on the other hand if soil from a recent inmate was left adhering to the sides, and attempts are made to turn out the plant, it will be found that the roots instead of leaving the sides of the pots without injury will stick to the old soil that should have been washed off, and the ball will crumble and the roots break in the attempt at removal. In addition to the above detriment, water does not pass so evenly and rapidly through the ball of a plant placed in a dirty pot as it would otherwise, with the result that sourness of the soil is often caused.

Another important item, though often considered but a minor point, is that of crocking the pots. How often is it that crocks, instead of being placed properly and systematically—that is, a large one over the hole with others a little smaller placed over in position, so that the small particles of soil are not washed in and the drainage become clogged—are thrown in carelessly, perhaps one pot getting more than necessary, while in another there is an insufficiency. All this in time tells its own tale; drainage becomes stopped, soil saturated and sour, plants turn sickly and eventually die. The grower looks dismayed and wonders why it is so, when the whole evil might be traced to that small but exceedingly important duty, "crocking the pot."

The mixing and blending of soil should also be done well and thoroughly, and as various plants require different composts the judgment of the operator should guide him as to the ingredients he must use. There is one point, however, that in many instances, especially with young gardeners, that does not receive the attention it ought—namely, the use of turf. This is often obtained from an old pasture, cut up, and used for potting without a thought being given as to what pests injurious to plant life may be secreted therein. Wireworms, for instance, will lie in the soil for years in a larvæ state, and when they are removed to favourable conditions activity takes place, and the result is obvious, much to the detriment of the plant's welfare. Great care should be therefore taken by charring, or some other process, to remove all such pests from turf before it is used for potting, for if allowed to remain, and they once commence feeding on the roots, it is then too late. The mischief is done, and entire loss or severe injury is the result.

As plants vary so considerably in their needs with regard to firm potting or otherwise, without choosing one particular class and dwelling entirely on it no distinct rules can be laid down. Nearly all hard-wooded plants, especially Azaleas and Heaths, require to be potted firmly—that is, the soil should be rammed evenly round the plant, and the compost be made as solid as that of the ball, so that the water will pass regularly through and moisten the whole, instead of saturating the new soil and leaving the ball of the plant dry, as would be the case if one were not as firm as the other. This rule to a certain extent may be applied to all plants, as softwooded kinds are not naturally so firm at the roots as those under notice. This should be the guide when potting. The nature of the plants must be studied, as it would be useless to ram the soil very firmly round one whose roots are soft and fleshy, while those, on the other hand, a plant with tough fibrous roots, are at home in a compost made quite hard.

It must not be thought that the above are the only points to be considered in potting, far from it; there are many others of equal importance, well known to those experienced in the art, and easily acquired through careful observation by any who are aspiring and anxious to learn. To such I would say that there are two ways of doing everything—namely, the right and the wrong; and though the former is often attended with extra trouble and labour, it is the only safe course to follow, and the only one by which success is sure to be the result.—G. H. H.

MODERN GRAPE GROWING.

THE FLOWERING PERIOD.

(Continued from page 57.)

THIS is an anxious time with cultivators, and close attention to many little details is requisite; even then, if the previous treatment has not been correct partial failure frequently follows. The most important point to attend to in my opinion is the condition of the border in which the roots are growing. This should neither be too wet nor too dry, and it must be sweet. It frequently happens that more water is given at the time the buds are bursting than is required, and this, too, not of the purest quality. Where they are not composed of soil which is of a retentive nature it is advisable to mulch all inside borders before the bursting of the buds, and nothing is better for this purpose than farmyard manure, in which there is a good proportion of cow excreta. This is more for the purpose of preventing the soil drying too fast at a later stage than for the fertilising matter it may contain, and it is applied at this time because if it contains much ammonia there is considerable risk in applying it when the young leaves are expanding.

If it is allowed to become partially dry after being placed on the border all will be well; but if it is deluged with water, with the idea of making the Vines start vigorously, it will not have that effect, and it may, as it cannot be taken up by the plants, have the effect of making the soil sour, and consequently unsuited for the roots to start in. Vines cannot be fed at this stage, and although it is a common practice to do so, there is no use in applying quickly acting manures, whether natural or chemical, for this purpose; and if they have been fed and watered during the previous summer as required, they will want very little of anything till after growth has commenced.

A few days before the flowers expand the borders should be examined with great care. I generally make a hole or two with a small trowel, and although a few roots may be injured, it is better to injure a few than that all should suffer. If the soil is found to be in a good, sweet, workable condition, and will not bind together when slightly pressed, it should be watered, and it is not safe to delay the operation a single day, for the Vines have commenced to drink in earnest, and it is astonishing what a difference there will be in the soil in a few hours. If it has not been done before, this is a good time to apply a stimulant, either in the form of weak liquid manure or a light dusting of one of the good fertilisers advertised.

Borders are often damped too frequently, especially when they have to be walked on, all interstices becoming filled up, and I have even seen moss making an attempt to grow on them. Very little air can then enter the borders, and they cannot be in a suitable condition for the roots. Damping is required as much during flowering as at any other time, but it should not be done late in the day, unless through some mismanagement, the atmosphere has become too dry. The proper time to do it is in the morning of a bright day, after the flowers have become sufficiently dry for the pollen to be active and any necessary artificial impregnation of the flowers has been performed.

Night temperatures should not be allowed to fall much below 60° for the shy setting varieties at this stage, or there will be too much dew on the flowers when the sun rises in the morning, and it is essential that they be sufficiently dry for the pollen to be active by 10 or 11 A.M. Air ought to be admitted as soon as the sun begins to make itself felt in the morning, and should be increased as the temperature shows signs of rising.

A soft and balmy air, with every ventilator and door wide open, and the thermometer standing between 80° and 85°, is the thing to be desired; then if everything has been done properly there will be little difficulty in getting a good set of most varieties. Indeed, if there is no structural deformity in the flowers, such as we find, for instance, in Alnwick Seedling, fertilisation will take place easily and naturally, but it is almost certain there is an advantage in cross-fertilisation, one of the results being a more speedy and more regular setting of the flowers; therefore it is my practice, and I believe that of many good growers, to go over all the principal bunches with a bit of fur or a large camel's hair brush every morning during the time of flowering, frequently changing from one variety to another. If there is a house of Muscats we would go over few bunches of some other variety first, then a few Vines of the Muscats, next a few of some other variety, and back again to the Muscats.

By this time there will be a mixture of pollen on the brush, and we proceed any way we like till all are finished, excepting always Alnwick Seedling, which must be specially attended to. The flowers of this variety, in addition to being deformed, seldom or never get dry, consequently the brush can only be used on two or three bunches before the pollen becomes clogged. The brush must then be dried and charged with a fresh supply of pollen from another variety, or if there are many bunches to operate on it is necessary to have more than one brush.

By the time most of the flowers are expanded, say in three or four days after they commence opening, another operation will be necessary, and this is more especially the case with Muscats. There are always a great many unfertilised flowers in the bunches of this class of Grapes, and if they are not dislodged now there will be some difficulty in getting them out at a later stage. Each bunch receives a smart tap daily sufficiently hard to shake out all the small berries which have become loose. This can be done by tapping the stem with the thumb nail, but when there is a large number of bunches to be operated on and some of them out of the reach of one's hand I know of no better plan than having two sticks, one of small size to be placed on the stem of the bunch or on the lateral close to it, and the other to give the first stick a smart tap.

Some varieties, as Lady Downe's for instance, will not clean themselves in this way, and the small berries must all be cut away with the scissors at a later stage, which is a very tedious operation. Luckily for the rising generation this splendid Grape, not being so showy as some others, is not now in much request. Gros Colman sets all its flowers, but the berries are very easy to thin out.

In the absence of sun for two consecutive days while the Vines are in flower it will be necessary to make the pipes rather warm before noon, rising the temperature up towards 80°, and having at least a little ventilation at the top of the house, otherwise some flowers of the shy setting varieties when they are most wanted may not be fertilised.—

WM. TAYLOR.

(To be continued.)

THE LATE MR. T. H. RABONE.

IN our last issue we made brief mention of the death of Mr. T. H. Rabone, the well-known gardener to the Earl of Shrewsbury and Talbot at Alton Towers, Staffordshire. Born sixty-two years ago in the little village of Wellsborne in Warwickshire, he had the misfortune to lose his father at an early age, and was therefore thrown on his own resources. He commenced his horticultural career in a neighbouring establishment, and subsequently served as a young gardener at Packington Hall, Shrubland Park, and Trentham, where he received an efficient training. On leaving the latter place he became head gardener to S. Adderley, Esq., at Barlaston Hall, Staffordshire, and left there about the year 1859 to enter the service of the late C. M. Campbell, Esq., then at Hartshill, Stoke-on-Trent, with whom he afterwards removed to Woodseat, where he made for himself a name as an efficient fruit grower, winning prizes at many of the principal shows in the country.

It is not surprising that when the position as head gardener at Alton Towers, which is only four miles distant, became vacant about 1868, the untiring energy of Mr. Rabone prompted him to make an effort to obtain the appointment. The effort was successful, and from that time until his death he held the reins of management of the extensive domain under his charge. He was a man of many resources, and when some years ago the arduous duties of estate steward were added to his already large task, he proved quite equal to the occasion, and was as much at home superintending the erection of a building, managing a farm, sowing a bed of Onion seeds, or the more delicate task of putting the finishing touches to a dinner-table decoration.

No undertaking, however large, daunted him, and whatever occupation claimed his attention he was sure to bring the whole force of his energy to bear on it. To this he owed, in a great measure, his success as a gardener and estate steward. His many other duties compelled him to give up growing for exhibition at Alton, though as a judge at many of the large shows he was well known. As Alton Towers Gardens are open to the public Mr. Rabone not only had the wants of a large household to cater for, but had also to provide the many people who annually visit the gardens with something on which to feast their eyes. That he performed this effectually is testified in the fact that many tourists and others visited Alton year after year, always certain of finding something fresh, and if personally acquainted safe to receive a hearty welcome from the genial gardener.

As a horticulturist his occupation was his chief delight, the garden was his home, and possessing as he did an ardent love for it, we can imagine no place more suited for a man with his tastes than the charming domain which was depicted in a recent issue of the *Journal of Horticulture*. As a man, he was one of "Nature's gentlemen," frank and straightforward in manner, generous to a fault, always ready to exult with a brother gardener in days of success, or sympathise with him, and, what is more to the point, help him, if possible, in days of adversity. Many men now holding good positions as gardeners owe their success in a great measure to Mr. Rabone, and never was he so indefatigable as when doing good. His wide sphere of duties led him beyond the precincts of his garden, where he made many acquaintances, and whether of a friendly or only a business nature, won the profound respect of all.

In accordance with his energetic nature he died in harness. His hitherto strong constitution first showed signs of giving way a few months ago, but he continued to superintend his charges until a few weeks prior to his death, when he rapidly sank and passed peacefully away, surrounded by his family, on July 20th, as stated in our last issue. He was interred at the little village of Alton on July 23rd, and thus ended the race of a true and respected gardener whose chief aim was to further the interests of horticulture and do his duty towards his fellow men.



EVENTS OF THE WEEK.—Horticultural shows are somewhat numerous during the coming week, and include Southampton on Saturday and Monday; Carshalton on Monday; Northampton on Monday and Tuesday; the Royal Horticultural Society at the Drill Hall on Tuesday; and Taunton on Thursday.

— **WEATHER IN LONDON.**—Though the weather has been very unsettled during the past week not very much rain has fallen. Sunday, however, was wet the whole of the day, but since then very little if any rain has fallen.

— **THE Worshipful Company of Fruiterers** has given a donation of £10 10s. to the funds of the Gardeners' Royal Benevolent Institution. We learn with pleasure that H.R.H. Princess Louise (Duchess of Fife) and the Duke of Fife have graciously signified their interest in the work of the Gardeners' Royal Benevolent Institution by adding their names to its list of Vice-Presidents.

— **A FINE CURRANT.**—I found on comparing samples of the fine Red Currants I saw at Clandon Park, Surrey, with others shown at the Drill Hall the other day, that it rejoices in too many names, as it is identical with both the French La Fertile and La Versaillaise, and also the English Red Cherry. When grown as bushes, because so heavy a cropper, the bushes should be kept hard stumped or pruned to prevent breaking down with the weight of fruits. At Clandon Park the bushes are almost close to the ground.—A.

— **DEATH OF PROFESSOR BABINGTON.**—With the demise of Charles Cardale Babington, which occurred on July 22nd at the age of eighty-seven, England loses one of her oldest botanists. Educated at St. John's, Cambridge, a great portion of his life was spent there, as he retained the botanical chair from 1861 to his death. His work, entitled "The Manual of British Botany," was an excellent one, and that it was very widely appreciated is proved by the fact that at least eight editions were published and disposed of, and despite a certain amount of adverse criticism that the book created, it was unquestionably a splendid work, as many persons of this generation can testify. His knowledge of British plants was most profound, and he was also an acknowledged authority on the flora of Iceland, to which island he had paid extended visits for botanical study. In the death of this gentleman the world of science has lost an able man whose personality and work will not soon fade from our minds.

— **FRUIT FROM SAWBRIDGEWORTH.**—Mr. T. F. Rivers sends us small samples—or rather large samples in small numbers—of choice fruits. First we have a couple of Early Rivers Nectarines weighing 6 ozs. each, and of superb quality. These are to show how much it differs from the *Précoce de Croncels*, which M. Baltet wished to exchange with Mr. Rivers for his fine early variety, but did not succeed. Next we find Late Golden Transparent Plums, weighing 2½ ozs. each, roundish oblate, very distinct, and handsome, also of excellent quality. Lastly, we have to note Early Rivers Cherries, which have been hanging ripe on the tree under glass for over a month—large, jet black, firm, and delicious. Happy ought those persons to be who have an adequate supply of the three kinds of fruits similar in size and quality to the samples referred to, for they were quite first-class in every way.

— **NATIONAL ASSOCIATION OF CIDER MAKERS.**—We are pleased to find that this Association is taking energetic measures to insure more attention being given to the cider competitions at agricultural shows. The arrangements at present in vogue leave much to be desired, and consequently do not attract the more important makers to compete; nor can visitors be expected to evince much enthusiasm in the cider shed, where only a distant view of the exterior of the casks and bottles is vouchsafed. The cider itself is tasted only by the judges. A sub-Committee has been deputed to investigate the subject and draw up regulations, to be submitted to the agricultural societies giving awards for cider. The adoption of these suggestions will, it is hoped, induce more entries and cause the judging to be carried out under fixed rules, and further allow of cider makers tasting the exhibits for future guidance.

— **ROYAL BOTANIC SOCIETY OF MANCHESTER.**—It will be seen by our advertising columns that the great Lily show (the first special exhibition of the kind ever held in the country) will open on the 22nd inst. instead of the 5th. A show of Grapes will also be held at the same time. Facilities are offered to gardeners who may feel disposed to visit the exhibition.

— **CALOCHORTI.**—I have this year, for the first time, grown some mixed varieties of the Calochorti, with which my employers have been well pleased. I planted them in the open ground last autumn where they had the protection of a north wall, but were exposed to the east. As a protection I put an additional 6 inches of leaf mould and sand over them, and I levelled it down in the spring. I think "E. M." (page 81) must have grown the *Cyclobothra* section, and I would advise him to grow next year the Calochortus as well, which have erect, open flowers, and according to my one year's experience will, if grown with the former, keep up a succession of their interesting flowers for several months.—SOMERSET.

— **LAVATERA TRIMESTRIS AND ALBA.**—It is surprising how seldom we see the above flowers grown when we consider how effective they are for house decoration. To those who have large vases to keep filled with cut flowers I would strongly recommend the above to be grown, as they will keep quite fresh for ten days or a fortnight after being cut, as the flower buds keep opening in water. Growing between 2 and 3 feet high, Lavateras are most showy growing round the shrubby borders. Being hardy annuals, the seeds should be sown in the open ground at the beginning of April, and again at the end of May for succession. I have been cutting large numbers of bloom for quite three weeks, and just now they look grand from the first sowing.—G. H.

— **ELÆAGNUS ARGENTEA.**—A well-grown specimen of this shrub, when it reaches a height of from 8 to 10 feet and as great a breadth, is certainly one of the very best of the woody plants with light-coloured foliage. Some of the Asiatic species, like *Elæagnus longipes*, which is useful for its fruit, and the smaller *E. umbellata*, have been in recent years quite generally grown, but the native plant has, says a transatlantic journal, been comparatively neglected. The flowers are white without and yellow within, and are not strikingly beautiful, but they are delightfully fragrant, and its abundant fruit is considered edible by persons who have not a fastidious taste, but the silvery foliage of its wavy leaves and the fragrance of its abundant flowers make it an attractive garden plant to those who do not care for its mealy fruit.

— **FLOWERS AT STEPHEN'S GREEN.**—Passing through Stephen's Green to-day (July 29th) I collided with the courteous Superintendent, Mr. Kearney, in the vicinity of his wondrous border of hardy flowers. Off at a tangent we went—I, on the beauty, interest, and enjoyment provided for all sorts and conditions of City folk who here delight to congregate; he, on the trials and troubles of an enthusiast, arising from soil, situation, and the watchfulness required to keep the public fingers from picking and st... g. Wonderfully fresh looked this city garden after the recent rains. Carnations named and unnamed were in great beauty, whilst a selection of the fittest was being made for layering. On a bank of *Rosa rugosa* is a plant of *R. callicarpa*, which Mr. Kearney thinks highly of, and a thousand and one things in the long border which would take half a day to do justice to.—K., Dublin.

— **BOTLEY SHOW.**—The sixteenth annual show of the Botley Horticultural Society was held in the beautiful grounds of Sir H. Jenkeys, K.C.B., on Thursday, and proved to be a marked advance on any previous exhibition. The groups of foliage and flowering plants arranged by Mr. Davey, gardener to Sir H. Jenkeys, K.C.B., who won easily the coveted prize; Mr. Gurman, gardener to R. A. Burrell, Esq., a close second, were arranged with much taste and skill. Table decorations, open only to ladies, are very popular at this show, and the most exquisite taste is displayed in the arrangements of the flowers. Miss Pern was the successful competitor. The arrangement was light and extremely graceful, and thoroughly deserved the high position accorded to it. The second and third were Miss A. Dufrie and Miss Rowley as named. The cottagers' classes were well represented, most noticeable winter and spring Onions, Potatoes, red and white; Peas, and Cabbage. Prizes were also given for cottagers' gardens. Messrs. Ellcombe & Son, florists, Romsey, exhibited a fine group of Begonias and new Zonal Pelargoniums, which this firm is noted. E. H. Liddell, Esq., Hon. Secretary; W. M. Brock, Treasurer, and Committee worked well to make the exhibition a success, and they were justly rewarded for their labours.

— RAINFALL AT STAPLETON PARK, PONTEFRAC. — On Thursday last (July 25th) we experienced a severe downpour of rain, registering from 8 A.M. till 8 P.M. exactly 1.9 inch. Did anyone register more in the twelve hours? — H. J. H.

— HEAVY RAINFALL. — The rainfall of last week was enormously in excess of the average in nearly all parts of the kingdom. Over England the fall was in most cases from two to three times as much as the normal, and in London it was considerably more than four times as much as the average for the week.

— IRISH RAINFALL—MUSHROOMS. — From the "Irish Times" of July 26th I glean data of what is there described as "the phenomenal rainfall." 2.283 inches of rain fell between the hours of 6 P.M. on Wednesday, the 24th, and 6 P.M. the succeeding day. This has only been exceeded twice since 1864—namely, August 13th, 1874, 2.482 inches, and October 27th, 1880, 2.736 inches. A fair sprinkling of Mushrooms is now appearing on old pastures, and having had the two potent factors—heat and moisture—a plentiful supply of the favoured fungus may now be looked for; any way, "the million" are already on the warpath, urged by that epicurean love which heeds not notice boards or respects the sanctity of private places.—K.

— USE OF THE SCENT OF FLOWERS. — Its primary use no doubt is to attract insects, which will carry the pollen from flower to flower, thus insuring cross fertilisation. Secondly, the scent acts, it is believed, in the same way as the glass roof of a hothouse. According to a contemporary Professor Tyndall found that the luminous radiation from the sun can pass readily through an atmosphere impregnated with essential oils, but when it strikes the ground and is converted into dark heat (heat unaccompanied by light) it can no longer traverse this atmosphere, the scent thus acting as a trap for the solar radiation. The absorbing power of these oils varies between that of otto of Roses, which is thirty-seven times that of pure, dry air to that of Aniseed, which is 372 times.

— DAMPING-OFF. — A bulletin from the Cornell Experiment Station, prepared by Professor George F. Atkinson, gives a very complete account of several of the fungi which cause the disease known as damping-off, on account of which the tissues of the seedling plants decay at the surface of the ground. The life history of several of these fungi is given very completely. Of special interest is the fungus which is parasitic on Fern prothallia in forcing houses, and which is new to America. An entirely new species is also described. Since too much moisture in the soil, high temperature, insufficient light, and close apartments favour the growth of these parasites, and at the same time weaken the growth of the seedlings, so that they are less able to resist disease, the plain conclusion is that houses should be well lighted, supplied with fresh air, and kept at as even a temperature as possible, and saturation of the soil should be avoided; if the disease once sets in the temperature should be kept as low as the plants will bear, and if they do not recover the soil in which they have grown should be discarded and the benches whitewashed; only perfectly healthy plants should be reset. Soil in which diseased plants have grown should not be used again until it is sterilised by steam heat for several hours. — ("Garden and Forest.")

— BATTLE OF ROSES AT EASTBOURNE. — Eastbourne was *en fête* on July 26th, on the occasion of the Battle of Roses, organised in connection with the summer carnival. A thunderstorm passed over the town in the morning, but when the festivities commenced in the afternoon brilliant weather prevailed, and continued for the remainder of the day. There was a great influx of excursionists, who, with the numerous visitors, helped to swell the crowds of spectators. Many of the principal thoroughfares were tastefully decorated, and the Grand Parade, the centre of operations, was most elaborately adorned with Venetian masts connected by festoons of pennants and artificial flowers. The 15-guinea bowl, offered for the best decorated vehicle, was awarded to Mrs. O'Hagan of Lancaster Gate. Mr. William Chapman of Eastbourne secured the first prize for coaches; Mr. R. M. Perring, Eastbourne, being second; and the Duke of Manchester third. For pair-horsed carriages, Mr. T. H. Angus, Eastbourne, was awarded first prize; and Mr. H. Dewhurst, Eastbourne, second. Mrs. Edmund Willett, Eastbourne, obtained the first prize for single-horse carriages; and Mr. G. Skinner was second; and Mr. G. W. Morrison third. There were many other prizes for children's carts, allegorical cars, equestrians, and cycles. The Judges were Lady Duke, Lady Ashmead-Bartlett, and the Mayoress of Eastbourne; and the Duchess of Devonshire distributed the prizes. — ("Daily News.")

— MR. MCLEOD, Dover House, writes:—"There is an error in the notes on Dover House which Mr. Dean in his hurried look round has made, and which you will observe is significant—viz., the length of border is exactly 80 feet, not 40 feet, as stated in the otherwise correct note."

— THE POTATO CROP. — This will be much below the average in the southern and eastern counties, and in Bedfordshire, Berkshire, Hampshire, and Kent the yield of the earlier kinds now being lifted and sent to market ranges between 2 and 3 tons per acre. In Lincolnshire, more particularly in the fen districts, the crops are fairly good, the yield being 5 and 6 tons. In Yorkshire and in Scotland the late crops are in a very promising condition, and should they escape the disease and the weather be favourable the yield, says a contemporary, will be a full average and the quality high.

— BROOKFIELD FLOWER SHOW. — The eleventh annual exhibition of flowers, fruit, and vegetables, in connection with the Brookfield Horticultural Society, was held on Saturday afternoon at Highgate, in a field lent by Mr. Burdett Coutts, M.P. Among the early visitors to the show was the Baroness Burdett Coutts, the patroness of the Society. The exhibitors numbered 115, who between them made over 900 entries. The first prize bouquet was presented to the Baroness Burdett Coutts by the exhibitor, Mr. Cram, who had grown all the flowers of which it was composed in his allotment garden.

— RED OAK. — The Wisconsin Red Oak has for several years taken high rank in furniture and finishing factories on account of its softness, adaptability to shop work, its lively colour, and figure. When plain-sawed it commands higher prices than any Oak, although quarter-sawed White Oak is more expensive. According to the "North-Western Lumberman," this Red Oak belt in Wisconsin is not wide, and at the rate the timber is being cut off it probably will not last more than six or seven years. In the North-west part of the State, which is not yet opened up by railroads, there is a heavily timbered area which may contain much Red Oak, but it will soon be traversed by a railway from Duluth.

— A NEW ACACIA. — A giant Acacia has been discovered on the Tergoggin Mountain and by the Mullimbimby Creek, Brunswick River, New South Wales. This new species was described at a meeting of the New South Wales Linnean Society, held on May 29th. The discoverer is Mr. W. Bäuerlen, and the author Mr. J. H. Maiden; the latter proposes the name of Acacia Bakeri, in honour of his colleague. Specimens have been seen growing 120 feet high, and with a diameter of 5 feet; the inflorescences are loose elongated racemes, and carry a few flowers—twenty or less. This Acacia, says a contemporary, appears to be most closely allied to *A. binervata*, but differs sufficiently from it to constitute a new species.

— FLORAL EMBLEMS. — The Floral Emblem Society, organised at the World's Fair for the spread of the pleasant and instructive custom of choosing floral emblems for the individual States and the nation, is quietly but effectively pushing its work. Through its influence Maine has selected the Pine cone and tassel; Vermont, Red Clover; Minnesota, the Ladies' Slipper; Montana, the Bittersweet; California, the yellow Poppy; and Nebraska, the Golden-rod. Each of these States has legislated on the emblems, which are now legalised. The campaign is now opening in Massachusetts. The Society does not choose the emblem, but stimulates the people to do it. "American Gardening" says that the custom is worthy general imitation.

— POINSETTIA ROOTS DYING. — I should feel greatly obliged if any of your experienced readers can tell me through the medium of your valuable paper the cause of Poinsettias losing their roots. I grew about fifty plants last season in a heated pit. They commenced to grow strong and went on all right till the middle of July, when their roots decayed. Thinking perhaps they wanted a shift I potted them on, and they went on all right until the roots had taken hold of the soil, when they began to decay again, and by October they had lost nearly all their leaves. I then came to the conclusion that the soil was not right, and that the pit was too warm. This season I started again; I have had the pit divided so that I can give them more air. I also used as a potting soil two parts loam, one of peat, and one of leaf soil, with plenty of sand, but on turning one of them out a few days ago I was disappointed to find the roots in just the same condition as last year. They have been watered with rain water, and I have looked over them twice daily in the recent hot weather, so that I am sure they have not suffered by want of water. I shall be very grateful for any information and helpful suggestions on the subject which perplexes me.—H. W.

— **DISEASE IN CHESTNUT TREES.**—French journals state that a disease, called in France "Javart," has appeared among the Chestnut trees in France, and is doing considerable injury. It appears on the bark of the young shoots about the time when the branch is about to complete its growth for the season. The first appearance on the bark is like a bruise, and a short time afterwards it becomes dry and cracks into thin plates. It resembles in some respects the canker in the Apple tree. Two French microscopists, Prillieux and Delacroix, have found that the disease is due to a microscopic fungus of the genus *Diplodina*.

— **WATER MELONS.**—These are better appreciated in warmer climates than that which we possess, says the "Garden and Forest," consequently their cultivation forms a great industry in drier hotter countries. In the Southern United States of Georgia, Alabama, and Florida there will be about 22,000 acres of Water Melons planted this season. This means, with a favourable season, that 10,000 car loads of fruit will be shipped. An average freight train consists of twenty cars, so 500 train loads may be despatched, or an average of a dozen train loads a day for about six weeks; the greater portion of these Melons go to more northern States.

— **THE 24° OF FROST IN YORKSHIRE.**—I did not intend taking any notice of Mr. Thos. Pitts' astounding frost last month; but after seeing the three letters on page 80, I thought I would send our minimum readings covering the period mentioned by Mr. Pitts. Our instruments are Negretti & Zambra's, and guaranteed accurate. The one I am quoting from is a terrestrial radiation thermometer, placed on the grass and exposed to the sky. Here are the minimum readings for the eight nights in question:—June 15th, 31½°; 16th, 34°; 17th, 35°; 18th, 43°; 19th, 32°; 20th, 40°; 21st, 33°; and 22nd, 46°. I may say these temperatures were taken within a few miles of Mr. Pitts.—J. EASTER, *Nostell Priory Gardens, Wakefield*.

— **SHADY CORNERS.**—How unhappy many people are, says a writer in a transatlantic journal, over the shady spots under trees where the grass will not grow, and how much time and money they expend in trying to keep out plants that enjoy such places, and in trying to keep in grass that cannot be made to succeed. These shady places can be made more interesting with less care than almost any other part of the grounds if the conditions are once made right. To learn what is right one may study to good advantage similar localities in the edge of woods or in fields that are not too closely browsed by cattle or sheep. You will find a fringing of shrubs under the ends of the branches of the trees that almost completely hides the wild and leafy mould from the more finished hayfield or pasture outside of the group. Under the trees is a covering of rich, loose leaf mould, and in this leaf mould there are growing, or there can be made to grow, many of our most beautiful flowers, such as the Trilliums, Hepaticas, Solomon's Seal, Anemones, Violets, and no less than thirty kinds of Ferns. Nothing can give a lover of Nature more pleasure than to personally superintend the making and filling of such a wild garden, and if he be a travelling man he will have an opportunity of picking up many choice mementoes in the way of plants.

— **GATHERING OF GARDENERS AT THE CHILWELL NURSERIES, NOTTINGHAM.**—By the invitation of Messrs. Pearson & Sons a large company of gardeners met on Tuesday, July 30th, to enjoy the hospitality of the firm at luncheon, and then a visit of inspection of their fruit tree nurseries under the guidance of the hosts and the foremen. The visit may be considered a somewhat historical one, it being a sort of God speed to the occupants of 50 acres of fruit trees of all nursery ages, from the bud to the first fruiting stage of hush or tree. These 50 acres of splendidly healthy young stock of Apples, Pears, Plums, Cherries, Gooseberries, Currants, besides every other kind of garden stuff, are to be distributed this autumn and winter, partly, and mainly, to supply the demand for fruit trees which, we are told, is increasing every year, and the other part to be removed to the new ground which the firm has bought at Lowdham on the north-east side of the town of Nottingham. Here, in the future, their fruit tree station will be, though the home nurseries will remain, as at present, at Chilwell. Mr. A. H. Pearson, in a very happily worded speech, gave the assembled gardeners a hearty welcome to the nurseries, and hoped that they would enjoy themselves, so that they would be able to look back on their meeting together on the occasion with satisfaction. The day, weatherwise, was all that could be desired, and the hundred gardeners will long remember it, and all that the day brought them.—N. H. POWNALL, *Lenton Hall Gardens*.

— **SHEPHERD'S KALE.**—From the "Observer" (a Kent local paper) of July 12th the following note is extracted:—"Last market day quite a sensation was caused at Salishury by the exhibition of a mammoth plant in full bloom of what is known as Shepherd's Kale. It measured 8 feet in height and 11 feet in circumference, and it was calculated that this single plant raised from seed sown the year previously produced sufficient for one day's keep for an ordinary bullock. This extraordinary Kale is the result of experiments made by Mr. Walter Shepherd of Over Wallop, Hants. Three pounds of seed per acre were enough to produce 90 tons of this most prolific food for sheep and cattle. The report reached me from reliable quarters, and is so significant that I cannot withhold it from your agricultural friends."—EXTRACTOR.

— **THERMOPSIS CAROLINIANA.**—This Pea-flowered plant is excellent for the rear line of the herbaceous border. Its unbranched stems grow from 4 to 5 feet high, and are well covered with dark green ternate leaves. The showy yellow flowers are in long terminal spikes, and they last for two or three weeks in bloom. It likes a good deep rich soil, and a position where it is not shaded. When the plants are about 3 feet high it is beneficial to them to be tied loosely to a stake, for if the large spikes are wet with rain they are apt to fall down, and are not so handsome afterwards. This plant can be increased in the spring or autumn by dividing the old roots, or it can be raised from seed. It produces an abundance of seeds annually, but they are slow to germinate, and should be sown soon after they are collected. The plant, says the "Garden and Forest," grows wild in great abundance among the mountains of North Carolina.

CARNATIONS AT THE CRYSTAL PALACE.

PERHAPS with the exception of "the Queen of Flowers," the ever-popular Rose, no gem of the summer occupies a higher position in the estimation of florists at the present day than the Carnation, nor need we wonder at it, as no flower displays a greater variety in form and colour, or lends itself more readily to improvement by the hybridist's art than this. The perfect form of the exhibition bloom may be thought by some critics to be somewhat stiff and artificial, but any tendency in that direction is counterbalanced by the symmetry of shape, the exquisite delicacy of the various shades of colour, crowned in many cases by the rich Clove scent, which alone has done much towards making the Carnation famous. In these days of societies and combinations there is no wonder that enthusiasts in Carnation growing amalgamated into a society to encourage the cultivation of and advertise still more, if indeed such was necessary, the merits of their favourite flower.

Enough, therefore, of the Society, and now a little about its show held under the auspices of the southern section at the Crystal Palace on July 24th, a brief account of which was duly given in our last issue; but our reporter was only able to relate facts without an opportunity of dwelling on the high condition of excellence so apparent in the majority of the exhibits. The Crystal Palace is famous for fine flower shows, and it perhaps would not be stretching a point to say that for quality a superior show of Carnations has never been held in London.

In spite of the fact that southern growers contributed creditably towards the excellence of the show, it cannot be denied that the main features were formed by the exhibits of Carnation enthusiasts in the north, and Birmingham growers in many of the classes proved themselves to be more than a match for the southern competitors. Amongst the latter Mr. Blick (gardener to Martin Smith, Esq.), and Mr. James Douglas, both well known in the Carnation world, upheld their reputation; while Mr. Martin Rowan secured the Turner Memorial cup, and the blooms of Mr. Chas. Turner of Slough were in many instances well worthy of so noted a grower.

As already stated, however, it was northerners who carried off the chief laurels of victory, and those who saw the superb flowers of Mr. R. Sydenham, Birmingham, will agree that he honestly earned his prominent position on the prize list. In several of the premier classes he was head of the list, including those for twenty-four flakes and hizarres, twenty-four Picotees (which owing to the lateness in judging was omitted in our last week's report), twelve dissimilar self or fancy Carnations, and also in several of the minor classes. It is a most creditable achievement for a northern grower to enter the stronghold of the southern florists and carry off so many awards, and Mr. R. Sydenham has every reason to feel satisfied with his well-deserved success. Other representatives of the great provincial town also proved themselves worthy of honours, and in Mr. A. R. Brown, Handsworth, Birmingham, we have the winner for twelve dissimilar Carnations, twelve dissimilar Picotees, and six yellow-ground Carnations; while Mr. H. W. Jones, Birmingham, proved himself equal to the occasion by winning the premier award in several other classes. Considering that the season has been anything but an ideal one from a Carnation grower's point of view, the show generally was of more than ordinary merit; and while the winners are of course elated by their success, the exhibits of the losers were such that brought no discredit on their respective owners.



ILL-TREATMENT OF ORCHIDS.

A GOOD deal of useful knowledge may be picked up by beginners in Orchid culture by observing the effect of irrational and unnatural treatment. When they have learnt what to avoid in their cultural operations it is a great point gained, and to reverse the order of things will be the natural sequence. Possibly the most frequent mistake made in the cultivation of these beautiful plants is overpotting, and in consequence too much water being applied to the roots. If we take the Orchid family as a whole, they require more water or moisture in the atmosphere than at the root. This is especially the case with the epiphytal kinds. A rooting space, then, that collects much water and holds it cannot be otherwise than detrimental to the plants.

Again, many of the species produce roots that cannot from their nature take hold of a body of compost, but prefer rather to cling to the sides of the pots wherein they are grown. These being so far away from the point where the roots are emitted, it is obvious the roots can never reach them, but perish among the mass of compressible compound that is supposed to strengthen them. The roots being killed, no treatment, however good, can have satisfactory results, for although it is hard to kill some Orchids, they may as well be thrown away unless the roots are conserved. In their absence the plants may grow for a time, but the growths will be weaker every year until the plant ceases to be of any value. Then, again, plants in flower are often allowed to waste away from the double burden of carrying the blossoms in the dry atmosphere of the flowering house.

The splendid blossoms arrest the gaze of all by their beautiful features and pleasing form, and to have to cut them seems hard after perhaps months of careful treatment to bring them to perfection, but it must not be forgotten that if allowed to remain on and draw their sustenance from the pseudo-bulbs, already taxed to produce them, it will undoubtedly be at the expense of the future health of the plant. With some the temptation to leave them on is greater than others; for instance, *Oncidium macranthum* with its graceful scendant scapes lighting up a group of plants in the conservatory. Take these away and the effect of the whole is marred, and I must plead guilty to having on several occasions allowed these to carry their inflorescence longer than was advisable.

The result has always been the same, weak growth the next season, and happily for the plant's sake no flower scapes. Semi-established plants, or those in the second year, often throw large and vigorous spikes; to leave these on is simply fatal. They ought in fact never to be allowed to perfect half the blossoms that show, for this in itself would be sufficiently weakening to destroy the prospect of the future well-being of the plant. The effect on strong and well established plants is not so bad of course, but even here caution is necessary. Heavy shading is an evil that is far reaching in its ill effects.

The number of growths of *Dendrobiums*, and similar sun-loving tropical Orchids, that indirectly have been lost owing to this is enormous. The young growths and the influence of the sun to consolidate them and enable them to withstand the slight variations of temperature and atmospheric moisture that will sometimes occur even with our best care. Grown in a dense shade the fabric is ill built up, so to speak, and the tiny shoots succumb to the first chance burst of bright sunshine or overdose of moisture. Too much sun may ruin the appearance of the plants for years, but too heavy shading is a far greater evil.

Another item of mismanagement—which fortunately is not so prevalent as formerly—occurs during the resting season. No greater mistake can ever be made than to starve and shrivel a plant by withholding water for weeks under the impression that it is thereby induced to rest. Orchids are indeed long suffering under difficulties, and respond very readily to corrective measures; but there is a limit to their powers of endurance in this respect, which it will be wise not to approach too nearly. These are only a few ways in which Orchids are ill treated, and many more may be mentioned, but with one other this list of the wrongdoings of orchidists must close.

Growing in their natural habitats, high up on the branches of trees, these plants are naturally free to every wind that blows. Brought to this country they are imprisoned, confined within the narrow limits of an Orchid house. This cannot, of course, be

avoided, our climatic conditions outside being distinctly adverse to those which obtain in the moist tropical forests whence so many Orchids come. But there is no reason why our houses should be kept closed when the external conditions are congenial, denying the plants the fresh air that means life and health to them. Nothing is more unsatisfactory than to enter a house on mild, misty mornings and find a dry, stuffy atmosphere inside. The chink of night air has been omitted that would have kept the house pleasantly cool and moist, and instead of the balmy, restful atmosphere so necessary, we have a close and parched one only conducive to the propagation of insect pests.—H. R. R.

CRAIG-Y-NOS.

IT was after an absence of some four years that I paid a visit to this charming Castle of Madame Patti's, which, dreary and desolate as it may appear in the winter months, is in the spring and summer one of the most beautiful spots in South Wales. I was very much surprised at the vast improvements that had taken place since the advent of Mr. Hibbert, who had but newly taken charge on my first visit.

On approaching the Castle, whether by road or rail, the first thing that attracts attention is the winter garden, a fine building standing boldly against the Castle, and a word or two in reference to its occupants may prove of interest to the reader. It stands about 40 feet high, and contains 7000 feet of glass, made waterproof by the dry glazing system, which seems to answer well. Entering this building with the visions of black rugged mountains in his eyes, the visitor is almost bewildered by the luxurious Palms and Tree Ferns within, all planted out, looking quite at home. The trunks of the Tree Ferns are hidden with *Rex Begonias*. Here are some fine *Seaforthia elegans*, 15 to 20 feet high, also *Kentia australis* and *Aralia Sieboldi* intermixed with some splendidly grown *Camellias*, the pillars being all well covered with such plants as *Clematis indivisa*, *Heliotropes*, *Bignonias*, *Habrothamnus elegans*, *Plumbago capensis*, and other suitable plants. The paths are neatly edged with a rockery wall all round, stones adapted for that work being abundant here. This is planted with small Ferns, *Selaginellas*, and *Sedums* of sorts. At the back is a wall 12 feet high, on the face of which is about 9 inches of half peat and loam, held in position by a strong wire netting. At the time of my visit it looked charming with *Adiantums* and other Ferns, which are kept moist by a perforated pipe running along the top. A stage running along the one side is always kept gay with flowers, and at the time of my visit the Ivy-leaved *Geraniums* were making a grand show with an edging of *Harrison's Musk*. The illustration (fig. 15) shows a portion of this winter garden with the Castle looking across the artificial lake mentioned below.

A corridor leads from the winter garden into the Castle through the conservatory, another large house which is mainly used in summer time as a dining-room. There are three vineries, each containing a splendid crop, especially the *Muscats*, of which the bunches are even and regular, averaging 3½ lbs. each. The stoves are well stocked with young *Crotons* and *Dracenas* suitable for house and table work. Tomatoes here are extensively grown in pits that are well adapted for the purpose.

A house is devoted to *Carnations*, mainly of the *Malmaison* tribe and *Mrs. Reynolds Hole*, which I fear, although blooming profusely, are doomed, as they are attacked with the disease so well known to all lovers of this most beautiful flower. A fine improvement to the Castle is an artificial lake which has been newly made. In the middle is an island, which forms a secure and resting place for the numerous wild ducks. It must have been a great piece of labour, and credit is due to Mr. Hibbert for the way it was carried out. Another piece of landscape, which improves the place wonderfully, is more to the south of the Castle, where a splendid pavilion has been built. New tennis lawns have been laid, and shrubs planted tastefully around in groups, there being on each side a row of *Limes* and *Poplars*, which forms a most imposing sight.

The kitchen garden also shows that it gets its full share of attention. The soil and aspect are against perfect production, but all the crops looked in a very promising condition. The frosts of last winter seemed to have done little or no harm here in this department. The fruit trees which had been very much neglected, and, as Mr. Hibbert informed me, were of very poor quality, have all been uprooted, and sturdy young trees planted in their places. In this department are the *Peach houses*, in which the occupants are looking clean and in the best of health; *Nectarines* especially appearing to be excellent, and bearing a good crop of fruit.—T. F. J.

GARDEN MOTHS OF EVENING.

WHEN we are engaged in the garden till twilight comes on, or later still, are strolling amongst the flower-beds as the darkness begins to hide them from view on an August evening, we are sure to have around us some of the night-flying moths. The diminished light, with the rapidity of their movements, prevents us from distinguishing their colours usually, even if they are poised over flowers, but we are often attracted by their flashing eyes, which shine like tiny stars—is it electricity or phosphorescence that is the cause? A few there may be of slender make, but the majority of these moths are stout-bodied, their

plumpness being suggestive of good fare while in the stage of caterpillar.

Undoubtedly, some of them have done us mischief before they became moths, and it has been suggested that advantage might be taken of their weakness for sweets, by not only netting them when on flowers but also by snaring them with rags dipped in syrup. Excepting in the case of one or two conspicuous species, however, these moths are so much alike that gardeners could hardly be expected to distinguish the obnoxious ones from those that are harmless to cultivated plants, and some would be killed that might be spared. Also it is in May, June, and the early part of July that we notice about our gardens at night a preponderance of the destructive moths, but several of these species appear continuously during the summer, and show themselves even when we are hoping they have vanished for the season. No doubt the capture and removal of the females (before they have laid their eggs) of such species as the familiar *Mamestra Brassicæ*, is a real advantage, for the eggs of moths belonging to the *Noctua* tribe are

in an appearance, so named not from their rapid movements, but because the wings sometimes have dart-like markings. One of the commonest is the Garden Dart (*A. nigricans*), a dingy species, more frequent when a caterpillar in fields than it is in gardens, eating Clover and various plants, though a family party of them may turn up unexpectedly amongst vegetables. Its capture would be justifiable, and that also of the Dot Moth (*Mamestra Persicariæ*), very conspicuous by its white spot, with darkish centre, on the chestnut brown fore wings. Its caterpillar varies much in colour, but has always a double set of markings on the back, in form of the letter V, one of these being darker than the rest; the head is pale and shining, behind it has a square velvety patch. I mention this particularly because it is a caterpillar often brought to entomologists to name, the food being very varied; and though most common in August and September, specimens occur about gardens much later, when caterpillars have nearly ceased to be seen. Perhaps amongst the darker moths we notice the paler Angle Shades (*Phlogophora meticulosa*), though it is more frequently a September species, the first

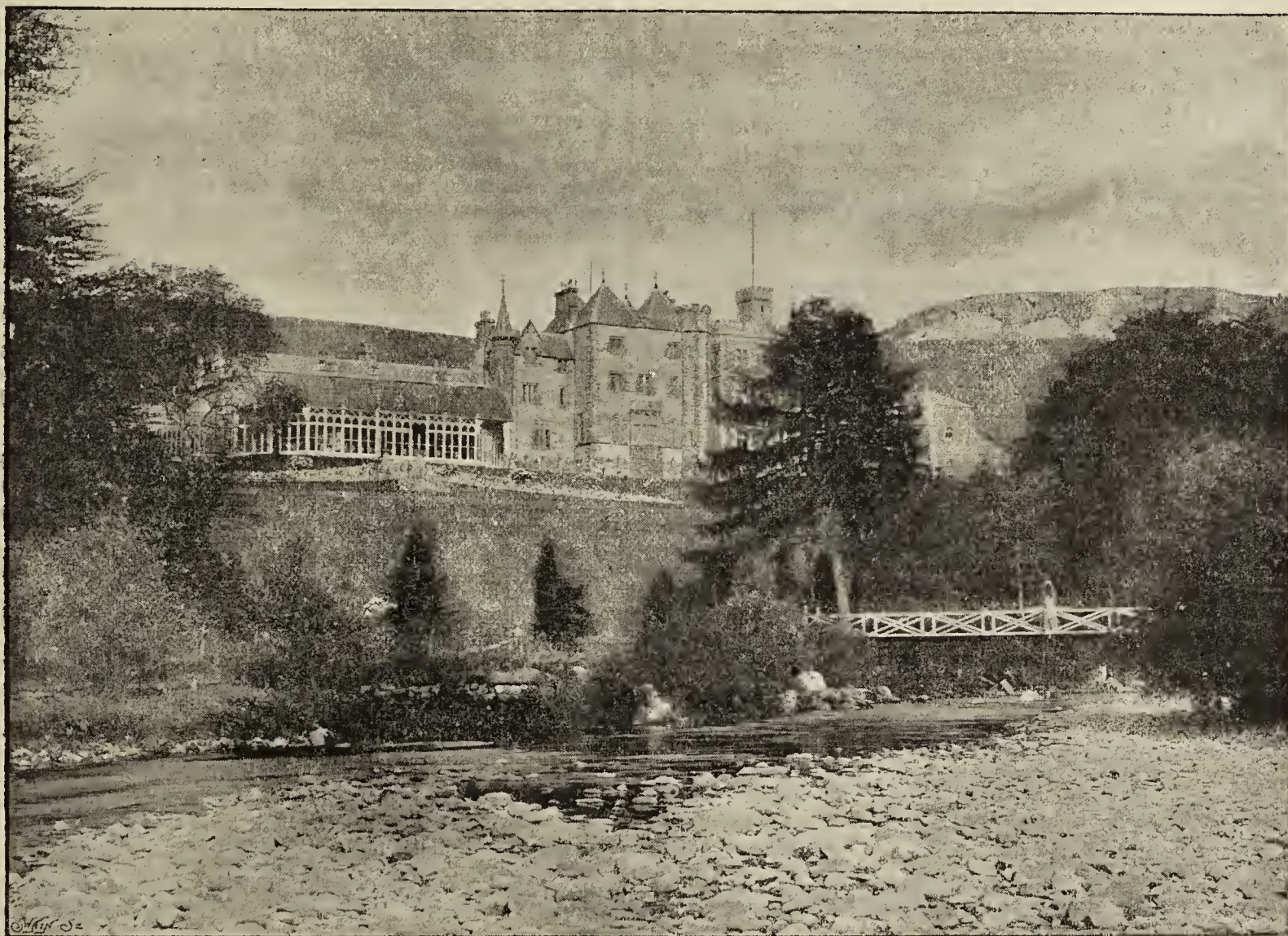


FIG. 15.—CRAIG-Y-NOS.

seldom found, and the young caterpillars are clever in concealing themselves.

It is not uncommon to find about this time moths, chrysalids, and caterpillars too, of the above-named species, which, though called after its favourite food, the Cabbage and its varieties, is a feeder on several other vegetables, as well as on Dahlias, Pelargoniums, Marigolds, and many plants of the flower garden. The abundant Turnip moth, or *Agrotis segetum*, is about as injurious, but nearly all the moths emerge in June, and the caterpillars commence feeding on the crowns or stems of various plants during July, working downwards to the roots later, where they finish their career.

Amongst the more notable haunters of flowers at evening hours just now are several moths that have beautiful markings, and which are only visitors to the garden, having led their caterpillar life elsewhere in fields, lanes, or woods; others that we see have been bred within the garden precincts, and are at home there, though as caterpillars they may not have been very destructive. Even in London suburbs we sometimes see the large and handsome red underwing moth (*Catocala nupta*); its caterpillar is a feeder on Willows; and, of similar size, the sombre, yet finely tinted Old Lady (*Mania maura*), the caterpillar of which occurs chiefly on fruit trees, but does no harm. We may come on an example of the Herald (*Gonoptera libatrix*), with its angulated wings of greyish brown, orange, and white; taking some honey ere it hibernates, for it usually hides early within a barn, shed, or toolhouse, to appear again before the arrival of the spring.

Then we have several of the dart moths of the genus *Agrotis* putting

brood appearing in May, a moth very recognisable and elegant. Its summer caterpillars feed on some low plants in our flower borders, also on shrubby species. It is one of the few caterpillars appreciating the flavour of *Chrysanthemum* leaves.

Specimens of the large yellow underwing are easily recognisable, and still about. This is a moth remarkably muscular, as we soon discover if one is taken in the hand. Its capture is advisable, for the eggs are laid on all sorts of garden plants, and the caterpillars feed throughout the autumn, winter, and spring, usually burying by day, but they sometimes live exposed on the stems or stocks. Recently the insect has been stated to have shown itself a foe to the *Chrysanthemum*. It could scarcely do much harm to this plant in the early summer, when the caterpillar is notable from its size, and probably more is to be apprehended from insidious attacks by the young brood during the autumn. The petroleum and softsoap solution judiciously applied will kill this caterpillar, also soot worked into the soil round the stems. Other yellow underwings come to flowers, but they are not harmful species. One that is very beautiful is the broad-bordered *Tryphæna fimbria*. The caterpillar feeds on Birch or Sallow in the spring and the Primrose or Nettles in the autumn.

Rare is the lesser broad-bordered *T. janthina*, richest in colouring of all the genus. Other moths, large and small, swell the host of evening seekers for honey, some of the species that the old entomologists called by the fancy names of rustics, gothics, quakers, arches, and brocades. Caterpillars of these frequently feed on grasses, or on low plants by roadsides and along the edges of fields, though the moths

appear in gardens. A curious little moth that is fond of sweets is the Marbled Beauty (*Bryophila perla*), also it is often seen resting on brick walls and palings, the Lichens growing upon which supply food to the caterpillar. Of a quite different tribe is the humming bird hawk moth, a noisy, very active insect, which hovers over various flowers both by day and night, being partial to the Petunia, the Phlox, and Jessamine.

Soft-bodied and weaponless, the moths which haunt our gardens are an easy prey to birds and bats, by whose appetite for these insects the number of some that are pests is considerably reduced. The common bat or flittermouse pursues them in the garden paths, also they, with beetles and other nocturnal insects, are specially hunted by the night jar, fern, or churn owl. This bird does not seize insects on flowers, but flies round some tree to which they are resorting. In spite of mimicry many moths are snapped up by sparrows during the day as they are at rest on various objects. Spiders, again, by their exertions capture moths, both stout and slim.—ENTOMOLOGIST.

ROYAL HORTICULTURAL SOCIETY.

JULY 23RD.

SCIENTIFIC COMMITTEE.—*Cypripedium Malformed*.—Dr. M. T. Masters described a curious case received from Messrs. Sander & Co., in which the sepals were normal, but the two petals and lip were absent. The column was erect, terminating with three tabular stigmas, and bearing three petaloid two-lobed imbricating staminodes, on the edge of one of which was an anther. They appeared to represent the three outer stamens. One of the three stamens of the inner whorl was perfect, with a curved filament bearing a two-celled anther. The other two were absent.

Lavandula dentata Foliage.—Dr. Masters also drew attention to a peculiarity in the venation of the lobed leaves of this species, in that the "median" cord of each lobe was not central, but close to one side. From this a cord ran round the sinus, giving the appearance of the cords running from the midrib to the base of the incisions, instead of to the apices of the lobes. It recalled the arrangement in a leaf of the common Hawthorn, but this has median cords as well as cords running to the base of the incisions; or, again, that of the cords in the petals of the Compositæ, which run up between the petals and round the margins of the divisions. A very similar occurrence is in the receptacular tube and calyx-limbs of the Cherry, though here, too, each sepal-lobe has its proper median cord as well. Marginal cords are general in the calyx of *Salvia* and other Labiatae, and appear to be supplied for strengthening purposes.

Æcidium Nymphaeoidis, D.C. —Dr. Ch. B. Plowright forwarded specimens of this parasitical fungus, with the following observations:—"This *Æcidium* has been stated by Chodat to be connected with the *Puccinia* on *Scirpus lacustris*. In November, 1877, *Puccinia scirpi* was found floating in the river Ouse at King's Lynn. During the past winter I found it on the Bulrushes (*S. lacustris*) in the 'Old Bedford' at Earith, Huntingdonshire. On revisiting the spot this July the *Æcidium* on *Villarsia* was met with in great abundance. The æcidial cups occupy the upper surface of the leaves in the form of sufficiently obvious circular yellow spots. After the affected leaves have been removed from the water for a short time the mouths of the cups close by a process of inversion, as if they were immature; but when the leaves become thoroughly dry the cups again open. The *Scirpus* in the immediate vicinity of the *Æcidium* was affected with the uredospores."

Æcidium Chenopodii.—Dr. Plowright also sent specimens of this fungus, with the following remarks:—"In the summer of 1893 Mr. Herbert G. Ward found on the mud flats of Terrington St. Clements, an *Æcidium* on *Suaeda maritima*. Shortly afterwards I met with the same fungus on the muddy shore on the opposite side of the estuary of the Great Ouse, near Babingley Sluice. It was accompanied by uredospores and a *Uromyces* (*U. Chenopodii*, *Duby*) on the same plant. By some botanists this fungus is regarded as identical with *U. salicorniae*, D.C., on *S. herbacea*. Doubtless the host plants are allied, but it does not, therefore, follow that the parasitic fungus is the same. *Salicornia herbacea* grows abundantly in the above-named localities, but hitherto I have been unable to find the *Uromyces* upon it, although it is a British species."

Flies Attacked by a Fungus.—With reference to the specimens brought before the last meeting, it is reported from an examination made at Kew that "the fungus is *Empusa conglomerata*, *Thaxter* (a somewhat rare species), parasitic on Diptera, especially the larvæ and imagines of Tipulæ. Distrib.—Europe and United States. This is the first record for Britain."

Grapes Diseased.—With reference to the samples sent to the last meeting, the following report has been received from Kew:—"The Vines are attacked by a fungus called *Gloeosporium ampelophagum*, *Sacc.*, a well known pest in vineyards. The mycelium of the fungus is perennial in the branches, and passes into the new shoots as they are developed. The first fruits formed by the fungus in the spring are found on the old wood, and the spores carried by the wind or rain or syringing reach the flowers and young fruit; the mycelium also travels along the tissues of the branches into the inflorescence. A mixture of equal parts of sulphur and powdered chalk should be applied to every part of the Vine, dating from the commencement of branch formation until the fruit is set. All shoots that are more or less covered with minute black specks should be cut away and burnt at once, as these are the fructification of the fungus."

Thornless Gooseberry.—MM. Letellier et Fils forwarded from Caen some growing plants of this variety, from which they have issued four kinds, raised by M. Ed. Lefort, of Meaux, France. The usual triple spines were either quite absent, or represented by mere rudiments only.

Potatoes Grown in "Jadoo" Fibre.—Jadoo fibre appears to be peat moss saturated with chemicals. The Potatoes were very clear, clean, and apparently thin-skinned, but small. The Committee could pass no opinion upon their value, as no information was received as to the composition of the material in which they were grown.

Sweet Williams, Sudden Reversion of.—Mr. Cannell sent some trusses, with small jagged-edged petals of a crimson colour, which had appeared among his long-selected beds of Sweet Williams, the margins of the petals being rounded and smooth. The form which on its appearance, is never allowed to set seed, approximated the original wild condition, as described by Gerarde, this being apparently the only known form in his day (1597); but Lawrence (1726) describes many kinds, and observes that similar whole or *self-coloured* forms occasionally appeared. The following are quotations from these two authors:—Gerarde (*Herball*, page 479, A.D. 1597) figures and describes the "Sweete William" as of a "deepe red colour," but gives no varieties of the broad-leaved kind. Lawrence in "A New System of Agriculture" (page 426, A.D. 1726) says:—"There are two or three sorts of this pretty flower; and, indeed, the sorts are almost infinite if you nicely observe the diversity of stripes and colours, and the sportings of Nature even in flowers on the same stalk, there being hardly to be found two exactly of the same sorts, except they prove (as they do sometimes) *self-coloured*. The single ones differ only in the colour of their flowers, some are red and white prettily intermixt; others are mixt with a deep crimson, and from their seeds great varieties have been raised. There is also a double flowering kind of a beautiful red."

ROYAL HORTICULTURAL SOCIETY'S EXAMINATIONS.

HAVING read the remarks in your last issue (page 78) on the "Horticultural Examinations" by "W. D." and "A. D." I quite endorse their ideas. I am now convinced that those who obtain their knowledge from books, and not from practical experience, can, with a good education, answer the questions at the R.H.S. examination much better than practical gardeners who have not had a good education. I know one of the candidates who sat last year and got into the first class, and is holding a good position in gardening. He is a very energetic young fellow, and is never happier than when studying the principles which underlie his work. He sat at the examinations again this year, and only got in the second class, after twelve months' more study and experience. The person I refer to holds certificates from the Science and Art Department for botany and other sciences closely connected with horticulture; this is one of the many proofs that the R.H.S. examination is not as it should be. Market nurseries are advancing by leaps and bounds; young men in these nurseries have not the opportunity of becoming so well versed in the general routine of gardening as the young gardeners in private places. We cannot all get situations in private gardens, neither can we all go to Swanley College, and in many districts there are no horticulture classes.

Market growers as a rule make a speciality of either fruit, flowers, or vegetables, and I know several good men that have been in the nursery trade all their life growing nothing but Grapes, Cucumbers, and Tomatoes; and under the present system of the R.H.S. exams it is almost useless for them to sit. What do they know about hothouse plants and the propagation and culture of alpine? Yet some of them would be proud to obtain a certificate from the R.H.S. to show that they are competent men in this particular branch of gardening. I quite agree with "W. D." that the method of the examinations should be altered to suit all classes of gardeners. The principles in Division A should remain as they are, for on these our work is based, no matter what class of gardening we are employed in. Division B should have a sufficient number of questions on fruit, flowers, or vegetables to allow the candidate to take which branch suits him best. As a candidate sitting at the last R.H.S. exam I do not think the time (two and a half hours) allowed is sufficient. I also sat at the Science and Art exam in agriculture, where the same number of questions had to be answered, three hours being allowed. There are plenty of men who, if they had more time, could put their thoughts in writing much better; and good composition is no doubt a point noticed by the examiners. This is why those at Swanley College have with a better education an advantage over the average gardener of to-day. I think the same as "A. D.," that the students at the above Institution should have a separate examination.

The results! When are they coming? The horticultural papers knew about them before the 16th of July, and yet the students who sat are still in the dark. Has the Society's staff gone for their summer holidays? as I think it is time the candidates knew the results.—A CANDIDATE.

RESULTS OF EXAMINATIONS.

At the suggestion of our contributor we publish the results, and we note that the examiners in their report say that "Considering the opportunities at the disposal of the candidates the results may be considered satisfactory. The effect of continuous systematic training is well exemplified in the class lists. On the other hand, many young gardeners and mechanics who cultivate small gardens and allotments, but who have not had the opportunity of regular tuition and systematic

study, have taken a lower place than they otherwise would have done, because they have failed to grasp the significance of the questions."

MAXIMUM NUMBER OF MARKS OBTAINABLE, 300.

FIRST CLASS.

No. of Marks Gained.	No. of Marks Gained.
1*Miss A. U. Gulvin, Kent ... 260	4. Miss Madeline Agar, Kent ... 215
2 Geo. Butcher, Surrey... ... 240	8. G. H. Cave, Surrey 210
3 Miss F. M. G. Muklethwait, Kent 220	8. W. Bell, Leicester 210
4 C. Brown, Kent 215	10. Ed. Dumper, Surrey 205
4. Miss Alice Hutchings, Kent 215	11. J. K. F. Jack, Surrey... ... 200
4. J. Warner, Surrey 215	11. H. W. Gunston, Norfolk ... 200

SECOND CLASS.

1. John Ettle, Glamorganshire 190	17. R. H. Wedd, Kent 155
2. G. Potter, Surrey 180	21. A. Bowman, Suffolk 150
3. R. G. Lawson, Leicester ... 175	21. R. G. Waterman, Cheshire ... 150
3. G. Cornford, Surrey 175	21. R. D. Ewens, Surrey... ... 150
3. G. Neaves, Staffs 175	21. E. Skelton, Surrey 150
3. H. A. Headley, Surrey 175	21. W. Pickford, Staffs 150
7. J. Rathbone, Surrey 170	21. G. D. Selden, Surrey 150
7. Miss Ethel Brooks, Kent ... 170	21. Miss L. Phillips, Staffs ... 150
7. J. Palmer, Suffolk 170	21. W. C. Pleasants, Norfolk ... 150
7. W. A. Brown, Norfolk 170	21. W. Galloway, Yorks 150
11. W. J. Bales, Suffolk 165	21. T. D. Turner, Devon 150
12. C. Atkyns, Staffs 160	21. Miss E. A. Benians, Kent ... 150
12. D. W. Luck, Kent 160	21. Miss L. Wardle, Staffs 150
12. P. A. H. Radcliffe, Yorks ... 160	21. W. H. Patterson, Essex ... 150
12. W. Pascoe, Hants 160	21. G. Underwood, Kent 150
12. J. S. Mallinson, Kent... ... 160	21. W. Dyke, Herts 150
17. J. Hillson, Yorks 155	21. Miss J. A. Dowson, Essex ... 150
17. J. G. Wilson, Isle of Man ... 155	21. Miss E. A. Pash, Essex ... 150
17. J. J. Sykes, Staffs 155	

THIRD CLASS.

1. W. H. Stevens, Staffs... ... 145	36. W. H. Walker, Surrey 110
2. John Duff, Surrey 140	36. C. Eades, Surrey 110
2. R. Jupp, Surrey 140	36. Miss M. Stuart, Kent... ... 110
2. Edmund Smith, Lanes 140	36. W. Timbers, Surrey 110
5. Miss L. Udall, Kent 135	36. G. B. Savage, Surrey... ... 110
5. C. George, Kent 135	36. H. Pearman, Kent 110
5. A. F. Turner, Kent 135	36. R. Moss, Staffs 110
8. G. E. Bradbury, Staffs ... 130	36. C. Lawrence, Kent 110
8. H. J. Cape, Staffs 130	36. W. Reader, Surrey 110
8. W. Wicking, Leicester ... 130	36. H. Corlett, Cheshire 110
8. William Pye, Staffs 130	48. H. O. Weddell, Surrey ... 105
8. Miss E. Windemer, Kent ... 130	48. A. G. Ewens, Surrey... ... 105
8. A. J. Ward, Surrey 130	48. H. Miles, Surrey 105
8. Miss E. Atkyns, Kent 130	48. J. Gilbert, Surrey 105
15. C. E. W. Garner, Kent 125	48. A. Ashley Broad, Staffs ... 105
15. J. G. Bachelor, Surrey ... 125	48. C. Wingrove, Surrey 105
15. Miss J. S. Dixon, Essex ... 125	48. Miss M. Drewett, Surrey ... 105
15. A. Girt, Surrey... ... 125	48. J. Guy, Herts 105
15. C. Berry, Suffolk 125	48. Isaac Godbeer, Herts... ... 105
15. H. Taphouse, Kent 125	48. Miss E. Clark-, Kent... ... 105
15. M. Tucker, Kent 125	48. J. Barkham, Hants 105
15. R. Bellarby, Yorks 125	48. Miss L. A. Dunington, Kent 105
23. T. Bonner, Surrey 120	60. J. T. Bridges, Yorks 100
23. B. W. Michells, Surrey ... 120	60. H. Cooke, Surrey 100
23. W. P. Selby, Herts 120	60. H. A. Featherstone, Surrey... 100
23. Geo. Sherman, Suffolk ... 120	60. E. J. Bedford, Surrey 100
23. L. L. Dunmall, Surrey ... 120	60. G. A. Jones, Middlesex ... 100
23. C. Cundy, Suffolk 120	60. J. Little, Herts 100
23. P. J. Gray, Leicestershire ... 120	60. Miss A. Geoghegan, Kent ... 100
30. J. T. Newman, Staffs... ... 115	60. A. E. Normington, Herts ... 100
30. R. Kerr, Surrey 115	60. J. R. Clapson, Kent 100
30. C. E. Thomas, Cheshire ... 115	60. S. J. Tomlinson, Essex ... 100
30. Miss E. Morland, Kent 115	60. Miss M. Tomlinson, Essex ... 100
30. A. Baker, Surrey 115	60. F. J. Ashdown, Surrey ... 100
30. Miss M. M. Prior, Kent ... 115	60. W. E. Case, Cheshire 100
36. C. D. Carter, Essex 110	60. Miss H. M. Dixon, Essex ... 100
36. T. Whait, Leicester 110	

* Wins the Society's silver-gilt medal.

NOTES AT CHISWICK.

RIVERS' EARLY FAVOURITE PLUM.

At a meeting of the R.H.S. Fruit Committee held at Chiswick on the 26th ult. attention was drawn to this very precocious Plum growing on a west wall. The tree is a strong grower, and evidently a very free fruiter. The Plums are of moderate size, rather below those of the Orleans, quite round, of a good purple colour, and of a very pleasant flavour. The flesh is soft, brisk, and of a most acceptable nature for the dessert. It is indeed in that respect far before the other best early Plums. The variety is also a freestone. So greatly pleased with it were the members present that they unanimously agreed to recommend it to the Council for a first-class certificate.

STANDARD GOOSEBERRIES.

Mr. Barron drew the attention of the members of the Fruit Committee the other day at Chiswick to standard Gooseberries worked on to clear 4 feet stems of *Ribes aureum*, also to a number of stocks in course of preparation for the same purpose. This *Ribes* is a strong, rapid grower, and stout stems are soon produced. Both Gooseberries and

Currants alike do capitally upon it when worked by grafting. Knowledge of this fact may tend to its wider use for this purpose, and standard-grown bush fruits may in time become far more common than now.

PHLOXES.

In about a week or so the very fine collection of herbaceous Phloxes at the R.H.S. Gardens will be in full bloom. Those who have not previously seen this collection will note with some surprise how relatively dwarf varieties now are to what they used to be a few years since. The collection is a remarkably representative one, and will afford a fine treat to all lovers of this beautiful hardy flower. It would add greatly to the interest attached if there could be plants of each variety from spring-rooted cuttings planted with others from divided roots, to show diverse results.

DWARF BEANS.

There is an excellent collection of these growing just now in the Gardens, the season so far having suited them admirably. The Fruit and Vegetable Committee, at a visit on the 26th ult., awarded three marks to the following varieties:—Naine Nangetout, dwarf early; Vilmorin, a very early and free-podding variety, bearing roundish white seed; King of the Greens, second early dwarf, very green all over, great cropper, seed long, flat, pale green (Vilmorin); Longfellow (Henderson, New York), a very remarkable cropper, beans long, narrow, tender, of delicious flavour, a splendid main crop variety, seed small, long, reddish speckled; also to Butter Bean Beurre Doré naine (Vilmorin), pods good length, roundish, fleshy, and of very pleasant softness and flavour when cooked; it is a heavy cropper also. There is a very interesting trial of Runner Beans also in progress, but not yet ready for examination. There will also be a first-rate trial of Brassicas ready for examination in September.

LETTUCES.

A large trial of these salad plants is also in progress, the Cabbage forms dominating. Taking them as presented, without regard to newness or age, the Committee agreed to give three marks to white Cabbage Lettuce Satisfaction or Salamander (Benary), something after the white Dutch form—a capital true stock; to Grosse Brune Tetue (Vilmorin), a fine copper coloured Cabbage variety, also very true; to Merveille de Quatre Saisons, also large, copper coloured Cabbage form; to Iceleaf (R. Veitch), a handsome white curled Cabbage variety; to Royal Malta (Harrison & Sons), also white, large curled, and good; and to Grey or Romaine Grise, a first-rate Green Cos, remarkably good even stock, that was much admired. This was from Vilmorin, as also was Romaine Ballon, identical with our superb White Cos.

FIGS.

The Fig house just now at Chiswick is well worth a visit by all interested in the house culture of this delicious fruit. Mr. Barron seems to have collected every variety obtainable, and they may be seen growing as hush plants in pots of varying sizes from 8 inches up to 15 inches across. The house is large, light, and airy, also kept very clean. There is not the slightest suspicion of that strong ammoniacal perfume which so many growers of Figs seem to like, but which is so offensive to the olfactory nerves. The plants at Chiswick fruit most abundantly for a very long season. It would be interesting were it possible to learn about what was the market value of the crop taken every year. It is a matter for surprise that every wealthy man who has a large garden does not include a span Fig house amongst his glass after the style of the fine one at Chiswick.—D.

RAISING AND PREPARING VINES FOR PLANTING.

"GROWER" (page 78) remarks in his article on the above subject that he prefers "straw-like Vines" for planting, "provided they have abundance of fibrous roots, to big strong looking canes which have been grown in bottom heat and highly fed."

I agree with him about the necessity of an abundance of fibrous roots; but how can they be obtained in the 3-inch pots in which Mr. Innes grew his Vines till he planted them in August? I would not again have alluded to this matter only I was so much struck with the difference of sizes of pots that "Grower" and Mr. Innes found suitable to producing Vines fit for planting in the best possible condition that I took up the pen to draw attention to this.

Mr. Innes grew his wonderful Vines in 3-inch pots; "Grower" shifts his into 10-inch pots! Surely, if straw-like Vines were in request, "Grower" would not need to have them in 10-inch pots? Imagine the effect! I have no doubt that "Grower's" practice is the correct one—viz., that of growing on the Vines under conditions suitable to the production of short-jointed, well ripened, and abundantly and fibrously rooted canes. I am as much opposed as he can be to grossly fed, badly ripened, and fibreless rooted Vines for planting, but I cannot see that he proves that he approves of straw-like Vines planted out of 3-inch pots. His own practice condemns the 3-inch pot system, for, as before remarked, he grows his Vines finally in 10-inch pots before planting.

I have no doubt that by the end of the season these Vines are abundantly rooted, short-jointed, and well ripened, and just what one might expect from proper culture, very far removed indeed from Vines starved in 3-inch pots till August. "Grower's" remarks on the liberating of the roots when planting, of covering with 4 inches of soil and well watering, are all sound.

One expects Vines grown as described by "Grower" to do well and to start freely into growth. Everything has been done to bring about

that desirable result, but when either semi-starved or grossly fed Vines are planted it is matter for surprise when they immediately produce splendid results. "Grower's" method is a rational and feasible one, but the other two methods are not to be commended.

"Grower," from his own statement, not only commands success, but he deserves it, seeing that he gives his young Vines every chance and plants them in the best possible condition. Nothing but success could be looked for in connection with Vines grown under the rational treatment described by "Grower." I think all will agree on that at least. —JOHN THOMSON, *Clovenfords*.



CHRYSANTHEMUM CULTURE.

[A paper read by Mr. W. G. GILBERT, The Gardens, Sennowe Hall, Guist, to the members of the East Anglian Horticultural Club at Norwich, June 12th.]

ANY man starting to make a name for himself in the Chrysanthemum world must be prepared to forfeit most of his leisure time and to make up his mind for hard work. The cutting is the commencement of labours for the season, but the stools should have had attention before this. One cannot expect to get good cuttings from plants packed away pot thick, as many of us have to do. I generally pick out one of each variety, give them a light place, thin the growths, and by this method a good stock of cuttings is obtained. With varieties that are shy in throwing up, I put one or two cuttings in late with excellent results.

I commence propagating the second week in December, starting with the Teck family and late Japanese, following on with the Queens for terminals or second crowns; the remainder I proceed with as soon as I can get good cuttings, which is not always an easy matter.

Opinions differ as to the mode of rooting. The simple plan I adopt, and have found to answer well, is to place a portable propagating case on the stage of a cool house or in a vinery just started, or in the absence of such a case, then three or four boxes made airtight, with a strip of wood nailed on the inside to form a ledge front and back to lodge the glass on. Other boxes will be required when the cuttings are rooted, to harden them, by tilting the glass at the back for the admission of air for a few days before standing them in the open house.

Almost any light soil will do for rooting purposes, more especially if placed three in a 60-size pot. Sand will help them to root quickly. I usually have one stopper, with a little rough stuff placed on it, fill the pots level with soil and cover with sand, which will run down into the hole made by the dibber for the cuttings to rest on. Make firm, giving them two waterings, but allowing them to get dry before placing them in the box, as they are not then so likely to damp off. Most varieties will root without requiring any more water till they are taken from the close box. As soon as the roots show through, place them in the hardening boxes, which should have the air increased as they get stronger, when they will soon be ready for the first potting. For this I use the soil in which I have grown my Melons in the previous season, with a little leaf mould, decayed manure, and a sprinkling of wood ashes, with a little sand added. Now we have all the soil ready for the first potting, but there are still other cuttings to put in, for I do not believe in taking all at one time. For instance, the cutting of the finest Stanstead White I ever grew was not inserted till February 13th. Vivian Morel, Charles Davis, and several others come best on late-rooted plants.

For the first potting I use a size not larger than 2½ inches, as thereby another shift is obtained before finally placing them in the 6-inch. As the plants take hold of the soil they will require more airy quarters—a brick pit with a little heat to turn on in case of severe weather is the best place for them. I do not like to trust my plants thus early to frames. Some may not have pits; well, then, keep them in a cool house near the glass. Now we come to the second potting. For this I use a sprinkling of bone dust, with the soil rougher than for the previous one. A top spit which has been stacked for some time, with leaf mould and manure added, is the best.

Before potting make sure that the balls are moist, as after potting they will not require any water for two or three days. Place in cool frames and keep close, spraying them occasionally; the weather will be the best guide for the latter. In bright periods three or four times a day will assist them to take to the new soil. When the roots are to be seen at the sides of the pots harden them off, giving all the room possible. If there are a few extra good plants that have filled the pots speedily I give them an extra shift, say into a 24-size pot, for which trouble they will well repay. Some of the Queens will make very fine plants in this way, and I would rather give them the extra potting than the wood become ripened in a 32. Presuming we are in the first week of April, some of the Queens should be stopped; some of them come much better on the second bud. John Doughty comes very rough on the crown bud, but by stopping the plant at this date it will bring second crowns in good time and much better blooms.

Another good method is to select the best growth from the topped plants, taking the other growths away. By this plan you will have a crown bud in good time. Care should be taken to put a stake to the

growth, for if you lose it the plant is lost entirely. About the first week in May is usually as early as they can be trusted outside, and even at this date they must not be without some protection. My plan is to stand them in beds of seven or eight plants wide, so that they can more easily be protected if the weather should turn cold. I have found hurdles very convenient by placing them round the plants in the same manner that sheep are folded; they can be easily matted if necessary.

At this stage of the plants' growth black fly is often very troublesome. Tobacco powder is the usual remedy, but they take a lot of killing. I have found dipping them in a solution of carbolic soap and sulphur, scalded in a small quantity, mixed into about 40 gallons (which will admit of a fairly tall plant being dipped in it), to be very effective. This solution will afterwards come in for Cherry trees. From this point the plants will want well looking after, as they are getting larger and filling the pots with roots, and will get dry enough for watering twice a day. If the weather is at all hot syringing a little before eight in the morning and again before the sun goes off them in the afternoon will be desirable.

It is now time to think of the final potting. Have all pots well washed, crocks ready, bones, oysters, or whatever you intend to crock with; the plants will feed off either when they have filled their pots with roots. An oystershell makes the best stopper, and an 8-inch pot should not have less than 1 inch of bones or pounded shells, with the fine portion sifted and saved for the soil. There is nothing better than pulled-up turf for placing over the crocks. If possible this should have been soaked with liquid manure. For the final potting I do not think there is anything to beat fresh cut turves from a pasture which has been fed by sheep, cut up into about 1½-inch pieces, chopped or broken to the size of small eggs; it will get smaller before it reaches the pots. To five barrowloads of this add one load of dried horse droppings with the straw shaken out, one load of coarse leaf mould, half a bushel of charcoal the size of nuts, half a bushel of wood ashes from green wood, half a bushel of bone dust, a sprinkling of fish guano, and this quantity will pot about 240 plants.

Pot firmly with a wedge stick, making sure that the ball of the plant is moist, but not wet. As the plants are potted stand them pot thick in beds, and if at all windy protect with hurdles and mats. All they will require for two or three days will be frequent syringing. When watering for the first time after potting make sure that the water runs through; and during the time the plants are standing in the beds their next move must be thought of. Have all sticks ready in lengths, and boards to stand them on. Thus time will be saved, which is a most important item just now.

When staking the plants be careful to do so outside the balls, otherwise the roots will be injured. Many growers use three sticks—I prefer one—and loop them. By this plan the growths will get the sun all round some time during the day, whereas if tied to a stick one side is bound to lose the sun. I do not think many growers could have a more exposed situation than mine, which is quite open to the west winds.

If the weather is fine they will be benefited by a dewing over as often as the time can be spared; but great care is required in watering, for if too much is given the soil will turn sour. On the other hand, if not enough the ball will get dry and take a deal of moistening, and the plant will have suffered. Keep a sharp eye on all growths requiring a tie, and have the powder box in readiness for the first signs of fly. Earwigs will also begin to be troublesome, so look out some beanstalks to hang on the plants. About 1 foot or 18 inches is the most useful length to use, and these will generally be found full in the morning, and may then be blown out.

Nothing but soft water will be required till the pots are full of roots; but it is, I know, not always possible to have rain water. In this case it should be made as near as possible to the real liquid by letting it stand in the sun and a small bag of soot applied. If the plants have been well cared for they will now (say this is the first or second week in July) begin to show their roots on the surface. Apply then a little top-dressing, say half an inch. This cannot be used so coarse as advised for potting, though it should not be too fine or fresh laid up or it will soon grow. Some chemical manure is best for mixing with top-dressings.

Most gardeners have a fancy for one of the many kinds of patent manures. Clay's is still one of the best, and I have found Ichthemic guano very good. The end of July is a good time to begin to feed. Start with a little cow manure liquid, quite clear, or it will block up the air passages. Two or three times a week is sufficient thus early. Keep a sharp look out for tying, or a plant may soon be reduced to one or two growths. Sometimes plants will show buds in July.

Some of the best blooms I have grown have been terminals or second crowns. Some growers advise terminals for Stanstead White, but with this variety I prefer crowns from late-rooted plants. As the plants fill their pots the strength of liquids should be increased, and changes constant; alternately, with a liquid, give a sprinkling of manure, Clay's, Thomson's, or Ichthemic. Always be on the safe side, under rather than overdo it, or the wood will get thick and will not ripen. About the 15th of August is a good time to take the buds of the late varieties of Japs, although it would be much too early to take some of them. Many of the incurved give the best blooms from buds taken the first week in September.

I have always found the Queen family come best taken at this date. There is no time like the early morning for this operation, as soon after six as possible. About the end of August is a good time to give the other top-dressing. This time it should be packed up round the rims of the pots, so as to still allow room enough for water to run through the ball. Mildew is often very troublesome about this time, and I do not know

anything better than Calvert's carbolic soap and sulphur scalded. The best way to apply this is with a syringe, using the jet and spraying it with the finger; by this means it can be got up well under the leaves, which is the part most affected, but as prevention is better than cure, I go over the plants occasionally. Keep a sharp look out for earwigs, or they will soon spoil many growths. Early morning and evening is the best time to catch this pest.

Often about the beginning of September we get rather more west winds than is pleasant for the Chrysanthemum grower, so be on the alert, or the loss of a few promising buds will be the result. The first day or two in October is the time I usually get them in. This is one of the hardest jobs of the season, for they must be handled with great care. The Japanese will not require much attention beyond a slight shade; but, as many will not want shading, it is as well to stand them at one end of the house, or use a piece of cotton wool to each bloom.

As the incurved commence to unfold they will require daily attention if you want blooms fit to put on the exhibition board. Pull out all short petals and the seedy centres, or the petals will reflex instead of incurve. If a little time is spent on the blooms now, it will make a deal of difference when cutting and cupping to go on the boards. I had almost forgotten to mention ventilation. I never open the front or bottom lights, as I do not like a current of air passing through.

The Japanese will benefit by the pipes being warm, but the incurves are best dry and cool. If you have any blooms that are a few days too soon, I do not know of any place better than an exhibition cupboard, for I have kept them several days in this way. To those that are wanting new cups and tubes, I can speak highly of the Springthorp for Japanese.

LILIUM PARVUM.

ONE of the most attractive of the small-flowered Lilies is the Californian *Lilium parvum* (fig. 16). It has stems usually 2 feet high, but when very strong it sometimes greatly exceeds that height, though in its native state it is frequently not more than 1 foot high, so that it must be considered as one of the dwarfiest Lilies grown. The flowers are small, open, and nodding; yellow or orange, varying somewhat in tint, and with numerous small dots on the perianth divisions. Like other Lilies it requires to become well established before it develops its best characters, and for a time after planting the bulbs only weakly growth need be expected. When, however, it has taken to the soil, and the situation is favourable—moist without being wet, and moderately sheltered—it will grow rapidly. In contrast with *L. auratum* or *L. lancifolium*, such small-flowered species as *L. parvum* cannot claim a great amount of attention, but the graceful habit and bright flowers render it a favourite in gardens whenever it is well grown.

PETUNIAS IN POTS.

THOSE who have appliances, skill, and time prefer to grow plants that become more valuable as they increase in bulk, and for greenhouse work indulge in specimen plant-growing more or less, and for such many valuable hard and softwooded plants exist in plenty. Those who lack the appliances, skill, or the time to devote to certain plants are equally well provided for, especially in the way of easily grown Pelargoniums, Begonias, Petunias, and other showy decorative kinds. Petunias, like Zonals, are not subject to any insect pest, and that is a great point in their favour. Another is that they are continuous bloomers, unless by sheer starvation they be stopped. Easily propagated and easily grown, showy and highly useful either as small decorative plants, as large specimens, or as screens, they have many points in their favour.

For early summer work, to come in after the Azaleas, the Hyacinths, and Tulips have gone, autumn is the best time to root them. For soil, ordinary potting mould such as we use for Roses, Fuchsias, and Pelargoniums will do, only it should be open, so that the delicate roots may move freely. A good admixture of flaky leaf soil secures this.

For many decorative purposes the brightly coloured doubles are best. In order to have such well furnished it is necessary to begin pinching and staking from the very first. When these are wanted large for conservatory decoration it is necessary to go on pinching continually and removing the blooms till these are wanted. The shoots should never be allowed to grow into each other, as the leaves are very sticky and the stems very brittle. For doubles the bush form is best, and there is no excuse for having the plants not covered with bloom from the pot upwards. It is only a question of feeding and pinching.

The singles are far best on flat trellises and make capital floral screens—better than anything else that could be named, perhaps, for covering back walls or shutting out unpleasant views. For this purpose trellises made of a stout galvanised wire to form the circumference; and galvanised wire netting, such as is used for poultry runs, if neatly manipulated is as good as anything. These stout stakes with protruding ends to insert in the pots give the necessary rigidity. According to the positions they are to fill they may be made with a surface of from 10 to 30 square feet.

It is very easy to cover such a surface with leaves. A few growths trained round and round the trellis will do that; but the sole beauty of the Petunia lies in the mass of colour they present when well grown. To succeed in having an unbroken sheet of bloom all over the trellis

from the pot upwards pinching must be commenced when the plants are not over 3 inches high, and every shoot must have the point taken out when it has grown from 2 to 3 inches. If this treatment is persevered in, and a proper distribution made of the resulting shoots, there will be at least one growing flowering shoot for every square inch on the trellis.

Petunias must not be placed in too large pots or in greasy mixtures that are supposed to be rich. For decorative plants 4 or 5-inch pots are sufficient, and to maintain the supply repeated batches can be brought forward. When young and vigorous too rich soil causes a too rapid growth, and the flowers, especially those blotched with white, are muddy in colour. Moderately grown the purity of the white is untarnished,



FIG. 16.—LILIUM PARVUM.

and its proportion is greater than when too great vigour is maintained. Moreover, under such conditions the plants do not become so ungainly in appearance.

After flowering for some time, however, signs of exhaustion show; the growths fail to lengthen, the leaves turn sickly yellow, and flowering fails. This should be anticipated and prevented by judicious applications of liquid manure. For sitting-rooms nothing equals nitrate of potash. It is cheap, a first-rate stimulant, and gives out no evil-smelling or unwholesome gas. In glass houses not adjoining living-rooms, guano water, or any stimulant made from animal manure or soot, is good, none being cheaper, because taking neither money nor time, than weak sewage or urine, and none is more satisfactory. Judiciously applied such feeding will keep Petunias growing a whole summer in pots apparently far too small.

Large plants on trellises of course require larger pots, but "the more hurry the worse speed" if it is tried to get up large plants quickly by giving large shifts into rich soil. Petunia roots do not take well with such, and greater progress will be gained by giving small shifts, using sweet open material enriched either beforehand—that is, by loam enriched long before use—or at the time with only very fine bone-meal or Clay's manure. An 8-inch pot will sustain a densely covered

trellis of 12 square feet, a 10-inch 20 square feet, and a 12 over 30 feet. Strong-growing varieties should be used for the larger plants, smaller growers for the lesser size.

And what an ado about a plant that grows everywhere like a weed ! It grows much too well, and hence it is neglected or half grown. As too often seen Petunias are not half or quarter the ornaments they ought to be. In one case they are grown strongly and the colour ruined ; unpinned, and few blooms the result. In another they are starved and unsatisfactory. When properly grown they are green and neat before blooming, and solid with colour when in bloom.—S.

NOTES FROM HARTHAM PARK.

HARTHAM is the well-known Wiltshire seat of Sir J. Dickson-Poynder, where good all-round gardening is done under the able superintendence of Mr. W. J. Welch. Fruit, plant, vegetable, and flower growing have to be carried on to meet a large demand. A particular feature is the flower garden which faces the mansion, and is viewed with great advantage from the higher elevation of the lawn, or from the sloping banks surrounding it. The beds are arranged for displaying a mass of colour in varied tints, some of the largest of them being planted with small groups of Violas. Ivy-leaved Pelargoniums and other taller growing plants have a groundwork of the creeping Antennaria. Begonias of a good strain are making a fine show, but the dry weather and the necessary frequent waterings make the flowers short-lived. Carpet bedding until this season was extensively carried out, but as in so many other gardens it has given place to a freer and less conventional style, and the change is more agreeable to the taste of the owner, and affords the gardener some measure of relief. New tennis lawns have to be made, and there is in course of erection a handsome structure for tennis playing in wet or unfavourable weather, which will add greatly to the attractions of the place.

Great changes have been effected in the vineries and Peach houses. The Vine roots have been lifted, old soil removed, and new brought in, the borders being reduced in width at the same time, and the results are highly encouraging. Peach and Nectarine trees were subject to an early leaf-fall, and the wood consequently never became properly developed or ripened. An examination of the borders proved the necessity for dealing thoroughly with this in the same manner as that of the Vine borders—namely, a removal of the old and bad subsoil, proper drainage, and a renewal of the borders with turf, burnt refuse and lime. Although entirely lifted the trees are carrying a fair crop of fruit, and the growth is much improved. Some young Nectarine trees planted three years since ripened a splendid crop in the early house. These are worked on 6 feet stems to suit the house—which is unusually lofty, as also are the principal vineries and conservatory.

In the latter are some very fine specimen Ferns, particularly *Adiantum farleyense* and *A. trapeziforme*; the first named has a spread of fronds quite 6 feet across. The roof is supported by strong angled pillars, which are utilised for training creepers of various sorts, the stages being replenished with plants in flower according to season. The back walls are neatly furnished with *Ficus repens* and *Asparagus plumosus*. Decorative plants such as *Crotons*, *Dracenas*, *Palms*, *Caladiums*, *Coleus* and *Pandanus*, among others, are grown largely. In smaller houses and heated pits *Eucharis* and *Malmaison Carnations* are at home, the latter enjoying a house to themselves, some two hundred or more plants being in flower at the time of my visit, quite free from disease or blemish of any kind.

Melons are found to do best in pots plunged, so that the roots can pass through the drainage into the bed. When grown on manure beds the plants become so strong that setting could not be depended on, nor freedom from disease and gumming assured. Under the present course of treatment the plants succeed admirably and carry heavy crops.

The fruit and vegetable gardens are kept separate and enclosed within moderately high walls. One of these with a south aspect has been planted with cordon Pears in some of the leading kinds, and although the season has been so bad for newly planted trees, not one out of the seven dozen has failed, but all are making wonderfully good and healthy growth. A border was made 3 feet in width, drained, thickly mulched after planting with straw litter, and watered as often as was considered necessary during the summer drought ; the trees are alike creditable to the gardener and nurseryman who supplied them.

There are many points of interest to be noted at Hartham, but I must not encroach on your valuable space beyond mentioning the *Chrysanthemums*, which are grown to the number of five hundred for the conservatory, some as bush plants, others for large specimen blooms. They give promise of a fine display in November and the succeeding months.—W. S.

HORTICULTURAL SHOWS.

NEWCASTLE-ON-TYNE.—JULY 24TH.

THE Durham, Northumberland, and Newcastle-on-Tyne Incorporated Botanical and Horticultural Society held its summer show on Wednesday, Thursday, and Friday last in the Recreation Ground (North Road), Newcastle. The weather was most inauspicious, and the Society deserves the sympathy of the public in its unfortunate predicament. The receipts are £500 less than they were last year. The first day the receipts were higher than the same day last year, but the second and third days

were a perfect deluge of rain, and it is in the memory of no one that an exhibition of this character was ever held under more unfortunate circumstances. The Society intends to appeal to the public for support in its disaster, and it is hoped, as on a previous occasion, a generous response will be made to the call. In addition to flowers, excellent music, four-in-hand coach racing, tandem racing, and horse jumping were held, which all promised us extra attractions to aid the Society materially in the funds. The locale of the exhibition is well adapted for a show of this character ; it is easy of access, and joins the well known historic town moor.

The show this year had some unusual distinguishing features about it. Although the competition was not so keen as we have seen in some of the classes, and more particularly in the plants, the show was on the whole an excellent exhibition, the groups being a very attractive feature. The fireplace decorations were also new, and took well with an admiring public. The Roses and table decorations formed a unique exhibition in themselves, as the Queen of Flowers, being staged at its very best, was excellent in form, freshness, colour, and shape. The table decorations, including epergnes and bouquets, occupied the whole of one tent to themselves, and for an artistic effect would be hard to beat, for the most fastidious critic could scarcely find fault with the happy combination of flowers in perfect good taste, form, and symmetry.

In the A division, for a group of miscellaneous plants occupying 250 square feet, Mr. J. McIntyre, gardener to Mrs. Gurney Pease, Woodside, Darlington, was first with an arrangement that was perfect in its entirety. Little hillocks of virgin cork, with Palms, Orchids, Anthuriums, Ferns, and every choice flower were arranged so as to make a *tout ensemble* of floricultural wealth and artistic skill. For a group of miscellaneous plants, not occupying more than 150 feet, Mr. J. Wood, gardener to Ed. Hopper, Esq., Riverside, Morpeth, was first. The arrangement was effective, and included many of the well-known choice plants from Riverside. For six plants in bloom, Mr. J. Nicholas, gardener to the Marquis of Zetland, Aske Hall, Richmond, was first with *Stephanotis floribunda*, *Dipladenia boliviensis*, *Clerodendron fallax*, *Erica ventricosa*, *Bothwelliana*, *Allamanda grandiflora*. For six Ferns the same exhibitor was also first. Mr. Jas. McIntyre and Mr. J. Wood were first and second for well-furnished *Crotons*, and for *Dracenas* they were second and first respectively. In the class for Alpine rock plants, pots of *Sempervivums*, and table plants, Messrs. J. Richardson and J. McIntyre took the premier position, the latter for table plants only.

Cut Flowers.—Roses.—These were, as we have before mentioned, a feature of the exhibition. Messrs. Harkness & Sons, Bedale, Yorkshire, were first in the forty-eights for a charming collection. The prominent flowers were Marie Baumann, Duke of Fife, E. Y. Teas, Lord Dufferin, Mrs. John Laing, A. K. Williams, Duke of Edinburgh, Merveille de Lyon, Her Majesty, Comte Raimbaud, François Michelin, Comtesse de Nadaillac, and Louis Van Houtte. For thirty-six Roses Messrs. J. Cocker and Sons, Aberdeen, were first, the collection being very good. The best flowers were Her Majesty, A. Colomb, C. Testout, E. Y. Teas, White Lady, Victor Hugo, Duke of Wellington, and La Fraicheur. For twelve yellow Roses D. & W. Croll were first with Marie Van Houtte.

For eighteen bunches of herbaceous flowers Messrs. J. Cocker & Sons were first, the collection being most interesting, and comprised the following :—*Delphinium* Lord Balfour, *Alströmmeria aurantiaca*, *Campanula latifolia*, *Galega officinalis alba*, *Lilium pardalinum pumilum*, *Delphinium Agamemnon*, *Helianthus japonicus*, *Erigeron Oliverianum superbum*, *Centaurea macrocephala*, *Gladiolus Colvilli alba*, *Lilium pardalinum*, *Chrysanthemum grandiflorum*, *Oenothera insignis*, *Alströmmeria pulchella*, *Gaillardia maxima*, *Lychnis chalcidonica*, *Lilium longifolium*, and *Erigeron speciosus*. Pansies, Pinks, and Carnations were also well shown. The prizetakers were Messrs. Campbell, Flowdy, and Arkless. For twelve trusses of cut flowers Mr. J. Nicholas was first with *Dipladenia boliviensis*, *Nerine Fothergilli*, *Disa grandiflora*, *Cattleya gigas*, *Anthurium Andreanum*, *Lapageria alba*, and *Cypripedium Lawrenceanum*.

Table Decorations were of an unique and interesting character. The bridal bouquets were most charming, as well as hand bouquets and epergnes ; baskets were also good, Messrs. Perkins & Sons, Coventry, winning the principal prizes in each class. Amongst local exhibitors Mr. Edmondson, Newcastle, Mrs. Summers, Sunderland, and Mr. Battensby, Swalwell, did well.

Fruit.—For eight dishes of fruit Mr. J. McIndoe, gardener to Sir J. Pease, Hutton Hall, Guisborough, was first. The collection contained a large bunch of *Musa Cavendishi*, Black Hamburg, and Muscat of Alexandria Grapes, well finished and of good size ; Black Tartarian Cherries, Humboldt Nectarines, Violette Hâtive Peaches, and Transparent Gage Plums. For four dishes Mr. McIndoe was also first with good samples of Gros Colman and Muscat of Alexandria Grapes, Bellegarde Peaches, and Humboldt Nectarines. Mr. Tullett, gardener to Lord Barnard, Raby Castle, was first for a Pineapple. For four bunches of Grapes Mr. Geo. Marr, gardener to F. C. Arkwright, Esq., Thorneyholme, Clitheroe, Lancashire, was first with Black and Muscat Hamburg, well finished and of good size in the berry, Mr. Tullett and Mr. Hunter, gardener to the Earl of Durham, second and third respectively. For two bunches of white Grapes Mr. J. McIndoe was first with Muscat of Alexandria, and for two bunches of black Grapes Mr. Hunter was first. In the Melon class Mr. McIndoe was first for white, green, and scarlet-fleshed, as well as for Peaches, Nectarines, Cherries, and Tomatoes. For Strawberries Mr. Nicholas, gardener to the Marquis of Zetland, was first.

The nurserymen's exhibits, which were very numerous, added con-

siderably to the effect of the Show, and made a very good substitute for the other classes where competition had not been so keen. The Begonias staged by Messrs. J. Laing & Sons, Forest Hill, London, were a fine collection, and elicited the praise of every passer-by. Messrs. Wm. Fell & Co., Wentworth Nurseries, Hexham, had a magnificent stand of Coniferae in pots. The exhibit also included Roses and herbaceous plants. Messrs. J. Robson & Sons, Hexham, had also a fine group of Coniferae. Messrs. W. & J. Birkenhead, Sale, Manchester, exhibited a collection of Ferns suitable for greenhouse, stove, and general house decoration. Mr. Brownhill, Sale, Manchester, exhibited a stand of the well known Chrysanthemum Tricolor, in a variety of named flowers, that elicited much admiration. The following also had exhibits of special merit—Messrs. M. Campbell, Auchinraith, Blantyre, N.B., Carnations; Wm. Colchester, Ipswich, Palms; and M. Cuthbertson, herbaceous flowers.

Mr. Jas. Douglas, Edenside, Great Bookham, Surrey, made a fine display by exhibiting all his prize named Carnations. Messrs. W. F. Gunn & Co., Sunderland, exhibited a choice collection of herbaceous plants, with interesting gardening requisites. Mrs. Hodgkins, Didsbury, Manchester, extraordinary specimens of knowledge in botanical anatomy. Mr. Septimus Pye's (Catterall, Garstang) collection of Pansies and Violas were of extraordinary merit, and this is the least can be said in their favour; the same words apply equally to Messrs. Laing and Mather's (Kelso) Carnations. Messrs. J. Cocker & Sons, Aberdeen, staged Roses and a fine collection of herbaceous plants. Messrs. Kent and Brydon, Darlington, showed Coniferae, Palms, and herbaceous plants. Messrs. W. Harriman & Co., Blaydon-on-Tyne, sent a collection of artistic pottery.

The luncheon was held in an adjoining tent, presided over by the President, W. A. Watson Armstrong, Esq., J.P., Craggside, Rothbury, who was supported by the Mayor of Newcastle and several councillors. In the speeches a most graceful allusion was made to the late Lady Armstrong as a great patroness of horticulture, and an ardent and substantial supporter of the Newcastle Flower Show. The Secretary, Mr. James J. Gillespie, jun., B.A., LL.B., and the ardent and enthusiastic Committee received a high compliment for their indefatigable energy in endeavouring to make the show a great success and representative of the horticulture of the district.

CATERHAM.—JULY 24TH.

CATERHAM is situated in a beautiful district of Surrey, one portion of the town being on a high elevation known as the Hill, the other being in the charming valley. There are many good gardens and able gardeners in the district, and provincial shows of considerable magnitude and diversity are provided annually. The last, the seventeenth, was held in the grounds of Caterham Court, by kind permission of R. H. Salman, Esq., and was quite equal to its predecessors.

As in many other exhibitions, mixed groups were the principal feature of the plant classes, the prizes for the larger arrangements falling in the order named to Mr. C. Lane, gardener to C. E. Coles, Esq.; Mr. Brand, gardener to S. Warren, Esq.; and Mr. T. Pearman, gardener to Mrs. Horne; for fresh and pleasing associations of flowering and foliage plants. In the smaller class the successful exhibitors were Mr. H. Culham, gardener to D. Birt, Esq.; Mr. C. Cawley, gardener to W. Tidy, Esq.; and Mr. T. Russell, gardener to C. H. Sharpe, Esq. In the other plant classes Mr. Culham had excellent Begonias, Mr. Lane Palms and flowering plants, and Mr. Wyatt, gardener to J. Perry, Esq., very fine Achimenes. Table plants from Messrs. Lane, Brand, and Garlock were neat and bright, cut stove and greenhouse flowers splendid, especially from Mr. Wyatt, but stands of hardy herbaceous plants had to be disqualified for containing Spiræas, which are not "herbaceous" any more than Roses are. Garden or border flowers are much better terms to employ in classes of that nature.

Though very good fruit was shown, especially by Messrs. Pearman and Lane, who won prizes for collections and for Grapes, vegetables constituted the strong point of the show. They were staged in admirable condition by many exhibitors, only a point or so dividing the prizewinners in the chief classes. For a collection of six "sorts" (kinds) there was splendid competition, Mr. H. Summers, gardener to T. B. Winter, Esq., winning with Potatoes, Peas, Dwarf Beans, Vegetable Marrows, Onions, and Tomatoes. Mr. J. Eason, gardener to G. H. Glamman, Esq., and Mr. J. Wyatt closely following. Mr. C. Papworth, gardener to J. Lyon, Esq., Riddings Court, won the first prize in another class for six kinds with Potatoes, Peas, Onions, Scarlet Runners, Turnips, and Vegetable Marrows, followed by Mr. Culham. In a class for nine kinds Mr. Wyatt was placed first with Cauliflowers, Carrots, French Beans, Onions, Peas, Potatoes, Tomatoes, Turnips, and Vegetable Marrows, Messrs. Papworth and Wood following in dangerously close proximity. Many other classes could not be noticed, and it must suffice to say it was one of the best vegetable shows of the year.

Table decorations made a pleasing display. The lady judges gave the first prize for a pretty but somewhat conventional display of Cornflowers and Ferns tastefully arranged by Miss Daisy Aubrey; assigning Mrs. W. Soper the second position with a free and charming study in pink Carnations and Smilax.

Miscellaneous exhibits of plants by Mr. Sedgley, cut flowers by Messrs. J. Peed & Son, and a mixed group by Messrs. J. Laing & Sons, all meritoriously added greatly to the general effect, and the officials are to be congratulated on the success of their endeavours in providing a show worthy of the district in which it was held.

PRESCOT.—JULY 25TH.

HAD the weather been fine on Thursday last the ancient town of Prescott would have been thronged with multitudes of people wending their way to Knowsley Park, kindly placed at the disposal of the Committee by Lord Derby, the occasion being the eleventh annual show in connection with the Prescott Horticultural Society. But, alas! the rain came down in torrents, and what is always looked on as a red letter day was shorn of many attractions. To those who braved the elements the treat provided in the excellent collection of plants, fruits, and vegetables brought together could not fail to please, for steady progress has marked the Prescott Society's career, and now it holds the proud position of being second only in the district to Liverpool itself, and the loss which is certain to be felt will no doubt be cheerfully made up by some of the leading gentry in the district.

For a group of plants, 100 square feet, Mr. J. Bounds, gardener to A. L. Jones, Esq., Oakfield, Aigburth, was a good first with a light and charming arrangement; Mr. H. McFall, gardener to E. C. Leventon, Esq., Roby, second; and Mr. R. Pinnington, gardener to Mrs. Banner, Blacklow House, Roby, third. For six stove and greenhouse plants Mr. Pinnington was first, having *Cycas revoluta*, *Croton Queen Victoria*, and *Statice profusa*, fine. Mr. Bounds came second, his best plants being *Ixora salicifolia* and *Statice profusa*. Mr. McFall third. For four greenhouse plants in flower, six Ferns, and two Lilliums, Mr. Pinnington again scored. In the former class a superbly flowered *Bignonia grandiflora* formed a centre of attraction, being considered the best flowering plant in the show. The second positions were taken by Messrs. Blythian, gardener to Mrs. Baxter, The Towers, Rainhill; E. Gray, gardener to Alderman C. J. Bishop, St. Helens, and H. McFall.

Gloxinias, Coleus, Begonias, Cockscombs, and Petunias were examples of thorough cultivation, the prizetakers being Messrs. W. Lyon (gardener to A. Mackenzie Smith, Esq., Bolton Hey, Roby), W. Gibbs (gardener to G. T. Crippen, Esq., Roby), E. Gray, and H. McFall. Zonal Pelargoniums and Fuchsias were splendid, Messrs. Gray and Blythian being the winners.

A five-guinea challenge cup was offered for eighteen cut Roses, distinct, to be won twice in succession. This has been accomplished by Mr. James Berry, a noted amateur, and the cup therefore becomes his property. A strong opponent this year was Mr. Wm. Rigby. The same exhibitor won with twelve cut Roses and a basket of blooms arranged for effect. For six Mr. F. W. Halsall won. Other cut flowers were well shown. Mr. T. Eaton, gardener to Jno. Parrington, Esq., Roby Mount, Roby, had a good stand of twelve outdoor flowers; Messrs. J. Yates, J. Helsby, Wm. Rigby, and J. Pownall winning for Dahlias and Pansies.

The fruit made an imposing display, Mr. W. Oldham, gardener to Joseph Beecham, Esq., Ewanville, Huyton, winning the four dishes with grand Buckland and Black Hamburg Grapes and a fine Bearwood Scarlet Melon and Peaches. Mr. R. Pinnington was second with Black Black Hamburg Grapes, Countess Melon (fine), and good Crimson Galande Peaches, and Lord Napier Nectarines. Mr. Oldham won with green and scarlet flesh Melons; Mr. Pinnington with superb Lord Napier Nectarines; and Mr. J. Stephenson, Woolton Hall, with good Royal George Peaches. The Grapes were of splendid quality, Mr. Oldham winning with Black Hamburg and any other white with grand Buckland Sweetwater. Mr. J. Barker, gardener to J. W. Raynes, Esq., Rock Ferry, was a close second in the former class, and won with Madresfield Court. Mr. E. Blythian secured prize for Muscats, and took two seconds. Other miscellaneous fruit was very fine.

Vegetables are always here of the finest condition, Messrs. Joseph Rainford and S. Case excelling themselves. For French Beans and three dishes of Tomatoes Mr. W. Lyon was successful with good examples; and Mr. H. McFall for four dishes of Potatoes. Mr. Robert Rigby, the genial Secretary, Mr. Jno. Young, the President, and the energetic Committee do their work in a thorough manner.

TRENTHAM.—JULY 25TH.

THE eighth annual exhibition of the Trentham and Hanford show was held on the date named in the beautiful grounds of Trentham, kindly lent by His Grace the Duke of Sutherland. This show is undoubtedly one of the best in the kingdom, and on the present occasion was in every respect a good one, and great credit is due to Mr. Peter Blair and the Hon. Secretaries and Committee for the excellence of the arrangements. Unfortunately the weather was very showery. A violent storm broke over the ground; but subsequently the day improved, and visitors came in large numbers, so we trust the financial part proved as successful as the show deserved. Groups of plants arranged for effect are always good here; we question if at any show they have been excelled. The competition was very keen, and fine arrangements were displayed.

GROUPS OF MISCELLANEOUS PLANTS.—These were arranged for effect in spaces of 300 square feet. The grand prize of £20 and silver cup value ten guineas was worthily awarded to Mr. Edmonds, gardener to His Grace the Duke of St. Albans, Bestwood, Notts, for an imposing group containing many novelties well and evenly balanced, the colours of the various plants being well studied, producing a charming effect. Second, Mr. Roberts, gardener to C. H. Wright, Esq., Halston Hall, Salop, for a group beautifully arranged, but lacking the good qualities of the former (prize £20). Third, Mr. Mee, Sherwood, Notts, whose group contained many good and well grown novelties, but was a trifle too heavy (prize £13). Fourth, Mr. Finch, Coventry, who ran the third prizewinner very close indeed. These magnificent groups made a show in themselves.

ROSES.—Of these there was a wonderfully fine display, although the flowers in some of the stands showed the effects of the late storm; yet some magnificent blooms were staged. The competition was very keen indeed. For forty-eight distinct single blooms there were five entries. Messrs. Dickson & Sons, Newtownards, Belfast, were first with a grand exhibit, the following being the principal flowers:—Charles Lefebvre, Mrs. Laing, Horace Vernet, Dr. Andry, Her Majesty, A. K. Williams, Marie Baumann, Duchess of Bedford, Captain Hayward, Earl Dufferin, Senateur Vaisse, Marchioness of Downshire, Marchioness of Londonderry, Marchioness of Dufferin, Jeannie Dickson, Lady Shepperd, Gustave Piganeau, La France, Général Jacqueminot, J. S. Mill, and Victor Hugo. Second, Messrs. Perkins & Sons, Coventry, with fine blooms, as were those of Messrs. Harkness of Bedale who obtained the third prize.

Thirty-six distinct blooms (seven entries).—Messrs. Harkness were placed first with splendid blooms, conspicuous being A. K. Williams, Gustave Piganeau, Alfred Colomb, Madame Eugène Verdier, S. M. Rodocanachi, Comte Raimbaud, Maréchal Niel, Dr. Andry, Comtesse de Nadaillac, Louis Van Houtte, Victor Hugo, E. Levet, Charles Darwin, Merveille de Lyon, Marie Rady, Rosieriste Jacob, Earl Dufferin, Duchess of Edinburgh, Star of Waltham, and Marchioness of Londonderry. Second, Messrs. Dickson & Son, Newtownards; third, Mr. Mount of Canterbury, both exhibiting well.

Twenty-four varieties, three blooms of each (six entries).—First, Messrs. Dickson & Sons, Newtownards, for a fine stand; second, Perkins and Sons, Coventry; third, Prior & Sons, Colchester. In another class for twenty-four blooms the prizes were won by Messrs. W. H. Drew, Ledbury; W. Boyes, Derby; and Dr. Budd, Bath, who were also successful in the same order with twelve blooms. Twelve Teas or Noisettes, three blooms of each.—Here again Messrs. Dickson & Sons were successful. Second, Messrs. Prior & Sons; third, Mr. Mount. For eighteen distinct Teas or Noisettes the prizes fell to Messrs. Prior & Sons, Mount, and Cocker, Aberdeen, in the order named, all showing well.

With twelve single blooms of any dark variety—first, Messrs. Dickson and Sons, for Earl of Dufferin; a splendid stand. Second, Messrs. Townsend & Sons, with A. K. Williams. Third, Messrs. Croll, Dundee, with Duke of Edinburgh. Twelve blooms, any light variety.—First, Mr. Mount, Canterbury. Second, Messrs. Prior & Sons. Third, Messrs. Perkins & Sons. All showing Mrs. Laing, in superb condition. Twelve blooms of any variety.—First, Messrs. Harkness & Son, with Alfred Colomb. Second, Mr. Mount, with Ulrich Brunner. Third, Messrs. Dickson & Sons, with Auguste Victoria. Arrangement of Roses in space 12 feet by 5, Ferns and Palms allowed.—First, Messrs. Jenkinson and Sons, Newcastle, Staffs. Second, G. P. Gell, Esq., Wirksworth. Third, C. J. Mee, Nottingham, with pleasing and tasteful displays.

Bouquets, buttonholes, and stands of cut flowers for table decoration were well shown, Mrs. P. Blair, Trentham Gardens; Mr. Jones, Shrewsbury; Mr. Pyatt and Messrs. Jenkinson & Sons being the successful exhibitors. Hardy border flowers were splendidly shown by Messrs. Harkness & Sons and Mr. Mount, who secured the prizes in the order named.

FRUIT.—The Trentham shows have become famed in this department, and the best men know that they must stage in the best possible manner to obtain a share of the honours. In the collection of fruit, nine varieties, Mr. Reynolds, Gunnersbury Park Gardens, Acton, was first with Madresfield Court and Muscat of Alexandria Grapes, Queen Pine, Hero of Lockinge Melon, Lord Napier and Pineapple Nectarines, Brown Turkey Figs, and Moir de Schmidt Cherries, all alike fine, and a grand exhibit; Mr. Gleeson, however, followed very closely with excellent Muscat and Black Hamburg Grapes, a heavy Pine, huge piece of Banana, two dishes of Peaches, Nectarines, Melon, and Cherries. Mr. Goodacre third with good Muscat Hamburg and Muscat Grapes, fine Peaches, a Melon, Pine, and a very fine dish of Black Circassian Cherries.

In the six-dish collection Mr. Reynolds was again first with fine Madresfield Court and Muscat of Alexandria Grapes, Hero of Lockinge Melon, Goshawk Peaches, Pineapple Nectarines, and Bigarreau and Napoleon Cherries. Mr. Bannerman, gardener to Lord Bagot, was a good second with Black Hamburg and Foster's Seedling Grapes, a good Melon, fine Peaches, and Nectarines, and a dish of Strawberries. Mr. Elphinstone third with Black Hamburg and Foster's Seedling Grapes, Melon, Peaches, and Nectarines. The fruit in both the nine and six-dish collections was all of high merit, reflecting great credit on all the exhibitors.

Grapes.—The prizes in this section were keenly contested, and well won by the several exhibitors. For four bunches of Grapes not less than two varieties, Mr. Craven, gardener to J. Grant Morris, Esq., Allerton Priory, was first, staging fine Madresfield Court and Black Hamburg Grapes, two bunches of each. He also took the special prize offered by Messrs. Dickson, Brown & Tait for the most meritorious exhibit of fruit in the show with these Grapes. Mr. Reynolds was a close second with similar varieties. For three bunches of Black Hamburg Mr. Bates, gardener to J. T. Harris, Esq., was first, staging splendid bunches perfect in form and finish. Mr. Craven was a good second with fine bunches, good berries, and well coloured. For any other black Grapes Mr. Craven was first with three very fine bunches of Madresfield Court, with large berries, and quite black, taking also with these Grapes Messrs. Dickson & Robinson's special prize for the three best bunches in the show. Mr. Reynolds was a good second, and Mr. Allsop third. The Muscat of Alexandria class was not represented. For three bunches of any other white Grape Mr. Allsop was first, staging beautifully finished Buckland Sweetwater. Mr. Craven was second with Foster's Seedling.

For a dish of Peaches Mr. Blair was first with very fine examples of Violette Hâtive; followed by Mr. Gleeson, with almost equally good specimens. For a dish of Nectarines Mr. Blair was first with very fine Lord Napier. Cherries were well shown, Mr. Goodacre taking first with a grand dish of Belle Magnifique. Second, Mr. Wallis with Bigarreau Napoleon, also very fine. Altogether it was a grand exhibition of fruit, all the classes being well contested, with the exception of Muscats, and generally considered to be the best that has been held at Trentham.

VEGETABLES.—These were admirably shown, but we can only say that the Society's chief prize for a collection, also Messrs. Sutton and Sons' prize, was won by Mr. T. Wilkins, Inwood House Gardens; and that the cottagers acquitted themselves in a most creditable manner. The same exhibitor also secured Messrs. J. Carter & Co.'s and Messrs. E. Webb & Sons' special prizes.

MISCELLANEOUS EXHIBITS.—Messrs. James Veitch & Sons, Chelsea, contributed a grand collection of plants beautifully arranged, for which they received a gold medal; Cannas, Caladiums, Carnations, Begonias, Streptocarpus, Rhododendrons, Nepenthes, comprising the best varieties shown in the best condition, making a very imposing display. The same firm likewise contributed a remarkable collection of Gooseberries, about forty sorts, Cherries, and Currants. These were shown in neat trays about 1 foot square. They also showed cordon varieties of Gooseberries laden with fruit, also a good collection of herbaceous cut flowers, Roses, and a fine collection of Phloxes. This was one of the most diversified exhibits ever seen, and well merited the high honour accorded.

Messrs. Sander & Co., St. Albans, were also worthily awarded a gold medal for a collection of new and rare plants, conspicuous amongst them being Dracenas Sanderiana and Godseffiana, the former a grand specimen 5 feet high, nearly as much through; Alocasia Sanderiana and A. Watsoniana, several new Begonias, including Duke of York, a hybrid between A. Mallet and corallina; Duchess of Sutherland, very distinct; Sanders' Masterpiece, and others; Cattleya Leopoldi, Sanders' var., very fine indeed; C. Rex, grand, twenty-four flowers; Dendrobium Schröderiana, Anguloa Clowesi, Odontoglossum vexillarium, some new Sonerilas, Dionæa muscipula, a nice pan of it; Pilocereus senilis, grand examples of the Old Man Cactus, and the beautiful Echinocactus aureus, recently certificated.

Silver medals were awarded to Mr. Eckford for a charming assortment of Sweet Peas; to Messrs. Clibran & Sons, Altrincham, for a meritorious display of cut flowers; to Messrs. Cutbush & Sons for a fine collection of herbaceous flowers; to Messrs. Dickson & Sons, Chester, for excellent Roses and other flowers; and to Messrs. Prichard & Son for various cut flowers, including Carnations.

Two magnificent groups of plants, not for competition, were arranged by Mr. Peter Blair of Trentham Gardens, one consisting of well grown and magnificently flowered Souvenir de la Malmaison Carnations, the other of Lilium longiflorum giganteum and other appropriate plants. It is questionable if two finer groups of the popular flowers mentioned were ever seen at any show.

WELLINGBOROUGH.—JULY 26TH.

WELLINGBOROUGH, a clean, breezy Northamptonshire town of some 20,000 inhabitants, was in full dress on the occasion of the agricultural and horticultural show. Triumphant arches of a remarkably well-finished character spanned the chief thoroughfares, and the streets were almost canopied with streamers, while flags innumerable were displayed on every hand. We can only refer very briefly to the horticultural department, and particularly to the open classes, in the large marquees, which were splendidly furnished with plants, flowers, and fruit. A substantial sum of not less than £200 was offered in prizes, and this was the means of inducing many well known exhibitors to compete, the total number of entries amounting to 496.

For twelve stove and greenhouse plants, the old rivals, Mr. Cypher of Cheltenham and Mr. Finch of Coventry, again met, both collections being of high merit. Mr. Cypher gained the coveted position with the following—Erica Austiniana, very fine; Phœnecoma prolifera, good; Bougainvillea glabra, Ixora Williamsi, Erica tricolor, Allamanda nobilis, Croton Sunset and angustifolia, Latania borbonica, Cycas circinalis, and two good Kentias. Second, Mr. Finch with Kentia Belmoreana, Latania borbonica, Crotons Queen Victoria and Warreni, Ixora Williamsi, two Erica tricolor var., and Statice profusa being his best plants. Third, Mr. Vause, Leamington. Groups were not of the highest mark, the first prize going to Mr. Vause, Leamington. Ferns were remarkably well shown, the first prize for six distinct going to Mr. J. Copson, Collinghill. For six fine-foliage plants Mr. Finch was easily first. He also was an easy first for specimen flowering plants.

Roses.—These were good, the first prize in the class for twenty-four being taken by Rev. J. H. Pemberton, Havering; second, Messrs. G. & W. H. Burch, Peterborough; and third, J. Perkins & Son, Kingsthorpe. For twelve Teas, the Rev. E. G. King, Gayton, was first. For twenty-four bunches of miscellaneous cut flowers, J. Perkins & Son, Kingsthorpe, were first, and also for bouquets.

In the class for a collection of fruit, six varieties, Mr. J. F. Hayes, gardener to the Marquis of Northampton, was first with excellent produce. For six stove and greenhouse plants, in or out of bloom, Mr. Finch, of Coventry, was an easy first, also for six foliage plants, showing well six Ferns in the same section. Table plants were neat and bright. First, Mr. Hayes, gardener to the Marquis of Northampton.

Grapes in the gardeners' section were very good. For three bunches of black the Hamburgs shown by Dr. Percival, Wellingborough, were easily first; second, Mr. Copson, Collington; third, Mr. Hayes, Castle

Ashby Gardens. Mr. J. C. Irons was first for Peaches and Melons. Vegetables were also good. For a collection of eight kinds Dr. Percival, Wellingborough, was first, closely followed by Mr. Hayes, Castle Ashby Gardens. Local amateurs did not greatly distinguish themselves, but the cottagers' productions were generally meritorious. The show was admirably managed by Messrs. Woolston and Pendered, the Honorary Secretaries, and their active coadjutors on the Committee, and was greatly appreciated by a crowd of visitors, a financial success being assured.



HARDY FRUIT GARDEN.

Strawberries.—*The Advantages of Early Planting.*—The importance of planting early, so as to obtain strong plants, and these well established in rich, firm soil before growth ceases in the autumn, is now recognised as one of the best and most profitable methods of cultivating Strawberries. The advantages will be apparent the first year, as really fine crops of excellent fruit are secured in good seasons, where those planted late can only produce light crops, which, if the plants are at all weak, they are better without in order that the vigour may be concentrated in their fuller development for the following year.

Preparing Ground.—Strawberries delight in a firm, fertile loam of a tilth deep enough not to cause the plants to suffer in extremely dry weather. Poor and shallow soils are not suitable, as they contain neither sufficient moisture nor adequate support for maintaining the plants in a sufficiently vigorous condition to insure good crops. It is possible, however, to enrich poor soil and to deepen the shallow, providing the subsoil is not of a worthless character. Soil trenched and well manured the previous winter, then cropped with early Potatoes or some crop of a temporary character which can be removed at this season, offers a good site for early Strawberry planting without recourse to much labour.

The cultivation the soil has received insures its fertility; it is in fairly good mechanical condition for a considerable depth, and only needs levelling and firming. Land that has only previously been dug in a shallow manner should, before planting Strawberries, be thoroughly trenched and manured. It is better if this can be completed some time previously, if not the winter before, so that it can have time to consolidate. For heavy soil a dressing of wood ashes spread on the surface and worked in aids the emission of roots; in fact, in all soils a similar application is of much assistance. Loose soil must be made very firm before planting. Strawberries do best on such ground, the roots meeting with resistance, which causes them to assume a more fibrous character, conducing to firm, compact growth, instead of a luxuriant development of foliage.

Situation.—A site open and sunny is preferable, and for early crops a warm, sheltered border, sloping gently to the south. Where late crops are expected, it is better to plant the latest varieties on north borders, where the fruit comes in useful in succession to the midseason varieties. These borders, however, should not be shaded by trees, but fully exposed to light and air.

Hints on Planting Strawberries.—Runners layered early in small pots require planting out permanently before they become too much root-bound. They start but slowly into active growth when the roots are so closely matted together, but if planted in time they readily take to the soil. The ball of roots ought to be thoroughly moist, and in planting press the soil firmly about the young plants. Although this is desirable, rough treading or stamping must not be adopted. In very dry parching weather plant in a shallow basin of soil, well watering the plants in, and covering with dry soil. Still leave a depression round them for holding future supplies of water which may be required to establish the plants. If liquid manure or sewage can be had it will be appreciated by the roots better than clear water. At the same time it will enrich the soil. If possible, however, plant when showers are imminent or shortly after they have fallen, which will minimise the necessity of frequent waterings. Should dry weather continue a light mulching of short manure is decidedly beneficial in maintaining the soil moist and cool.

Distances to Plant.—The minimum distances for planting Strawberries are 2 feet between the rows, the plants being 15 inches asunder. These distances suffice for all the smaller growers. The larger fruited and more vigorous growers such as Sir J. Paxton, Noble, James Veitch, President, and Royal Sovereign should have 2½ to 3 feet distance between the rows in rich soil, the plants 18 inches to 2 feet asunder.

Varieties.—A few of the best early Strawberries are Noble, King of the Earlies, Royal Sovereign, and Vicomtesse Hericart de Thury. President, James Veitch, Sir Joseph Paxton, and British Queen are reliable midseason varieties. For late crops, Frogmore Late Pine, Waterloo, and Laxton's Latest of All.

Raspberries.—Cut out the old bearing canes immediately the fruit has been gathered. Also reduce the number of the current year's canes to four or six, choosing those conveniently placed for training to wires or stakes. Under these favourable conditions they will lengthen and

ripen satisfactorily. Clear the ground of weeds and afford a good mulching of manure for nourishing the abundance of active roots.

Peaches.—The fruit as it approaches the ripening period should have every assistance for rendering it highly coloured and imparting flavour. This consists in exposing each fruit to the sunshine as well as continuous light. In order to do this it may be necessary to draw the leaves on one side or tie the shoots away from the fruit. A few of the more luxuriant leaves may be reduced one-half where this will prevent the fruit being shaded. Keeping the shoots well trained will also be of assistance. Large numbers of earwigs which attack the ripening fruit can be caught in dry hollow Bean stalks or rolled strips of brown paper placed between the branches and the wall, examining them every morning.

Keeping Red Currants.—Red Currants may be preserved in good condition for some time by being netted up so that birds cannot attack them. On bush trees employ mats, as it is essential that the fruit be kept dry as well as safe from injury.

FRUIT FORCING.

Vines.—*In Pots for Early Forcing.*—The Vines intended for starting in November to afford ripe Grapes in late March or early in April should be of the early and sure forcing varieties, such as White Frontignan, Foster's Seedling, Black Hamburgh, and Madresfield Court, and now have the wood ripe, thoroughly hardened, and the buds plump. If there be any doubt about these matters, keep the house rather warmer by day, 80° to 85°, closing early so as to raise the temperature to 90° or 95°, and open the ventilators at night. Afford water in sufficient quantity to prevent the leaves flagging, or liquid manure may be given to help them to plump the buds. The foliage cannot have too much light. Keep the laterals well in check, leaving no more than absolutely necessary to appropriate any sap that may be in excess of the leaf requirements, and so prevent the principal buds starting.

When sufficiently ripened, as indicated by the wood being brown and hard and the buds prominent, they may be removed to a position outdoors in the full sun, standing on boards or slates in front of a south wall or fence, securing the canes to the face of the wall, only giving water to prevent the foliage falling prematurely, and having some waterproof material to throw the water from the pots in case of heavy rain. In this position they will rest even if the leaves are not shed. When the leaves turn yellow—give indications of falling—commence reducing the laterals, and when most are off cut them in closely and cut back the canes to the length required, placing them in an airy shed or cool dry place until the time arrives for forcing. Keep the soil dry, yet not so dry as to cause the wood to shrivel.

Earliest Forced House.—This will vary as to time in different establishments, but it is not desirable, as a rule, to start permanent Vines before the beginning of December, so as to afford a supply of ripe Grapes from the end of April or beginning of May onwards. A dry atmosphere is desirable for the thorough ripening of the wood, but it will not be necessary, except in the case of young Vines not forced early before, to employ artificial heat. All laterals should be kept stopped and rest gradually induced by keeping the house cool and the border dry. Inside borders, however, may require watering, but if they have been mulched it may not be necessary, and outside borders will not take any harm provided they are of sound material and well drained, otherwise a covering of straw or bracken may be employed to throw off heavy rains. Premature ripening of the foliage is undesirable, and is generally occasioned by destruction of the leaves through red spider or too dry an atmosphere and deficiency of water at the roots. Where the Vines are in an unsatisfactory condition prepare for lifting at an early date, getting fresh loam and clean drainage, so that the work can be done quickly when started. There is no danger of losing a crop providing the operations are properly and promptly performed. It is desirable to lift the roots and place them in fresh soil nearer the surface whilst there is foliage on the Vines; therefore work of this kind ought not to be delayed in the case of Vines that are to be started early in December, which will need pruning by the middle of September, or a little later in the case of lifted Vines.

In the case of Vines that have not before been started early, and are required for affording ripe Grapes at the end of April or early in May next season, it will be necessary to prepare them for the process, cleaning them thoroughly by syringing or an insecticide as soon as the crop is off, and if there is any doubt about ripening the wood or plumping the buds it will be necessary to keep the house rather close by day, but with sufficient ventilation to cause evaporation and allow the moisture to escape. Give no more water at the roots than will prevent the foliage becoming limp. If the weather prove moist and cold employ fire heat in the daytime to maintain a temperature of 70° to 75°, with moderate ventilation, and turn the heat off at night to allow the pipes to cool. This will soon cause the buds to plump, the wood to ripen, and induce rest, which for Vines to be started at the time named should be complete by the middle to the end of September. When the Vines have the wood ripe ventilate fully day and night.

Second Early Vines.—Those started at the new year have the crops cleared, and should be cleansed by means of the syringe or engine, and, if needful, by applying an insecticide. If there be any mealy bug or scale use petroleum, a wineglassful to 4 gallons of water, in which 6 ozs. of soft soap and 1 oz. of washing soda has been dissolved, keeping the mixture thoroughly agitated whilst it is being applied by alternately squirting syringefuls of the mixture into the vessel and over the Vines, wetting these and every part of the house thoroughly. It is best done on a calm evening, and should be repeated at intervals of a few

days, and is best applied at a temperature of 90° to 100°. If there are any plants they must be removed, and if the roots of the Vines be near the surface cover the border with dry, short material to absorb the waste.

Keep the laterals fairly in check, but not closely pinched, unless the Vines are very vigorous and not ripening the wood well; then keeping the house rather dry at night with all the air possible, and somewhat close and warm by day, will tend to promote the maturity of the wood and buds. In stopping vigorous Vines regard must be had to the principal buds, not pinching so close as to cause them to start into growth. Such Vines should be kept without water until the leaves are a little limp, but not to the extent of flagging. Vines that on the other hand are not strong, having been enfeebled by continuous cropping or other causes, should be encouraged to make growth by applying liquid manure to the border, or top-dressings of the advertised fertilisers washed in; but whatever extraneous foliage is made must not be allowed to interfere with the free access of light and air to the principal leaves, which should be kept clean and healthy, so that they may appropriate some of the extra food, assimilating and storing it in the buds and adjacent wood. Ventilate freely day and night.

Grapes Ripening.—Admit air constantly, enough with a gentle warmth in the pipes to insure a circulation. In ripening most Grapes swell considerably, therefore a moderate amount of air moisture is necessary, and there must not be any deficiency of water at the roots. Give the border if necessary a thorough supply and in the early part of the day, so that the superfluous water may be dissipated before night. If the Vines are heavily cropped afford substantial food, such as phosphates, nitrates, and sulphates, or the advertised fertilisers, which act promptly and steadily, and allow them plenty of time, otherwise if there be any hastening of the ripening and a deficiency of moisture or nourishment it is likely the fruit will be defective in colour. A temperature of 60° to 65° at night with air is a great help to Vines with a heavy weight of Grapes. If kept warmer at night the Grapes ripen faster and colour less freely. A temperature of 70° to 75° by day from fire heat is ample, for heat will not impart colour. A moderate moisture should be secured by damping occasionally, and if possible allow the laterals to extend, for it is chlorophyll that is needed, but overburdened Vines rarely push laterals, having enough to do to supply the principal foliage and Grapes with nourishment.

Melons.—Damp and dull weather always affects these plants, especially those in frames; they start into over-luxuriance, and set the fruit indifferently. The growths should be kept thin, and a little air given constantly, maintaining the heat by manure or grass mowings placed around the frame, renewing at intervals. A quantity of either litter or grass to produce a great change is not good, but a gentle warmth with the ventilation favours a good set and the swelling of the fruit. Fertilise the flowers daily on plants now in bloom, and go over them frequently for the removal of superfluous growths. Keep the atmosphere dry where the fruit is ripening, moisture condensed on the rind causes Melons to crack. Maintain a bottom heat 80° to 85°, top heat 70° at night, or even 5° less, and 70° to 75° by day. In dull weather admit a little air at 75° if the day is likely to be fine, allow the heat to rise to 80° before giving more, and keep through the day at 85° or 90°, closing so as to increase to 90° or 95°. A free circulation of rather dry air greatly improves the flavour and finish of Melons when ripening. If fruit is wanted very late make a last sowing now. Plants for fruiting in October should be planted at once, it being highly important that they have a light and well heated structure.

THE BEE-KEEPER.

APIARIAN NOTES.

HIVES AT THE HEATHER.

THOSE bee-keepers who have taken bees to the Heather for many years are cognisant of the great difference of honey gathered by colonies situated at short distances from each other. The first thing to aim at is to have the hives placed so that the rising sun shines on them; and the second is to have them situated so that they are well sheltered from eddy or gusty winds for 100 yards or more from their site.

By the building of a dyke 15 yards in length across a gully thousands of bees were saved. This dyke enabled the bees to cross a spot in safety that previous to its being built thousands of bees were lost daily. At a slight angle from it there ran another dyke right up to the hives, the bees availing themselves of its shelter whether the wind was easterly or westerly.

It is near the apiary where most bees are lost; when far out they tack and fly to the lee-side of hills, but if no shelter is near the wearied bees drop and die from exhaustion and chill loaded with their precious burdens.

Often there is no choice of site, but a little judgment in setting the hives in proper positions will amend matters greatly. In such cases avoid cross winds, and it will astonish some persons at the great difference in saving bees a few feet makes. By attending to that

my hives for many years come home better than when they went away.—A LANARKSHIRE BEE-KEEPER.

SEASONABLE NOTES.

IN districts where White Clover and the Lime trees are the chief source from which the honey harvest is obtained the season is now practically over, although there is a great quantity of White Clover still in bloom, more than I remember to have seen before so late in the season. Although flowers are so plentiful they have been of little use to the bees, as it has rained daily for the past ten days, and during that time over 3 inches of rainfall has been recorded.

Under the circumstances it is not surprising that no surplus has been stored, and even with favourable weather the late crop of Clover does not yield nearly so much honey as the first crop of bloom. The Limes flowered profusely, but no honey was obtained owing to the incessant rain. In the south one hears of fine weather, the pastures being burnt up, and no flowers for the bees to work on, but in the midland counties there has been abundance of bloom.

Stocks should now be examined and all finished sections removed. It is now too late to fill the vacant space with empty ones. Those that are full, but not sealed over, should be moved closely together, placed over the brood nest, and the whole covered up warm. Should we be favoured with a few fine days it may be the means of the bees finishing them off, otherwise the honey would have to be extracted and the sections placed in a dry place for another year. These make capital starters for bees early in the season when there is sometimes a difficulty in getting the bees to start in supers.

Bees will often commence storing a surplus in fully drawn-out combs, and as the majority of bee-keepers do not succeed in having all their sections sealed over and finished off fit for the market or home consumption, it is an advantage to have a few on hand.—AN ENGLISH BEE-KEEPER.

TRADE CATALOGUES RECEIVED.

Cooper, Taber & Co., Ltd., Southwark Street, S.E.—*Wholesale Bulb List.*

R. & G. Cuthbert, Southgate.—*Bulbous Flowering Roots.*

W. H. Hudson, Kilburn.—*List of Special Manures.*

J. H. Knowles, 15, Rush Hill Road, Lavender Hill.—*Catalogue of Botanical Works.*

T. Methven & Sons, 15, Prince's Street, Edinburgh.—*Bulb Catalogue.*

L. Späth, Rixdorf, Berlin.—*Bulbous Plants.*



All correspondence should be directed either to "THE EDITOR" or to "THE PUBLISHER." Letters addressed to Dr. Hogg or members of the staff often remain unopened unavoidably. We request that no one will write privately to any of our correspondents, as doing so subjects them to unjustifiable trouble and expense.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Bee subjects, and should never send more than two or three questions at once. All articles intended for insertion should be written on one side of the paper only. We cannot reply to questions through the post, and we do not undertake to return rejected communications.

Tomatoes Diseased (R. C. N.).—Your Tomatoes are attacked by the pest *Cladosporium lycopersici*. See reply to "H. M." on page 95 of our last issue.

Carnations (J. T.).—The Carnation blooms sent show promise of excellence, but unfortunately many of the petals were curled up when they reached these offices. Evidently they are worth further trial.

Calceolaria amplexicaulis (Inquirer).—Cuttings of this distinct *Calceolaria* are best rooted in pots of sandy soil in a cool frame in the autumn and kept close to prevent the leaves flagging. The plants can then be wintered on a greenhouse shelf and potted separately in the spring. We have wintered them in a frame, but they are prone to suffer and some of them to damp off. The plants are not so hardy as the ordinary bedding *Calceolarias*. You can take up and pot the old plants. *Calceolaria pinnata* may be raised under glass in the spring and treated in the same way as seedling *Petunias* or half-hardy annuals.

Yellow Raspberry (R. C.).—The sweet Yellow Antwerp is no doubt the best yellow Raspberry for dessert purposes. It is not a robust grower, and requires free fertile soil. Shorten the canes to within a foot of the soil when planted and mulch with manure. Do not mutilate them afterwards by digging with a spade.

Ficus elastica (Amateur).—If the pots are full of roots we have no doubt that repotting would improve the plants. You can pot them at once, employing pots 2 inches larger than those they are now in. Do not disturb the old ball further than is necessary to remove the drainage. The soil may consist of good loam and sand, with the addition of one-seventh of manure. Press the soil firmly into the pots. Water carefully until the roots are spreading freely into the new soil.

Growing Roses in Borders Beneath Marechal Niel Trained to Roof (A. F.).—The borders will be available for dwarf Tea Roses until the Marechal Niels cover the roof, then these will so obstruct the light as to render dwarf Roses very unsatisfactory. Such was the case with us under similar circumstances, and we found it most satisfactory to rely on the Roses—Marechal Niels—from the roof, which in fine condition are in request, and bring best prices. The kinds we found do better in the shade were Safrano and Niphetos, but the blooms were soft as compared with those produced in plenty of light.

Blue Hydrangea (T. S.).—The blue Hydrangea is often only a form of the common *H. hortensis*, with rosy lilac or pink flowers, this being effected by mixing iron filings with the soil and other special modes of culture. It is not, therefore, a variety; but there are several varieties of the species, one of the most noteworthy being Thomas Hogg, a form with pure white flowers, and is not that usually made blue by special treatment. The variety of Hydrangea with blue flowers is *H. hortensis mandshurica*, and if yours be that it is a separate variety, but *H. hortensis* made blue by special culture is not a variety, because it returns to the pink colour when grown under ordinary conditions.

Second Early and Late Potatoes "Growing-out" (G. Groves).—By this we presume the Potatoes are supertubering in consequence of the rain following the drought. In the case of the second early variety or varieties it may be desirable to cut off the tops, which would have the effect of stopping the growth, and the tubers would not go any further than they are now, thus arresting the supertubering, and when the skins are set they may be lifted. The late varieties would not grow any more if the tops were cut off, and the produce be small and comparatively worthless. The best plan with these is to leave them alone, as the supertubers have time to swell to a good size, so that the produce will be materially increased, and though some may be worthless most of the crop will be fit for use.

Cucumber Leaves Infested with Thrips (J. W.).—There cannot be two opinions about the insects found on the leaves. They are the common thrip usually found on Cucumbers—namely, *Heliothrips hæmorrhoidalis*, but it is not the species commonly found on plants outdoors, yet this is sometimes found on Cucumbers and many other plants under glass. All may be destroyed by vapourising with nicotine or fumigation with tobacco. The plants have been kept in too dry an atmosphere and indifferently supplied with moisture and nourishment at the roots, as indicated by the smallness of the leaves and their pale colour where not absolutely robbed of their contents by the many thrips. Only a more genial atmosphere and better cultural treatment will do anything for such plants, if, indeed, they are not beyond recovery.

Manure for French Beans (Linslade).—There is no better manure than thoroughly decayed stable or farmyard for this crop, especially after Tomatoes, which are notorious nitrogen and potash grabbers. Next to this fish-potash guano is excellent, using 4 ozs. per square yard and pointing-in lightly. We have had good results from Peruvian guano, applying 2 ozs. per square yard. The advertised fertilisers are excellent and give good results, but you want a special chemical manure. Here is one for French Beans:—Superphosphate, five parts; muriate of potash, three parts; nitrate of soda, one part (all by weight). Crush the nitrate of soda to a fine powder, mix the ingredients together, and use 4 ozs. per square yard. If the soil be poor double quantity may be used, but incorporate with the soil an ordinary spit deep. Ground fish and blood are first-rate for Kidney Beans; indeed, they like decaying organic matter, including native guano and silicate manures, something steady and sustaining.

Raising Poppies (Inquirer).—As *Papavers bracteatum* and *nudicaule* are difficult plants to remove owing to their susceptibility to die after being lifted, it is necessary to sow the seeds where the plants are wanted to flower, either in the autumn or spring, or else in small pots in the autumn, keeping the latter plunged in ashes during the winter, but when turning out of the pots prior to planting great care should be taken not to injure the balls. If sown in the open ground where required to flower the seeds should be scattered thinly, and lightly covered with fine soil, and if the seedlings come up too thickly they should be thinned out to several inches apart. Almost any kind of soil is suitable for them, and this should not be too rich, or the plants instead of flowering make rank growth. Little further attention is required beyond watering in dry weather and keeping the spikes picked off as the flowers fade. If raised in pots a few seeds should be sown in 48-sized pots, thinning the seedlings out to three or four in a pot, afterwards plunging the pots up to the rim in ashes, either in a cold frame or sheltered position outdoors, where they will keep through the winter. Care should be taken that the plants do not suffer from drought, as this is fatal to them, and in the spring they may be removed from the pots and placed in their flowering quarters, where they will require

little attention beyond watering if the weather be dry, and keeping the old flower spikes picked off.

Diseased Cucumber Root (N. L. C.).—The root was quite decayed and swarmed with eelworm, for which there is no remedy, it not being possible to restore dead tissue. As only a portion of the plants are infected, some bearing good fruit now, you may water the soil where the infested ones are with a solution of corrosive sublimate, 1 oz. to 15 gallons of water, the solution being prepared in a wooden tub and overnight, stirring a few times so as to insure an even and good solution as possible. The affected plants should have the root part carefully lifted and burned, then water where each plant has been with the solution of corrosive sublimate, giving enough to thoroughly moisten the soil down to the drainage. As there is danger of the eelworm infecting the healthy plants, it would be advisable to water the whole bed with the corrosive sublimate solution at a strength of 1 oz. to 30 gallons of water, giving about as much as in an ordinary watering. This will kill the eelworms and save the plants if they are not too far gone, but we apprehend they will be more or less infested, and possibly so much so as to be beyond recovery. The corrosive sublimate is a virulent poison. It must be used with extreme caution, not handled in a pure state with the hands, and all vessels in which the solution is placed be thoroughly cleaned, not using them for water given to animals or fowls. It is given as a drastic measure, and, though the best known substance for destroying parasitic micro-organisms in the soil, it is one of the most dangerous to use, as there is a possibility of its finding its way into springs, and wells, and fowls eating worms or other animals destroyed or brought to the surface by it will be poisoned. The eelworms were no doubt introduced in the soil, which ought to have been disinfected before use, charring being one of the best methods, and others have been from time to time given in our columns.

Names of Plants.—We only undertake to name species of plants, not varieties that have originated from seeds and termed florists' flowers. Flowering specimens are necessary of flowering plants, and Fern fronds should bear spores. Specimens should arrive in a fresh state in firm boxes. Slightly damp moss, soft green grass, or leaves form the best packing, dry wool the worst. Not more than six specimens can be named at once, and the numbers should be visible without untying the ligatures, it being often difficult to separate them when the paper is damp. (R.).—Your specimens were quite dead when they reached us. Send fresh ones, packed as advised above, and we shall be glad to give you our assistance. (A. B. A.).—*Asclepias Cornuti*. (A. S. J.).—1, *Agrostemma coronaria*; 2, *Polystichum angulare*; 3, *Leycesteria formosa*. (A. C.).—A variety of *Lælia elegans*. (O. P.).—1, *Lysimachia vulgaris*; 2, *Lythrum salicaria*; 3, *Eryngium amethystinum*. (J. H. S.).—The specimen was so withered that positive identification was impossible but the plant may be *Veronica decussata*. (J. C. B.).—The variety you send has no distinctive name. (W. H. M.).—*Clematis coccinea*. (W. K.).—*Spiræa vacciniifolia*. (Ivie).—1, *Campanula latifolia*; 2, *Polygonum bistorta*; 3, *Astrantia minor*; 4, *Clematis erecta*; 5, *Sanguisorba officinalis*; 6, *Scabiosa ochroleuca*.

COVENT GARDEN MARKET.—JULY 31ST.

FRUIT.

	s. d.	s. d.		s. d.	s. d.
Apples, Nova Scotia, per barrel..	0	0	to 0	0	0
„ Tasmanian, per case ..	0	0	0	0	0
Cherries, per half sieve ..	4	0	5	6	
Cobs, per 100 lbs. ..	0	0	0	0	
Currants, per half sieve ..	3	0	to 5	0	
Grapes, per lb. ..	0	6	1	6	
Lemons, case ..	10	0	15	0	
Peaches, per dozen ..	2	0	8	0	
St. Michael Pines, each ..	2	0	6	0	
Strawberries, per lb. ..	0	4	1	0	

VEGETABLES.

	s. d.	s. d.		s. d.	s. d.
Beans, Kidney, per lb. ..	0	6	to 0	0	0
Beet, Red, dozen ..	1	0	0	0	0
Carrots, bunch ..	0	3	0	4	
Cauliflowers, dozen ..	3	0	6	0	
Celery, bundle ..	1	0	1	3	
Coleworts, dozen bunches ..	2	0	4	0	
Cucumbers, dozen ..	1	6	3	0	
Endive, dozen ..	1	3	1	6	
Herbs, bunch ..	0	3	0	0	
Leeks, bunch ..	0	2	0	0	
Lettuce, dozen ..	0	9	1	6	
Mushrooms, punnet ..	0	9	1	0	
Mustard and Oress, punnet ..	0	2	to 0	0	0
Onions, bushel ..	3	6	4	0	
Parsley, dozen bunches ..	2	0	3	0	
Parsnips, dozen ..	1	0	0	6	
Potatoes, per cwt. ..	2	0	4	0	
Salsafy, bundle ..	1	0	1	6	
Seakale, per basket ..	0	0	0	0	
Scorzoneria, bundle ..	1	6	0	0	
Shallots, per lb. ..	0	3	0	0	
Spinach, bushel ..	1	0	1	6	
Tomatoes, per lb. ..	0	3	0	4	
Turnips, bunch ..	0	3	0	6	

AVERAGE WHOLESALE PRICES.—OUT FLOWERS.—Orchid Blooms in variety.

	s. d.	s. d.		s. d.	s. d.
Arum Lilies, 12 blooms ..	3	0	to 4	0	
Asparagus Fern, per bunch ..	2	0	4	0	
Asters, dozen bunches ..	9	0	15	0	
Bouvardias, bunch ..	0	6	1	0	
Carnations, 12 blooms ..	2	0	4	0	
„ dozen bunches ..	4	0	8	0	
Cornflower ..	1	0	2	0	
Eucharis, dozen ..	1	6	2	6	
Gaillardias, doz. bunches ..	2	0	3	0	
Gardenias, dozen ..	3	0	4	0	
Geranium, scarlet, doz. bunches ..	4	0	6	0	
Lilac (French) per bunch ..	4	6	5	0	
Lilium lancifolium, twelve blooms ..	1	6	2	6	
„ longiflorum, 12 blooms ..	2	0	3	0	
Marguerites, 12 bunches ..	1	6	3	0	
Maidenhair Fern, dozen bunches ..	4	0	6	0	
Orchids, dozen blooms ..	1	6	12	0	
Pansies, various, dozen bunches ..	1	0	to 2	0	
Peas, Sweet, doz. bunches ..	2	0	4	0	
Pelargoniums, 12 bunches ..	4	0	9	0	
Primula (double), doz. spys. ..	0	6	1	0	
Roses (indoor), dozen ..	1	0	2	0	
„ Tea, white, dozen ..	1	0	2	0	
„ Yellow, dozen (Niels) ..	3	0	6	0	
„ Safrano (English), dozen ..	1	0	2	0	
„ Yellow, dozen blooms ..	0	9	1	0	
„ Red, dozen blooms ..	1	0	2	0	
„ various, doz. bunches ..	3	0	6	0	
Smilax, per bunch ..	2	0	4	0	
Stephanotis, dozen sprays ..	1	6	2	0	
Sunflowers (small) dozen bunches ..	2	0	3	0	
Sweet Sultan, doz. bchs. ..	2	0	3	0	
Tuberoses, 12 blooms ..	0	4	0	6	

PLANTS IN POTS.

	s.	d.	s.	d.		s.	d.	s.	d.			
Arbor Vitæ (golden) dozen	6	0	to	12	0	Heliotrope, per dozen	..	4	0	to	6	0
Aspidistra, dozen	..	..	18	0	36	0	Hydrangeas, per dozen	..	12	0	42	0
Aspidistra, specimen plant	5	0	10	6		Lilium lancifolium, 12 pots	12	0	18	0		
Calceolaria, per doz.	..	..	4	0	6	0	Lobelia, per dozen	..	3	0	4	0
Coleus, per doz.	..	..	2	6	4	0	Lycopodiums, dozen	..	3	0	4	0
Dracæna, various, dozen	..	..	12	0	30	0	Marguerite Daisy, dozen	..	6	0	9	0
Dracæna viridis, dozen	..	..	9	0	18	0	" Yellow "	..	9	0	18	0
Euonymus, var., dozen	..	..	6	0	18	0	Myrtles, dozen	..	6	0	9	0
Evergreens, in var., dozen	..	..	6	0	24	0	Palms, in var., each	..	1	0	15	0
Ferns, in variety, dozen	..	..	4	0	18	0	" (specimens)	..	21	0	23	0
Ferns (small) per hundred	4	0	6	0			Pelargoniums, per dozen	..	8	0	12	0
Ficus elastica, each	..	..	1	0	7	0	" scarlets, per					
Foliage plants, var. each	2	0	10	0			dozen	..	3	0	6	0
Fuchsias, per dozen	..	..	4	0	6	0	Rhodanthe, per dozen	..	4	0	6	0
Geraniums, Ivy, per dozen	4	0	6	0			Roses, per dozen	..	8	0	24	0



IMPORTED FARM PRODUCE.

Six months' return of imports for the current year brings us to the end of June and affords data for a fair estimate of the agricultural situation as affected by foreign supplies. They tell of curious fluctuations in quantities, such as a falling off by 364,294 in cattle from the United States owing to a remarkable scarcity of cattle there, and which has at any rate been a means of keeping up prices in our markets. But if cattle from the States have fallen off, sheep have been received in greatly increased quantities from there, from Canada, and from the Argentine Republic, the total increase being nearly 400,000 as compared with returns for the same period of time last year.

Butter returns present a curious anomaly. The Australian trade continues to increase with marvellous rapidity. In the first six months of 1894 the quantity imported from there was 100,875 cwt, this year it has risen to 241,665 cwt. In June we received 214,000 cwt. from all countries, which realised an average price of 10d. per lb. wholesale, yet the average retail price for very much English butter was 6d., which represents a range of from 8d. down to 4d. Now it is certain that there can be no fanciful or arbitrary preferential rate for foreign produce on butter markets, it is just a question of uniform quality of a fairly high standard. It is certain that the Australian export butter trade has been, and is being, promoted by the fostering hands of the Government of those Australian colonies—notably Victoria, whence it comes to us, by means of a bounty of 2d per lb. and the use of cool chambers for producers rent free.

Here it is still a matter for individual effort, home-made butter being very generally placed on market in small quantities, which, however good in quality, differ so much that it is not worth while for the butter factor to collect it when he finds foreign butter ready to his hands in bulk of uniform excellence. English co-operative factories, though so certain to prove profitable, and as assuredly being the one means open to us of grappling with the foreign producer, are still practically unknown, and any mention of Government intervention is liable to be met by contemptuous remarks about grandmotherly legislation. Meanwhile, the golden stream of profit goes on flowing into the pockets of foreign farmers in keen competition with each other for our trade, while our own farmers tell us of having to accept as little as 4d. per lb. for their butter, and are clamorous for a reduction of rent. Of cheese it is worthy of mention that from Australia we had 85,000 cwt, as compared with 42,000 cwt. in the first six months of last year.

Recent low prices for home-bred pork is accounted for by the large quantity of bacon, hams, and lard imported. From Danish factories came 452,000 cwt. of bacon, out of a total quantity of 2,030,000 cwt. With corn so cheap we ought to compete successfully in this trade. Prices for pork are frequently changing, but we have found pigs to be always profitable

under good management, and occasionally very profitable. Throughout last year the high price of pigs proved a boon to corn farmers who had the wit to turn very much of their corn into pork on the farm. Though pork and bacon is cheap now, let it not be forgotten that low prices stave off the foreign producer, often giving us high prices for a few months, therefore keep up the swine stock, it always "pays its way," and when the rise comes again, as come it will, we shall be ready to take immediate advantage of it. In doing this remember to clear off old stock, to keep only young sows; old heavy sows consume enormous quantities of food and afford no adequate return. Holland has sent us most of a largely increased supply of fresh pork, about 55 cwt. more than in the first half of last year.

The wool trade just now is an interesting study, the advance in price being all the more remarkable from the heavy importations—5,000,000 lbs. more than last year. Against this comes the interesting fact that of British grown wool the United States have taken 5,908,000 lbs., as compared with 1,567,000 lbs. last year, and we have sent them about 41,000,000 lbs. more of colonial wool, which accounts very much for the advanced prices, which have caused such general surprise and satisfaction, and have been like a ray of light amidst the gloom of low prices.

WORK ON THE HOME FARM.

Since writing our last note on farm work we have seen a small field of cattle Cabbage of singular excellence after such a long spell of hot, dry weather. Early sowing and rich land gave this crop its apparent immunity from harm by drought—a good start in rich soil had got these early Drumhead Cabbage so forward and so vigorous, that fine firm heads by autumn are now a certainty. Never was weather more suitable for Green Maize, it positively revels in the hot weather and warm, moist soil. The crop will be exceptionally heavy and will be ready for use very soon. Better not to wait for full growth before beginning to use it, as it is certain to suffer more or less from early frost. Early Mangolds and Swedes have also made wonderful progress, and are quite out of hand now. But there is plenty to do among the later root crops, which are growing so freely that singling has to be pushed on as fast as may be.

Where Thousand-headed Kale was sown in seed beds transplanting has been done and the plants are growing freely. There will be a last drilling of this valuable hardy Kale and Giant Drumhead Cabbage very soon now while the land is in such favourable condition for quick germination and free growth. We are well rewarded for the thorough culture of these excellent green crops, and shall drill with the seed per acre 3 cwt. each of muriate of potash and superphosphate, and 1 cwt. nitrate of soda to give the young plants a good start.

A first autumn sowing of Sutton's Giant Evergreen Italian Rye Grass will also be made early in August, to be followed by another in September; our object with the first sowing being especially early spring growth. To have this Grass at its best the soil must be rich in fertility, no crop being a better indicator of soil condition. In poor soil it does no good, the plant being weak, slow in growth, and of a sickly pale green hue. On the other hand, in rich soil it is of a rich green luxuriant growth, and is ready for use very early.

METEOROLOGICAL OBSERVATIONS.

CAMDEN SQUARE, LONDON.

Lat. 51° 32' 40" N.; Long. 0° 8' 0" W.; Altitude 111 feet.

DATE.		9 A.M.				IN THE DAY.				Rain.	
		Barometer at 32°, and Sea Level.	Hygrometer.		Direc- tion of Wind.	Temp. of soil at 1 foot.	Shade Tem- perature.		Radiation Temperature		
			Dry.	Wet.			Max.	Min.	In Sun.		On Grass.
1895.											
July.											
Sunday	.. 21	29.491	58.6	58.0	S.W.	61.8	65.1	55.3	112.3	52.2	0.565
Monday	.. 22	29.665	60.9	55.9	N.	60.9	63.7	53.9	118.1	50.2	0.030
Tuesday	.. 23	29.887	61.9	56.9	W.	60.9	71.9	51.1	118.3	47.1	0.568
Wednesday	.. 24	29.698	65.3	62.2	W.	61.6	72.9	55.0	101.9	54.8	—
Thursday	.. 25	29.924	66.2	63.2	W.	62.0	71.9	61.9	93.6	58.7	—
Friday	.. 26	29.894	61.9	62.3	S.W.	62.2	76.9	61.2	106.6	56.2	—
Saturday	.. 27	29.722	65.9	61.4	S.W.	62.9	72.8	61.2	119.8	57.9	0.572
		29.754	63.4	60.0		61.8	71.5	57.1	110.1	53.9	1.735

REMARKS.

- 21st.—Steady heavy rain from 8.40 A.M. to noon, then sunny till 2 P.M.; alternate storm rains and sunshine, with occasional thunder, till about 7 P.M.; fair night.
 22nd.—Alternate cloud, sunshine, and showers.
 23rd.—Fine and pleasant, but frequently cloudy.
 24th.—Heavy rain from midnight to 3.30 A.M.; overcast all day, with drizzle in early morning.
 25th.—Overcast almost throughout, and slight shower about 10 A.M.
 26th.—Overcast till 11.30 A.M. alternate sunshine and cloud after.
 27th.—Overcast early, a shower at noon; sunny about 11 A.M., and frequent sunshine after 1 P.M.

A wet week, but in other respects very near the average.—G. J. SYMONS.

WEBBS'



EMPEROR CABBAGE.

THE EARLIEST AND BEST.
6d. and 1s. per Packet.
1s. 6d. per Ounce.

From Mr. W. N. CHASNEY, West Hendred: "I had the best bed of Cabbage this year from your Emperor that I ever saw; not one of the 50.0 plants which I put out went to seed."

	Per Ounce.—s. d.
EARLY NONPAREIL CABBAGE ..	0 8
ENFIELD MARKET do. ..	0 6
EARLY RAINHAM do. ..	0 8
RED DUTCH do. ..	0 9

ONION.

	Pkt.	Ounce
WEBBS' RED GLOBE TRIPOLI ..	6d.	1 6
LARGE FLAT RED TRIPOLI ..	6d.	0 10
GIANT ROCCA	6d.	0 10
WHITE LISBON	—	0 6

All Garden Seeds Free by Post or Rail.

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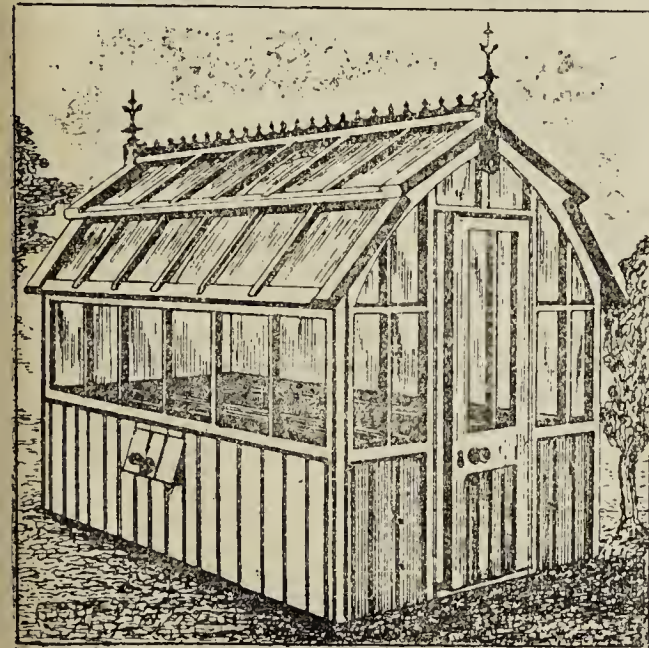
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CONSERVATORY OR GREENHOUSE

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2 " " 8 ft. by 6 ft. ..	2 10 0
Violet Frame, 4 ft. by 6 ft. ..	1 7 6

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	Per pkt., -/6	per oz., 1/6
Ellam's Early Dwarf, very early ..	-/4	1/-
Enfield Market	-/6	-/6
Improved Dwarf Nonpareil	-/3	-/10
Wheeler's Imperial	-/4	1/-
Early York, dwarf	-/6	-/6

ONIONS.—DANIELS' GOLDEN ROCCA.—Magnificent variety, of splendid form and great size, with light brown skin and mild flavour, the best for autumn sowing.

	Per lb., 4/6	per oz., -/6
WHITE ELEPHANT TRIPOLI. The largest of all the Tripolis ..	per pkt., -/6	per oz., 1/6
Red Italian Tripoli	-/9	-/9
Giant Rocca, very fine	-/4	1/-
White Lisbon, the best for using green in Spring	-/6	-/6

LETTUCE.—DANIELS' CONTINUITY. The best Cabbage Lettuce in cultivation. Heads large, firm and crisp. Does not run to seed even in the hottest and driest weather per pkt., -/6; per oz., 1/6

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new dwarf, large flowered, fine .. 2/- 12/6

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pure white, very beautiful and select .. 4/6 —

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PANSIES, Daniels' Prize Blotched. Planted out now will bloom grandly next spring and summer .. 1/6 10/6

PRIMULAS.—Our Primulas are acknowledged to be unsurpassable.

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„ Daniels' Crimson King, splendid variety .. 2/6 —

„ Daniels' superb blue, very fine .. 2/6 —

„ Daniels' choicest white, fine .. 1/6 10/6

„ Daniels' choicest red, splendid .. 1/6 10/6

„ Daniels' choicest mixed, many beautiful varieties .. 1/6 10/6

„ Daniels' mixed, extra strong plants .. 2/6 15/-

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Journal of Horticulture.

THURSDAY, AUGUST 8, 1895.

THE ROYAL HORTICULTURAL SOCIETY.

MR. BARRON'S RETIREMENT.

AFTER a term of thirty-eight years' service in the historic old Gardens at Chiswick, the greater part of the time as Superintendent, Mr. A. F. Barron is "retired" at the end of the year, on what, we have no doubt, an allowance such as will enable him to live in comfort over, what all who know him hope will be, a long eventide of life. Only a man with a cool head and sober judgment could have steered his course so safely and so long through the changes of the past which the Society has experienced. He has seen Councils come and go time after time, and old officials pass away till only he would seem to be left. The reason for this perennial stability may presumably be found in the fact that, though an official, and in a prominent and responsible position, he was not officious. He appeared to have only one object in view—namely, to do his duty in his own sphere, leaving others to do the same in theirs.

Amidst the agitations during certain periods of the Society's career the Superintendent of Chiswick seemed to pass unmoved, and stood firm where others fell, until at one time he was almost regarded as the only embodiment of the Society's stability. That this was the view held by gardeners as a body there can be no doubt, and Mr. Barron unquestionably enjoyed to a rare degree, and does still, the confidence and respect of the craft to which he is proud to belong.

Mr. Barron is essentially a gardener, sternly and severely practical; and his knowledge of fruit and its cultivation, as well as vegetables, is perhaps not exceeded by that of any person living, while he probably knows much more about plants and flowers than he cares to proclaim. He is, in fact, not a man to "proclaim" anything, and especially about himself. It is enough that during all those years he has acquitted himself in his position in a way that has met the approval of one Council of the Society after another, and of the Fellows of the Society generally. It is not suggested that he pleased everybody at all times, or anything of that kind; if one thing is more certain than another it is that he did not try to do so. He

appeared simply to endeavour to steer an even keel and do what was right according to the light of his experience; and if he had gone very far, or very often, wrong he could not possibly have held his, at times, difficult position for so many years, nor have received, as he did not long ago, one of the Veitch Memorial medals at the hands of Sir Trevor Lawrence in public at one of the Temple Shows for long, faithful, and efficient service.

We know not the particular reason for Mr. Barron's retirement, nor does it matter; it is enough to believe that the step has been taken with the kindest intentions towards him, and that everything pertaining thereto has been done in the most friendly manner possible. It may be supposed there are projected changes in the Chiswick routine, and if it should happen that these will be more of a scientific than a practical and commercial character we can understand that they would not be quite so congenial to him as the methods to which he has for so long been accustomed, and in that case his release from duty and responsibility, under favourable conditions, will be decidedly to his advantage. We believe it will be so, and as the Society is now in a position to conduct experiments at Chiswick with less regard to commercial considerations we shall trust to see the reputation of the Gardens fully maintained in the interests alike of horticulture and the Royal Horticultural Society.

Mr. Barron will now have the leisure to which he is entitled by long service to devote fuller attention to the Royal Gardeners' Orphan Fund, for which he has done so much; to visit exhibitions in the capacity of judge, for which duty he is so competent, while he will be at liberty to give advice to many from whom it is sought on various matters of gardening. We do not know whether it may be practicable or not to give him a seat on the Fruit and Vegetable Committee; but if it is his experience would certainly be helpful, while he would be welcomed by many friends with whom he has been so long and pleasantly associated.

WATER AND WATER LILIES.

A TASTE for aquatic gardening seems to be rapidly spreading among owners and managers of gardens alike. This is scarcely to be wondered at, seeing how greatly "water gardening" adds to the charm and interest of the grounds; indeed, no garden of pretension can be considered complete without its stretch of water or its silvery stream. In many instances Nature has done much toward the production of the desired effect, for it is no uncommon occurrence to find some meandering stream or shallow river pursue its course among the rich verdure of a well-wooded English park, or even to approach quite closely to the walls of some quaint old castle; while in other cases the smooth water of a natural lake may be seen from the windows of the mansion. Where Nature has done none of these things it is desirable that Art should step in and supply the deficiency.

Lakes of almost any conceivable size may easily be formed when the necessary funds are at command, and with skill and care in planting both banks and water surfaces made bright with flowers of many hues. Then again, in some corner of the wild garden may be found perhaps a deep shady dell, rugged or unsightly banks; if so, what a delightful feature may be created by the aid of artificial rockwork, arranged so as to form dripping wells, pools, ponds, streams, and waterfalls—quite counterfeits of some of those enchanting scenes to be met with in "gallant little Wales."

To give the finishing touch of beauty to water scenes Water Lilies are indispensable. The common white and yellow so frequently seen in British ponds and rivers are extremely pretty, but they are quite outdistanced in point of beauty and attractiveness by the splendid continental-raised hybrids which are now being freely planted. Two years ago I planted several varieties in a pond surrounded with rockwork. The majority of these have grown into strong plants, which are now flowering freely, and in point of colour and attractiveness few flowers can equal them. The pond in which they are growing has a concrete bottom, and a depth of water ranging from 2 to 2½ feet.

Some growers, I believe, plant their Lilies in large pots and then plunge them in the water, but I thought, after due consideration, that the more natural plan of planting out should be the

better one, because the water would be continually circulating through the soil in which the Lilies were growing. I therefore prepared stations in the following way:—Heavy stones were laid upon each other so as to form a wall enclosing a circular space large enough to hold a peck or more of soil, a few pieces of soft stone were placed in the bottom, and the remaining space filled up with prepared compost. This was quite a simple mixture, being good turfy loam with a fourth of manure added. The Lilies were then planted, and the water let into the pond. This was done at the end of April, 1894, and no soil has been added since, but the plants are very much stronger this year than last. In natural ponds, shallow lakes or rivers, these hybrid Lilies would, I think, grow very strongly and increase rapidly. Some of the varieties are reported not to be hardy, but those which we have have certainly been severely tested, for the last two winters must have killed anything but perfectly hardy plants, yet the varieties I name below were quite uninjured by frost when growing in 2 feet of water, and I believe they would have been quite safe if the depth of water had been 6 inches less.

One of the most beautiful is *Nymphæa Laydekeri rosea*. This flowers very freely. The colour is bright rose, and the flowers considerably larger than those of the common white Water Lily. *N. Marliacea rosea* is a very strong grower, but does not flower quite so freely as the preceding one. *N. Marliacea carnea* with us is a much weaker grower, and has not yet flowered, though buds are just visible. *Odorata alba* is too well known to need description, but *odorata rosea* is not. I will therefore mention that its colour is quite a pale rose; both are good growers. *Odorata exquisita* has much smaller leaves than the last named, and, writing from memory, I think the flower we had of it last year was white. *N. pygmæa alba* is the most floriferous variety we have, and, as its name implies, the flowers are comparatively small; they have, however, a singular charm of their own.

Those varieties which are described above as strong growers seem to have the power of increasing very fast. They will, therefore, be extremely useful for planting in ponds where the white one is already established. It would be useless to plant any but strong growers in such positions, because the established plants would quickly overrun them; and even with strong growing kinds the precaution should be taken of clearing out the established roots for a few feet around the newly planted ones. In small ponds situated in the ornamental grounds, where they are constantly under the gardener's eye, any varieties might be planted, as it would be easy to give the attention necessary to keep the stronger growing kinds from overgrowing the weaker ones.

When planting in ponds or streams where the water cannot be drawn off, it is necessary to use strong baskets or crates about a foot or 18 inches in depth. Fill these about two-thirds full of any good loamy soil, plant the Lilies, then cover the surface of the soil with heavy stones, made secure by string or wire. A few stones should also be fastened to the outer sides to keep the baskets in an upright position while they are sinking. In streams where the currents are strong in times of flood, I find it is necessary to drive a couple of strong stakes through the baskets into the bed of the stream to prevent the baskets being washed away. In choosing positions for planting Lilies give preference to those where there is a good depth of mud and where the water is not more than 3 or 4 feet deep. If planted in a rather swift running stream, choose positions near the bank, in little bays, where the force of the current is less than at more prominent points. — H. DUNKIN, *Castle Gardens, Warwick.*

THOUGHTS IN SEASON.

It seems natural when appreciating the beauties and benefits of one season, for the mind to wander almost unconsciously to the future—indeed, in the gardener's occupation this is necessary, as next year's results depend so much on the efforts of this. The refulgent beauty of the flower garden, the matured perfection of the leaves in the forest, the portions of the fruit garden already stripped of their luscious harvest, while the remainder is fast approaching maturity, together with the kitchen garden stocked with vegetables, are all sure indications that summer has reached its height, and soon—ah! perhaps too soon—the first faint gleams of the autumn will be perceptible. It is not, however, my intention to soliloquise on the rapid flight of time, for as seasons come and go gardeners have, in dealing with the practical, little time to dwell on the sentimental.

Turn for a moment to the flower garden, for which, in spite of the almost constant requisition of the watering can, the season has been almost an ideal one. Flower beds, indeed, look superb, and weeks of tropical sunshine have been the means of minimising

rank growth, and bringing to perfection abundance of bloom. The system of summer bedding has been completely revolutionised during recent years, the acquired taste for elegance and gracefulness having superseded the stiff formality, the straight lines and acute angles, that characterised the flower garden of half a century ago. Now is the time to note what has proved the most effective, and form ideas for future development.

In some gardens Fuchsias are largely used for bedding, and those who have seen the plantations of them in Hyde Park will not hesitate to say that nothing could be more suitable for the purpose, as there they are quite a feature, being graceful in habit and covered with a profusion of flowers. Violas, Iresines, and Lobelias are often used to form a groundwork, and above them tower the tall Fuchsias, entirely doing away with any tendency towards stiffness or formality. In cold wet seasons they are apt to become dashed, and do not flower so well; but in a summer like the present one they are worthy of being grown to a far greater extent for the above purpose than is at present the case. Then there are the tuberous Begonias, rapidly becoming the rival of "Geraniums" as bedding plants, and with their beauty and diversity of colour and their adaptability to most conditions of soil and weather they are indeed more effective than the latter for that purpose. The main object in their culture is to get them sturdy previous to planting, and this accomplished they keep dwarf, and their profusion of bright flowers is seen to advantage.

Those who anticipate the culture of these charming plants should sow the seeds in pans and placing the latter in a gentle heat in the spring. When the seedlings are large enough to handle they may be pricked into small boxes, and when they become larger it is the custom of some growers to plant them in frames in free rich soil in April, protecting during frosty weather, and removing them to their flowering quarters at the beginning of June. The tubers should be taken up in the autumn, and may be easily preserved through the winter, as they only require to be kept dry without shrivelling and safe from frost, when by starting these tubers in gentle heat the following spring an abundant and constant supply of plants may be easily kept up. Perhaps nothing forms a more pleasing feature in the flower garden than a mass of tuberous Begonias.

Another comparatively recent addition for bedding purposes is the Canna, and in a warm sunny position we have no other plant possessing similar qualifications. Without mention of the beauty of its flowers there is a touch of the tropics about the graceful habit of the foliage which renders it extremely suitable for forming a contrast in the flower garden. The art of the florist has been brought to bear perceptibly on this beautiful flower, with the result that the old form known in days gone by has been superseded by the beautiful specimens that have been exhibited by various nurserymen at recent summer shows. Size of flowers, richness and delicacy of the tints of colour, combined with elegance in habit, are points indispensable to a good Canna, and these perfected there can be no more pleasing object in the flower garden, while as a pot plant for decorative purposes it has no superior, providing varieties of suitable habit are chosen.

An interesting article appeared in a recent issue of the *Journal of Horticulture*, entitled "A Garden of Violas," and any thoughts in season will naturally turn in the direction of these popular flowers. A garden of Violas may seem a new idea to some who are not up to date in their culture, but there are many enthusiastic growers who devote the greater part of their gardens to the cultivation of these favourites. In this age of fashion and craze the Viola has advanced in popularity by leaps and bounds; readily responding to the art of the hybridist, it would be puzzling to any but an adept in their culture to endeavour to enumerate or describe the many varieties now obtainable. Their name is legion, but for those who only grow them for effect a few decided colours is more preferable to a greater number, many of which closely resemble each other.

For forming beds and planting in lines in the flower garden the Viola presents so many charms and is so well known that no further recommendations are necessary, though it may not be out of place to remind your readers that with the advancing summer care should be taken to keep the seed pods removed, as now the first blooming is practically over, and a later one may be secured by cutting the old flowers off. For forming bright and pleasing contrasts Countess of Hopetoun, a profuse flowering white; Bullion, bright golden yellow; Archibald Grant, a fine rich blue; Sylvia, cream; William Niel, pale rose; and J. B. Riding, deep mauve, are all well tried varieties, and can be thoroughly recommended, though, as already stated, there are many others, each possessing some qualification peculiar to itself.

In spite of the recent additions for the embellishment of the flower garden, it would be impossible with justice to omit that old favourite the Zonal Pelargonium, which, through the many

changes in design and fashion, is still to be found grown to a greater or lesser degree in all gardens. Not to the extent it once was used, it is true, but still so indispensable is it that nothing has yet been found to take its place. In sunless, wet summers Pelargoniums, or "Geraniums" as they are more commonly termed, present such a dull appearance with their rank growth and scarcity of flowers that growers have from time to time threatened to dispense with them altogether; but when the next summer comes, and perhaps bright sunshine is the order of the day, the "Geraniums" present such a blaze of beauty that all threatenings are forgotten, and their position is again secure. What can be more pleasing than a bed all aglow with the brilliancy of Henry Jacoby, forming a charming contrast to foliage of Flower of Spring, rendered so attractive by the power of the recent long continued sunshine? Then there are the Lobelias, both blue and white, how effective they are now, and so beautiful in their charming simplicity that they render themselves indispensable in any garden. Iresines, Alternantheras, Mesembryanthemums, and in fact all such members of the bedding family are also now at the height of their beauty, and to each of these a thought is justly due.

My pen seems inclined to run on still further in praise of the many charming annuals and hardy herbaceous flowers, each adding its unit to the sum total of the summer's display, and so large and varied is the floral family that the pen and mind are apt to wander simultaneously on, and as the beauty of one is enumerated it only brings another to the mind's eye with qualifications equal to or surpassing the last. But again the practical must supersede the sentimental, and with August already here and September in prospect gardeners' thoughts must necessarily turn towards propagation, in order that the future may be provided for. Much too short seems the glory of the English summer, and no sooner is the meridian of beauty reached than the process of preparation must again be commenced.

The middle of the present month is generally looked on as being the orthodox period to commence the propagation of bedding plants, and those who are in a position to take cuttings of Zonal Pelargoniums then have every advantage in securing strong well-rooted plants capable of passing in safety those few weeks of mid-winter so trying to these plants. For early cuttings many adopt the plan of dibbling them in light soil out of doors, afterwards lifting and boxing them in time to become established before the winter. Cuttings this season will be in good condition, as the prolonged sunshine will have been the means of maturing the wood, making damping less likely. Where larger supplies of plants have to be kept up the propagation of Lobelias, Verbenas, Konigas, Iresines, and Mesembryanthemums will have to be thought of now, and by inserting cuttings during the early days of August sturdy plants may be obtained well established before the winter. Where failures often arise with such plants as the above is not so much at the time of rooting as in keeping the plants healthy afterwards. Overdryness should be specially guarded against, and slightly moist state of soil all through the autumn and winter, and a temperature during the latter period sufficient to keep the plants growing, is the treatment they like.

September, for various reasons, is the month when the majority of the Pelargonium cuttings are taken, and following them come Violas, Calceolarias, Pentstemons, Antirrhinums, and many others, and though some time will yet elapse before these operations will be performed, still they should have a thought bestowed on them and preparations be made in the shape of soil, beds, and boxes being got in readiness, so that nothing may be wanting.—G. H. H.

HORSERADISH CULTURE.

CULTIVATING the Horseradish may appear so simple that at first sight many persons on reading the title of this paper will think it unwise to waste the space of the Journal with a paper on such a subject. I must, however, crave the patience of my readers, and hope that when they have followed me through this article they will think there is, after all, something in knowing how to grow good Horseradish.

Early in the spring, about the beginning of April, the ground is prepared in the following manner:—A ridge of good decomposed manure is placed on the ground, a deep trench is cut out on each side of this ridge, and the soil from the trench is packed on each side of the manure and also on the top. The manure is thus enclosed between two ridges of soil. The banks when ready for planting have the appearance of well-elevated Asparagus beds; the higher they are kept above the general level of the ground the better.

The beds having been made as above described the next

proceeding is to prepare the sets. For this purpose the long small roots which grow out from the main plant should be used; the longest, straightest, and cleanest of these are selected to form the future giant sticks of Horseradish, and are prepared in the following way:—Take the piece of root in the left hand, then with the right rub off all the eyes and young fibrous roots, leaving about a quarter or half an inch undisturbed at the largest end of each piece.

According to the general practice the pieces to form the future sticks are buried as deeply as possible in the ground; but I advise quite the reverse, for the sets when placed in the ground are not more than 6 inches below the surface. In planting, a piece of stick is pushed from the top edge of the bed in a slanting direction towards the middle of the bed; the sets are then placed in the holes thus made, but care is taken in performing this operation to place the pieces of root in the holes as straight as possible. Care must also be taken to place the smaller or right end in the hole first, otherwise the order of things becomes reversed, and the root, or that portion of the piece intended to produce the future roots, will occupy the position of the crown. The piece of root should be pushed in about 2 inches further than the edge of the bed. This is all that will be necessary to be done.

The piece of root, or set, having been planted in this way, it will soon commence forming roots at the base, and these will at once search out the manure which has been placed in the centre of the bed. As soon as they have found it the set will increase in size to an extraordinary extent, and speedily a bud will break out from the other end, which forms the crown of the plant. When leaves appear, reciprocal action between the root and foliage is carried on energetically, and the plant is then matured with great rapidity. Scarcely a single root is formed between the crown and the base of the rootstock. Here there is a cluster of roots which have found their way into the manure, and the straightest and best of these must be saved for making future plantations. The set does not grow any longer after being planted, but increases in thickness to a wonderful extent, and from the base to the crown is white and perfectly free from roots.—J. W.

[At the request of a correspondent we reprint the gist of the article on this subject that appeared in our columns in 1867, and to which reference was made in the obituary notice of Mr. Wills on page 53.]

THE FLORISTS' TULIP.

[By JAS. W. BENTLEY, Hon. Secretary of the Royal National Tulip Society.]

(Continued from page 289 last vol.)

MANY of the older writers recommend the months of September or October for sowing the seeds of Tulips, but in later years it has been customary with the majority of seedling raisers to defer the operation until February or March. The old florists, no doubt, selected the autumn as the most suitable time, because, in a state of Nature, the seeds would naturally at that time fall to the ground. But the objects of the florist are in some ways different from those of Mother Nature, who cares little or nothing for the safety of the individual provided the type survives, and of the seeds she sows, so lavishly few, in proportion to the number produced, grow to perfection. The florist, however, is anxious to produce the greatest possible number of seedlings from his carefully grown seeds, and naturally tries to improve on the wasteful methods of Nature. The old French Tulip growers had observed that, even if the seeds were sown in October they did not germinate until the following March, and that it was therefore at the best useless to expose the seeds to the risks and chances of the winter. This matter is well noticed in a brightly written French work entitled "Traité des Tulipes," published at Avignon in 1760. Incidentally it must be confessed that a perusal of this little volume, with its careful explanations of all the technical terms used by the growers of that time, its clear and sensible directions for the cultivation of the flower (directions that can be scarcely improved on after a lapse of 135 years), its copious list of previous writers on the subject, and its clear statement of the points which were supposed to constitute excellence, makes one ashamed of the fragmentary and incomplete character of anything that has been written on the Tulip for the last century in this country.

It is true that we have since formulated standards of excellence in form, purity, and marking, and have become alive to the value of cross-fertilisation; but with the exception of these points, the importance of which I have no idea of minimising, there is little that we could teach this old-time French grower.

The end of February is, in my opinion, the best time to sow the seeds, and there are two ways of raising seedling Tulips. The first, which may be called the easy and uncertain method, is to sow

the seeds, say 2 or 3 inches apart, in the open ground, keep the bed free from moss, weeds, and cats, give water when required, and wait the necessary years until the seedlings bloom. This method is so simple that many of its advantages must be obvious to anyone; and there is another which must, in fairness, be mentioned. Seedling Tulip bulbs, during the years in which they are growing to blooming size, have a peculiarity (described fully below) of increasing in number; consequently, as the years go by, a little clump of plants will be found growing where each seed that has grown and prospered was planted. When any member of this little clump becomes strong enough to bloom the grower has a little stock at once, and if the novelty be likely to be a good one, such stock is a great advantage. If the bloom is a bad one the whole clump can easily be destroyed and the entire removal of that seedling from the bed ensured.

The disadvantages of raising seedlings in this manner are however so numerous that, in my opinion, it cannot be called a good one. The risk of losing the tiny bulbs during the first two or three years is great; they are so little under the control of the grower that even under the most favourable conditions the percentage of losses from insects, unfavourable weather, and other causes must be large. I gave the plan a trial some years ago, with the result that out of over 200 seedlings that grew in the first year only thirty-two came up the second. I pursued the experiment no further, but lifted the scattered survivors, fearing that another year's trial would leave me none to take up. Probably the proportion of loss would not be nearly so large in a very favourable situation; mine situated about eight miles north of Manchester could not be described as such without gross flattery.

The second method is to sow the seeds in pans or boxes. I recommend that these should be about 8 inches deep, and have sufficient holes in the bottoms to insure good drainage. A quantity of broken crocks should first be put in, and the pans or boxes filled up to within 2 inches of the top with finely divided rich loam, to which some coarse sand may be added. Each Tulip seed in which the germ can be seen should be gently pressed into the soil at regular distances of about an inch from each other. When the sowing is complete the seeds should be covered about half an inch deep with the same kind of soil. The pans or boxes must then have the protection of a cool house, or a cool, well-ventilated frame, and be carefully watered. It is most essential that the soil be kept moist until the seedlings are above ground, as dryness when the seed is germinating is fatal. The heat and light of the sun do nothing but good, provided there is abundance of ventilation and sufficient moisture. The seedlings, which come up bent like the first of an Onion seed, generally appear in May, and grow with fine grass-like single leaves until the end of June, when they die down. Weeds and moss should be carefully removed during the growing period. As soon as signs of dying down appear all water should be withheld, and the pans stored away in a dry cool place until the following February, when they should be placed again in the cool house, the surface of the soil being scratched slightly in order to open it. Water should be given from time to time, when the small bulbs formed during the first year, which if they had been taken up would be found to resemble the top figure in the illustration below, will begin to grow.

Each tiny bulb produces only a single leaf, stouter and more blade-like than those of the first year. The plants begin to die down in June, when water should be withheld and the boxes allowed to get dry. The bulbs should then be carefully lifted and stored away until autumn. A curious feature of this lifting will be that the largest bulbs will be found most probably among the crocks, the seedling Tulips having a habit of producing "droppers," which are bulbs formed at the end of underground pipes, or hollow stems sent from the parent bulb. These droppers, illustrated in the lower part of fig. 17, are generally the finest bulbs, and care must be taken not to miss any of them. It is this annoying ambition of the one-year-old bulb to become a parent that causes the tedious delay in arriving at blooming size, as instead of one larger bulb being produced, two, and sometimes more bulbs, often little larger than the bulb of the year before, are taken up. Another difficulty now presents itself, for the grower, in order to avoid reduplications, has to select the largest bulb and destroy the others if he wishes to keep his seedling bed free from duplicates. It is very desirable to avoid these duplicates, as seedling breeders are often so much alike that the presence of duplicates makes it very difficult for the grower to differentiate his varieties exactly. This may not seem of great moment, but much confusion has occurred in the past from carelessness on this point.

(To be continued.)



FIG. 17.

PROFITABLE EMPLOYMENT OF GLASS STRUCTURES IN WINTER.

(Silver Medal Essay by Mr. R. MORROW, 12, Corn Street, Leominster.)

THE question raised as to the most profitable occupation of Tomato houses during the winter and spring months is as difficult as it is important. There have been those who have been compelled by self-interest to do something to make the period under consideration yield some harvest, and their experience will be helpful. One thing ought to be understood—whatever may be suggested as most profitable must be generally so, and within the reach of the greatest number. That which is to be cultivated must be universal, not local, in its interest and advantage. Circumstances, of course, alter cases, and it is not difficult to understand that there may be places with special needs demanding a special, and what must be a profitable, supply.

What can be everywhere cultivated, and wherever cultivated will yield the best results? That is the question of pressing interest. A little thought is sufficient to show that there may be produce interesting enough in itself, and with circumstances that give it an importance; but the interest is not sufficiently large, and its profit is not everywhere and always to be realised. Take the Arums, for instance. They are very useful, easy to grow, but are only needed for wreaths and church decorations; they are of no value for buttonholes, bouquets, and vases; the demand therefore would not meet the quantity that ought to be grown to make the special cultivation profitable. Besides which, what could be done with them at the end of February, when the houses are wanted? Easter Lilies, again, are no doubt expensive, and always secure a good price; but they are not profitable before February at the earliest, and, as need scarcely be pointed out, the fuel would be too serious an item where profit was the chief consideration, three or four months being wasted, or at least without present return, and the uses of the flowers being no more various than those of Arums.

The objections to the Hyacinth, the Tulip, the Narcissus, and in fact all bulbs, readily occur. There is the expense of buying them, there is the trouble of forcing them, and there is the risk as to their sale in view of foreign competition, so that the profit at the best would be, must be, very discouraging. Pot Roses may be said to give very little trouble, but they do not come in till nearly spring, and they will be in full bloom when the houses ought to be otherwise occupied. Chrysanthemums are unprofitable, for such is their cultivation by private gentlemen, whose gardens are able to overcrowd the market, with the result that the price is not often the great object, so that market gardeners are wholly at the mercy of others. The thought of the plant which must be grown to yield a dozen bunches for 1s. and 1s. 6d. is enough to set anyone from their culture, and especially when there is added to this the fact that during part of January, and of course all through February, the supplies are stopped. Other flowers might be mentioned, but in my opinion, as I hope to show, the Violet alone can fulfil the conditions which I have already stated.

Before giving my reasons for this opinion with my experience, let us look at the vegetables in the same way as we have looked at the flowers. It was suggested that Tomatoes might be grown all through the winter. The ready answer to that is that they will not pay in the winter, being rarely served as salads during those months, and the price not exceeding 1s. per lb. The fuel and the trouble would thus be scarcely covered, experience showing that the crop in the winter and spring is often very disappointing. Mushrooms, it must be confessed, are very profitable, but supposing the culture became general the supply would be greater than the demand, and the price would accordingly fall. Again, supposing when the Tomatoes were over we prepared Mushroom beds, it would be January before the profit came in, and probably when the houses were again wanted for Tomatoes a crop of Mushrooms would have to be sacrificed. Seakale is a beautiful vegetable, but it must be passed over from a commercial point of view. Cucumbers may be viewed in the same way as Tomatoes, as it is rare to get good crops in the winter, as there is not the demand.

Kidney Beans are profitable and are in good demand, but not sufficient to make them a speciality. If, however, anyone has a number of houses, he could try a house of Kidney Beans and Rhubarb. The culture of Beans is very simple and easy. They can be grown on the principle given for the Violet, only the supports must be made a little longer, to keep the plants from touching the glass. Long boxes, easy to handle, about 9 inches deep and the width of the shelves, should be used. Boxes are preferable, because the plants seem to thrive better than in pots and pans, retaining the moisture better; then a good layer of rough leaf mould must be put in, and the boxes half filled with a light rich mixture; the beans may then be sown about 3 or 4 inches apart. Osborn's Forcing is a good variety; they do not grow as tall as some of the others, and they come quickly. They must be covered lightly about an inch deep, and well watered; and when coming in rough leaf they must have top-dressings with the same mixture; that will keep the plants sturdy and support them. Give plenty of water when the boxes are full of roots, and feed when in flower. When I was at Lord Lurgan's, in the North of Ireland, we grew enormous crops on this

principle. If a succession is wanted sow every fortnight, for from the time of starting to pick until they are nearly over runs about two weeks. The last sowing need not be put on shelves at once, but placed one on top of the other until they come up; this will make a week's difference, and might be of importance to save time. The temperature can be high, as they love warmth and moisture. They should be syringed twice a day to keep down insects, and at the same time assist the plants. If insects come on, the same treatment as recommended for the Violets should be applied. Rhubarb may be brought in and grown in the way described for the Violets. The house will be warmer, and therefore give the Rhubarb a better chance to be forced, and be in the market earlier.

Salads may be passed over as the demand for them is very small, and most often wanted by those who have conveniences without troubling the market. Rhubarb is one of my specialties for profitable labour and investment, and will be dealt with later on.

Fruit needs only a passing word, except the Strawberry, to which some attention may be called. There are many market growers who have to supply the market as well as their customers with the various produce that may be in season, and for such it may be pointed out, as was said in the case of Beans and Rhubarb, a house could be had of Strawberries and Rhubarb, the principle of growing these being very much the same—namely, two crops in one house. The objection to the Strawberry is that too many months pass without getting a profit, and besides which, just when they are in perfection, the houses are wanted for Tomatoes,



FIG. 18.—MR. R. MORROW.

though it is possible to get over a little of the difficulty by the Tomatoes intended for this house being kept growing in pots, and placed in the other Tomato houses till wanted.

With regard to the culture of Strawberries their growth in pots is not universal. My experience, therefore, may not be out of place. The first thing is to select healthy runners, say, from Vicomtesse Hericart de Thury and President, which are as good as any, and are my favourites; place them in little pots, with a flat stone over the top of the root to keep the plant from pushing up out of the soil; shade the root or get nice pieces of turf, making a hole in the centre, and filling in with sandy soil; keep well watered until they are well rooted, then cut off the connection from the old plant and leave for a week or so. Pot into 4-inch pots, and plunge in coal ashes. When they fill these pots with roots pot very firmly into 6½ or 7-inch with a mixture of stiff loam, well decayed manure, and a good sprinkling of sand; leave about an inch or so from the rim for top-dressing; then put all together in some sunny spot and not plunge them, they being better without plunging, as the sun at this time of the year is not powerful, and will be beneficial to them. Never allow the plants to get dry, and when the autumn rains come too heavily turn them on their side, and when the frost comes on they must be protected, or the pots will break. By December top-dress the plants, and get them into the house, and do not feed them until they come into bud, or perhaps they will run to leaves, though loose potting has a tendency to do this more than feeding.

In some places the pots are in saucers, but I prefer turf. The best crop I ever saw was grown on turf round the shelves of a conservatory. This might seem an eyesore to a good many, but when the turf is cut well and evenly, and placed on shelves of the same width, there is not much to grumble at. A little chemical manure should be sprinkled on the turf, as the plants seem to enjoy it. This is better than saucers, for the stagnant water is injurious to the bottom roots. Now the temperature of this house ought to be gradual, and air should be given on fine days until the temperature is 60°. When in flower they must have as much air and as even a temperature as possible, not forgetting the watering, as they must have plenty of water.

When the fruit is set all the little and late ones should be discarded, as this will help the first set of fruit and discharge the crop quicker

When the crop is ripe leave off forcing; I do not mean to stop the fire altogether, but only a little fire heat is needed to help to finish, and give plenty of air, as this will bring flavour and harden off the plants to be planted outside. The beds will be ready, and in the autumn there will be a good second crop. I saw a grand crop last year in September from forced plants. The Rhubarb can be brought in in the way directed for the Kidney Beans and Violets. Now this is suggested, as already stated, for those who have to supply the market, and who have a number of houses of which they must make the best.

Having thus briefly considered various articles of produce in the light of the profit that may, or may not, be realised, I would show, though not unmindful of the views which may differ from mine, that Violets and Rhubarb, with a trial house of Kidney Beans and Rhubarb, and Strawberries and Rhubarb, are the produce the cultivation of which will be the most profitable.

(To be continued.)



CHRYSANTHEMUM SHOWS IN AUSTRALIA.

THE Chrysanthemum appears still to be increasing in popularity in Australia. It is reported in a recent number of the "Australian Agriculturist" that during the past season forty shows were held as against thirty in the preceding year. The growers in that part of the world appear to labour under some difficulty in getting their exhibits to the shows, as will be seen by an extract from the report of the Wentworth show, which says, "Mr. W. L. Higgins was the most successful exhibitor in Chrysanthemums, and it is a fact worthy of record that cut blooms of his which were sent to the Bendigo show, two hundred miles by coach, and thirty by rail, took prizes there after being four days cut." And I should think the reporter might have added, and considerably shaken up.

A BLUE CHRYSANTHEMUM.

In common with many of my Chrysanthemum-growing friends I was under the impression that the idea of a blue variety of the Chrysanthemum was a modern one. The subject has been referred to in the horticultural press on several occasions during the past seven or eight years, and one gentleman, if my memory serves me aright, offered a prize of £5 and railway expenses to any exhibitor of such a novelty. We are, however, as far off from the coveted colour as before, and are probably likely to remain so. The idea is not by any means a new one, for I find on looking over my copy of Phillips' "Flora Historica," published in 1829, that the author makes allusion to the subject in dealing with the question of the colours of the varieties then known. He says, "A rich blue would be a most desirable variety, and we recommend cuttings of the lilac kinds to be planted in a soil with a considerable portion of bog or heath earth, with a hope that it may effect such a change."

Probably the experiment was made; but the blue Chrysanthemum is still a myth, unless we care to believe in the Japanese legend about it being in the care of the Buddhist priests. Certain it is that correspondence with friends in Japan has failed to elicit anything satisfactory concerning the existence of this fabulous flower. The happy plant hunter who can find out its whereabouts may, I think, depend on making a fortune out of his discovery, if he can introduce it alive into Europe or America.

NEW CHRYSANTHEMUMS IN NEW ZEALAND.

Mr. Thomas Wells of Cambridge, N.Z., in an article entitled "Exhibition Chrysanthemums," which appeared in a recent number of the "Auckland Star," says—"Last season was the most fruitful in good new varieties we have had for some years, the most notable eight of which I should place in the following order of merit, viz., Charles Davis, rosy bronze; Mdlle. Thérèse Rey, ivory white; The Queen, white; Mrs. E. D. Adams, white suffused purple; Viscountess Hambleton, silvery pink; Joan Farwell, crimson; Mrs. Bruce Findlay, pink; and Miss Dorothy Shea, terra cotta. The whole of these are indispensable in every good collection, whilst Mdlle. Thérèse Rey is such an advance in whites that no exhibitor, large or small, can afford to be without it."

The same grower refers to there being hundreds of varieties in the colony, and at the request of some brother cultivators of the Autumn Queen he gives a list of what in his opinion are the best thirty-six varieties in New Zealand. It may be interesting to reproduce it here, as it will show that the high position occupied by most of the varieties is not confined to England alone. They are Vivian Morel, Chas. Davis, Mdlle. Thérèse Rey, The Queen, Mrs. E. D. Adams, Viscountess Hambleton, Joan Farwell, Mrs. Bruce Findlay, Miss Dorothy Shea, Eda Prass, Thunberg, Stanstead White, Duke of York, Mrs. C. H. Payne, Miss A. Hartshorn, Grandiflorum, The President, Mdlle. Marie Hoste, Excelsior, Mrs. Libbie Allen, Domination, Niveus, Col. W. B. Smith, Sunflower, Florence Davis, Lucrece, Mr. A. H. Neve, Waban, Tarawera, Mrs. F. L. Ames, Wm. Seward, Fred Dormer, Golden Wedding, Edwin Molyneux, Mrs. Wm. Trelease, and G. W. Childs.

CHRYSANTHEMUM SOUVENIRS.

In a very short time now the season will be at hand, and enterprising show committees may well consider the plan of issuing, either at a small charge or gratis, some form of booklet similar to those which are distributed at the American shows. I have several of these before me, and can well imagine that many a visitor who would not care to keep an ordinary schedule would put such a little work, if neatly printed and got up tastefully, aside for future reference, and as a pleasant reminder of an evening's enjoyment. The preservation of such would act as a permanent advertisement of the society, and would certainly do it more good than harm. The contents would have to be mainly determined by locality and other circumstances, but a general idea may be gleaned of the kind of publication referred to in a very few words. The title page should bear the name of the society, and dates on which the show is held; a list of the officers and committee might follow with the principal prizes, special and otherwise. If music forms a part of the proceedings a programme could be given. This might be followed by a brief description of the show, and two or three short articles on subjects of special interest concerning the flowers. In some cases it might be useful to include a list of the prizewinners, and a time table of trains from neighbouring towns and villages. Above all a few pages of blank paper at the end for visitors to make notes on should not be forgotten.

A few advertisements from tradesmen in the immediate vicinity would go a long way towards the expense, and in the American show souvenirs which I have they are very numerous. In size they should be convenient enough to be slipped into the pocket when done with, say 7 or 8 inches long by about 4 inches in width.—P.

MANURES AND THEIR APPLICATION.

UNDER this title a pamphlet of thirty-one pages is before us, being a lecture delivered to the Cheshunt, Wormley and District Horticultural Society, May 9th, 1895, by Mr. W. Dyke. The object in view, as stated is "to give those whose duty or pleasure it is to cultivate the soil some idea of the different kinds of manure to use, their action when applied to the soil, and the quantity likely to produce the best results generally."

Nearly eight pages are devoted to a disquisition on the need for manures, the sources whence they are derived, and the manner in which they become available as plant food. Water culture is mentioned, growing plants in sand, and feeding in both cases with nitrate of lime, ammonium nitrate, sulphate of potash, phosphate of magnesia, and ferric chloride, which is notable, as only the sulphate of potash, and that not commonly, is used practically as manure. In using nitrate of lime we get nitric acid into the plant, for Mr. Perceval tells us it takes up the nitrogen and rejects the lime; from ammonium nitrate there is nitric acid; from sulphate of potash, sulphur with the rejection of the potash; from phosphate of magnesia, phosphoric acid with the discarding of the magnesia; and from the ferric chloride, chlorine with the leaving behind of the iron. Thus, in the plant we have nitrogen twice told, sulphur, phosphorus, and chlorine; and in the water or sand, lime, potash, magnesia and iron, which the plant can utilise at its discretion, and does by the acid secretion of its roots.

This is a phase of the subject seldom recognised in water or sterilised soil (sand) culture. In the water we get the essential oxygen and hydrogen, and from the atmosphere the equally important carbon. The water or sand, therefore, is for all practical purposes simply fertile soil containing potassium, calcium, magnesium, and iron, yea, and ammonia, for having strict regard to Mr. Perceval's excellent exposition (page 51), the plant absorbs the nitric acid and refuses the ammonia. By what process is this ammonia converted into nitrate of lime or potash in the water? Mr. Dyke tells us it is effected by "bacteria" in the soil, but is silent as regards the water culture, and even the sand. By some means the ammonia must become nitrous, and afterwards nitric acid, or there can be no nitrate for the plant to take the nitrogen from and leave the base.

On page 5 we are told that only leguminous plants can utilise nitrogen gas, and that others derive nitrogen as nitrates from the soil, the amount of nitric acid brought down to the soil in rain probably being not more than 2 lbs. per acre in a year. The amount "supplied in the annual rainfall at Rothamsted is probably 4 to 5 lbs. per acre, excluding the condensation by the soil; the mean of Continental estimates, including localities near towns, is . . . 10.23 lbs. per acre." (Dr. Frear's "Soils and their Properties," Messrs. Bell & Sons, page 62.) Mr. Dyke says, "This small amount is of very little use when we come to consider the amount of nitrogen removed by some crops; e.g., a crop of Potatoes, 8 tons to the acre, would remove 48 lbs. of nitrogen, which is equal to 292 lbs. of nitrate of soda." What of the amount of ammonia abstracted by the Potato tops from the atmosphere? Surely the 100 acres of leaf surface of an acre of Potato plants get some of the atmospheric ammonia during respiration, as well as from dews and rains, independent of that derived from the soil by their roots. Of course, it is argued the plants cannot utilise it. This is strange, for the plant is not deficient in the bases essential for the change into nitrous and nitric acid. Does not such change take place in the plant as well as in the soil?

We find in Mr. Dyke's pamphlet the usual account of the formation of nitrates in the soil from organic matter by microbes, but we cannot conceive whence plants got their nitrogen in primæval times. Something is wrong somewhere; either the plants can of themselves form

nitrates, or the microbes transform nitrogen into assimilable matter by plants independent of ammonia. These are a few ideas that strike us as worthy of investigation, and not inconsistent with the construction of organisms out of inorganic matter.

But we are told on page 5 that the micro-organisms will not work without a supply of organic matter—that is, of crop residues—dead or decaying vegetable and animal substances, which they convert into carbonic acid, water, and ammonia; then other organisms—the nitrifying bacteria—change the ammonia into nitrous and finally into nitric acid, which combines readily with the soda, lime, or potash in the soil, when there is danger of the nitrates being washed away if not utilised by vegetation. These organisms, says Mr. Dyke, “cannot work without a good supply of oxygen, warmth, moisture, and salifiable base.” How is it that aquatic plants, Reeds, and Sedges thrive splendidly in water or in bogs? Whence do they get their nitrates? The micro-organisms are evidently dry land plants, yet they want moisture “not in excess or stagnant in the soil, for this would stop the air from penetrating into it, and consequently the organisms would cease work.” Further, the bacteria are extremely feeble at a temperature below 40° or above 122°, but they develop quickest in a temperature of 99°. This means that we get very little aid from microbes in this country with its mean temperature of 50°, or even in its hottest month, July, 64°. Facts attest that our produce exceeds that of any country in the world of the same kind, hence the slow action of the microbes is of manifest advantage, inasmuch as the land properly cultivated, manured, and cropped abides in good condition. Mr. Dyke says, “Our spring crops (*e.g.*, Cabbage, Onions, Wheat, &c., do not grow much during the cold spring months,” and this “shows” that it is due to the inactivity of the microbes during the winter, or, in other words, the crops named are starved for lack of nitrates. This is a phase of the subject quite new and beyond our ken. It means feed a plant well, and it will out of that, manufacture heat like an animal. Unfortunately, the more a plant is fed in cold weather, especially with nitrogen, the more it suffers from climatic vicissitudes, and, indeed, the nitrates are worthless without the sun’s warmth.

Then follows another lesson from the microbes, and it is shown in a way which makes it appear that organic nitrogen is practically worthless without the active working of these jerky, splitting bodies, but we find a dressing of manure put on grass land in autumn or early in winter tells in favour of the hay—an earlier cut and a bigger stack. Whence come the nitrates if the microbes do not work in the winter months? The decay goes on in the cold season, for by spring the manure has gone somewhere, and the land is stored with certain elements in forms that the meadow plants can and do appropriate.

Passing over the sulphates, which we shall certainly get if there be any sulphur in the soil, and there is generally plenty, and confining ourselves strictly to nitrogen, we have a soil charged with ammonia. This, according to the microbe theory, is of no use until the microbes have converted it into nitric acid and its union with potash, lime, or soda bases has taken place. Nevertheless the grasses respond promptly to the benign influences of the sun in the spring time, and an early winter manured meadow is a “sight to the eyes” long before grass dressed with nitrate in March has begun to move. In spite of this well-known fact, we are told on page 6 that the slow action of farmyard manure and blood, on account of the nitrogen having to be converted into nitrates before it can become available to the growing crop “points out the necessity of applying manures as nitrates, like nitrate of soda, to help the crop during the cold months.” This is opposed to the sound principles and economy of manuring, for nitrates are not of any use in the soil unless the plants can at once lay hold of them, and to do that they must have commenced growing.

Ammonia is quite another thing—it means warmth, and that signifies earlier growth in the spring and during the “cold months.” What helps Cabbage, Lettuce, Onions and Spinach so much as a judicious application of thoroughly decayed manure to the soil before sowing or setting the plants? What better than guano, blood manure, rape dust, malt culms, and soot for dressing plants wanted to give produce early in the spring? In these we have ammonia as opposed to nitrates—cold things, and only fit for spring and early summer use. The soil grips the ammonia, but nitrates pass off in the drainage water. For that reason green crops are advised for bare ground in late summer so that the nitrates, then and in autumn abundant in the soil, may be got into the plants, and so prevent their being washed away and lost to the land by the autumnal and winter rains. This nitrogen of green crops implies ammonia when dug or ploughed under, that means condition—warmth, food, and growth in the crop while microbes slumber and nitrates add to the cold. The importance of this subject renders it absolutely necessary to have right conceptions of, and is the reason of our alluding to it at length.

Mr. Dyke treats of the Leguminosæ (an order of plants), gathering and utilising the free nitrogen of the atmosphere for their nutrition by means of a fungus. This, as regards the fungus, is new, for Professor Percy F. Frankland, F.R.S., is uncertain as to what the micro-organism of leguminous plant tubercles really is, and is content to call the bodies “bacteroids.” This seems a very appropriate term, for in mature form they come nigh bacteria (*Schizomycetes*), or so-called splitting fungi, while during their early stages of development the streaming masses resemble the jelly fungi (*Myxomycetes*), or so-called slime fungi, during which they possess amoeba or animal-like movements, changing form at will on gelatine plate culture. The place, therefore, of the micro-organism is the *Myxomycetes*, whose business in Nature is to convert or reduce the nitrogen of plants, dead or living, as they are saprophytic or parasitic, into ammonia. What form is the assimilable nitrogen of

leguminous plant tubercles in? Their decay in the soil signifies ammonia, and is not this assimilable in the tissues of plants whether taken up by the roots, the parts above ground, or from the nitrogenic nodosities? The micro-organism, according to Mr. Dyke, “is able to fix the free nitrogen of the atmosphere so that it can afterwards be utilised by the plants for their nutrition, and in return the plant supplies the food constituents necessary for the growth the micro-organism.” “From the above fact,” continues Mr. Dyke, “we learn that manures containing nitrogen—*e.g.*, nitrate of soda and sulphate of ammonia, are of very little value to these [leguminous] plants, and experiments have proved the same.” Where the “fact” comes in it is difficult to see, and as for experiments they are frequently conducted without regard to the current fertility of the soil. Has Mr. Dyke ever tested the effect of nitrate of soda on Peas in a dry season? Is not the produce enormously greater and the quality vastly superior to that of plants left to gather nitrogen from the atmosphere? “If plants have not a sufficient supply of nitrogen in the soil it can be detected by a lack of vigour in their growth; the plants look hard and stunted, the leaves are of a pale yellow colour, and weakly at the growing point.” Such, indeed, has been the condition of field and garden-grown Peas and leguminous crops generally this year, only good crops being had where the soil has been deeply stirred and enriched with stable or farmyard manure. A dressing of nitrate of soda makes Peas in the condition described more quickly produce pods as long as the finger, with peas inside that melt like butter in the mouth. Rely on atmospheric nitrogen and microbes, then the land produces next to nothing in leguminous crops, and very little of anything else but weeds.

The elements essential for plant nutrition receive generous attention, and in the chapter on manures there is repletion without surfeit. The microbes come to the fore again in the fermentation of stable or farmyard manure, and appears to be “taken as read.” The author is very miserly with farmyard manure, only 8 tons per acre being advised with a top-dressing of some kind of chemical manure, better results being had than from 20 tons without the fertilisers. However this may be, we notice that the market gardeners and farmers putting the larger amount into the land have “far away” the best crops. Guano, native guano, fowl manure, green crop manuring, and vegetable refuse are carefully handled.

In the chapter on “Special Manures” sulphate of ammonia, nitrate of soda, blood—“a poor fertiliser,” yet “one of the best manures for loamy or sandy soils,” which shows the value of ammonia—a fact the pamphleteer overlooks; and the same applies as regards soot; hoof and horn, shoddy and wool waste, with leather and “scutch”—a bye product in the manufacture of glue and the dressing of skins—are cogently treated.

Manures supplying nitrogen and phosphoric acid follow. Dried fish manures appear a variable mixture, but some grades must be strong, as 28 lbs. suffices for a load of soil, but whether barrow or cartload is not stated. It seems a “success in the cultivation of Tomatoes, Vines, Cucumbers, and Strawberries;” and is a manure “very suitable for sandy soils.” Bones come next, and, of course, are suitable for any kind of soil, dissolved being quicker in action, and used later in the season than meal or other forms. Phosphoric guanos are also mentioned, and serves a similar purpose as bones.

Under the head of “Manures which Supply Nitrogen and Potash” we are told of the value of nitrate of potash, and the preparation of the popular mixture for “pot plants”—one part nitrate of potash, one part sulphate of ammonia, and two parts superphosphate, 1 oz. sufficing for ten plants in 5-inch pots, or half an ounce to a gallon of water. Phosphate of potash is also noticed as “a most suitable manure for pot plants,” but very expensive.

Mineral phosphates come next, including Thomas’ phosphate or basic slag. “It can be mixed with potting soils, the quantity being about 80 lbs. to every [cart] load of soil. It must not be mixed with manures containing ammonia, blood, guano, or great loss will occur, owing to the substance being given off as a gas.” Superphosphate of lime is liberally discussed, also sulphate of potash, muriate of potash, kainit, carbonate of potash, sulphate of iron, lime, salt, magnesia, and liquid from manure heaps. This brings us to the end of the twenty-ninth page, and on the thirtieth we come to the crucial point—the application of the knowledge acquired, and find it condensed into a single page.

For orchards superphosphate and muriate or sulphate of potash is advised to be applied in the autumn, and if the growth in the spring be weak apply nitrate of soda. For Beans and Peas sulphate of potash and superphosphates applied early in spring. For Cabbage, Turnips, Radishes, and Lettuce superphosphate and sulphate of potash applied early in the spring, afterwards dressing with nitrate of soda. It seems there is a difference between theory and practice, for on page 6 the necessity for nitrates in the cold months is put off (and rightly) until after early in the spring. “Cucumbers, Onions, and Asparagus are similar in their requirements, the latter being benefited by the application of salt. The proportions to mix are 1 cwt. of sulphate of potash, 2 cwt. of superphosphate, and $\frac{1}{2}$ cwt. of nitrate of soda per acre, with the addition of 56 lbs. of nitrate of soda per acre every fortnight or three weeks after they are well established. Strawberries require a manure rich in soluble phosphates and potash. The application of 1 cwt. of sulphate of potash, 2 cwt. of double superphosphate, and 100 lbs. of nitrate of soda per acre will be found very beneficial.” No doubt; but when is it to be applied? The same thing occurs in the case of lawns. A work of this nature should be explicit as to times of application, and still more so as regards the amounts to be applied of the respective substances or mixtures. Looking backwards, we find on page 28, under sulphate of

lime, "The quantity to be applied per acre is from 5 to 10 cwt., or 1½ to 2 ozs. to the square yard." Why the rate per yard should be less by 1 cwt. in the smaller amount, and 5 cwt. in the larger amount than that required per acre is a little remarkable, especially in a re-written lecture. It is an easy matter in these days to acquire knowledge of the "off by 'art'" stamp, but it seems as difficult now as fifty years ago to get a paying combination of science with practice with matters agricultural. The practice of acknowledging the authorities to whom he is indebted is commendable on Mr. Dyke's part. These include Sorauer, Aikman, Webb, Wright, and Vine.—G. ABBEY.

[Mr. Dyke should feel flattered by the copious review of his pamphlet, which can be had post free for 6d., and it is worthy of attentive perusal by those who wish to learn more on an important subject.]



EVENTS OF THE WEEK.—During the coming week there are not many events of interest to horticulturists, the chief in London being the meeting of the Royal Horticultural Society's Committees at the Drill Hall, on Tuesday next. By an error this was announced in our last issue for Tuesday last. On Wednesday and Thursday, Cardiff show will be held, and on Thursday the exhibition of the Weston-super-Mare Horticultural Society will take place.

WEATHER IN LONDON.—Much to the discomfiture of holiday makers, rain has fallen every day during the past week in heavy periodical showers, and at the time of going to press there seems but little prospect of a change. Crops in metropolitan districts having benefited by the downpour, sunshine and fine weather would again be heartily welcomed.

THE next meeting of the Royal Horticultural Society will be held on Tuesday, August 13th, in the Drill Hall, James Street, Victoria Street, Westminster. At three o'clock a paper by Mr. A. B. Freeman-Mitford on "Hardy Bamboos" will be read.

THE NATURAL HISTORY OF PLANTS.—This excellent publication of Messrs. Blackie & Co. is fast approaching completion, the fourteenth number being now in our hands. There yet remain two to perfect the series. The special treatment of vegetable morphology and histology has concluded, and the work is now occupied with a general *conspectus* of the vegetable kingdom, proceeding from the cryptogamous plants in ascending order to the phanerogams. The exposition is accompanied with even more profuse illustrations than heretofore, which gives an attractive character to the pages.

BOYS' GARDEN PRODUCE AT REIGATE.—Although the cottage garden products seen at the South Park (Reigate) show on Saturday last were of remarkable excellence, yet as a novelty none exceeded in interest the produce exhibited from the Boys' or School Continuation Gardens, of which there is a group of some twenty, each 1 rod in extent, close by, and were established only last spring. The land is sandy, and has been placed at the disposal of the Surrey County Council by Mrs. E. Charrington, whilst her esteemed gardener, Mr. Funnell, supervises them. The local cottage garden Society, of which Mr. H. W. Peachey, the South Park Schoolmaster, is the very able and energetic Secretary, arranged a series of classes and prizes for the produce from these gardens, in addition to giving several prizes for the best kept gardens. There were staged at the show no less than sixteen lots of three dishes, forty-eight in all, chiefly Potatoes, Peas, and Dwarf Beans. There were seventeen lots of nine white Potatoes, fourteen single dishes of Peas, fourteen of Dwarf Beans, twelve of two Cabbages, and eight of Beet, making in all from this small block of gardens no less than 113 dishes—truly a remarkable quantity, and generally very excellent. Well might the wish have been strongly expressed that the County Council would establish a county competition at one or other populous centre annually for a given number of dishes of products from these gardens. The result now that there are so many groups in the county would indeed be a striking display. If to this were added an exhibition also of the best tubers of Potatoes grown at the various trials now conducted in the county interest would be very greatly enhanced. The local interest shown in these gardens at South Park also may well prove worthy of more general emulation.—D.

— IN our report of Woodbridge show the name Bowman should have read Sowman.

— **NATIONAL ROSE SOCIETY'S GOLD MEDAL ROSE.**—There is a slight misprint in the name of this Rose, which should be Helen Keller, not Killac; and I should like to add, in connection with this, that one of our leading amateurs intends to offer a series of prizes, both to professional growers and amateurs, for a stand of Roses sent out by Messrs. Alex. Dickson & Sons, by whom this Rose was raised.—D.

— **HORSFORTH GARDENERS' IMPROVEMENT SOCIETY.**—At a meeting of this Society, held on July 29th, Mr. Snell of Grimston Gardens, Tadcaster, gave a lecture on foliage plants, which was very much appreciated. The room was beautifully decorated with specimens in almost endless variety, which were supplied by the lecturer, the chairman, and other members. A vote of thanks was accorded to the lecturer for his efforts, and for the trouble and inconvenience of coming so far.

— **KEW GUILD.**—The "Journal of the Kew Guild," an Association of Kew gardeners past and present, for May, 1895, has recently reached us, and, like its predecessors, is full of interest, containing correspondence of and facts relating to many old Kewites now scattered in all parts of the world. The balance sheet and annual report of the Guild are published, and show that it is in a flourishing condition. On the frontispiece of the Journal is depicted a portrait of Sir W. J. Hooker, who was Director of Kew Gardens from 1841 to 1865, and altogether the pamphlet is interesting—not only to Kewites, but to all connected with gardening.

— **ROYAL BOTANIC SOCIETY.**—We have received the following notification:—"The fifty-sixth annual meeting of the Royal Botanic Society will be held in the Gardens Inner Circle, Regent's Park, on Saturday afternoon next, the 10th inst., at one. The meetings have been held on the same date since the Society was founded in 1839, but if they were to take place at a more convenient period of the year a much larger attendance of the Fellows would undoubtedly be secured, and it is thought by many that in this and in other matters the charter might now with advantage be revised. The business to be transacted includes the election of eight members of the Council, the presentation of the Council and auditors' reports, and the consideration of a resolution to be moved by Mr. J. S. Rubinstein, congratulating the Society on the great success of the experimental opening of the Gardens to the public on the Bank Holidays and other days this year, and recommending the Council to admit the public to musical promenades to be given next season on the afternoon and evening of every Monday and Saturday."

— **SOUTH PARK (REIGATE) COTTAGE GARDEN SOCIETY.**—The annual exhibition of this local but very prosperous Society was held in the National Schools there on Saturday and Monday last, every inch of available space being fully occupied. Small as is the area covered by the Society the competition is first-rate both in numbers and in quality. Then there are no less than eighty classes devoted to garden products simply, so that the work of judging is, for one set of censors only, no sinecure. Mr. H. W. Peachey, the Secretary, aided by practical gardeners and helpers, however, does his work so well that everything is in first-rate order, and judging runs smoothly and rapidly. Apart from the cottagers' exhibits, which if the best, could hardly be excelled in the County of Surrey. These were shown by Mr. Salter, gardener to T. B. Haywood, Esq., Woodhatch, a beautiful collection of greenhouse and hardy flowers, including many choice things, which received very high commendation. From Mr. Funnell, gardener to Mrs. E. Charrington, lovely seedling Carnations, set up artistically in vases; also Dahlias, Zinnias, and hardy flowers. From Mr. Parfitt, gardener to E. Horne, Esq. (President), came a lot of charming dwarf Coleuses in 6-inch pots. Mr. Burt, gardener to J. Clutton, Esq., had a good collection of foliage plants; Messrs. J. Cheal & Sons a capital collection of hardy flowers; and the Surrey Seed Company sent from Red Hill a pretty lot of Sweet Peas. Mr. M. Crust took first place for Messrs. Cheal & Sons' prizes for six vegetables, having capital Satisfaction Potatoes, Pen-y-byd Marrows, Intermediate Carrots, Scarlet Runner Beans, Snowball Turnips, and good Peas. In another class, Jas. Dudman was first for the same number of dishes. C. Perry had the best white round Potatoes in Satisfaction; G. Belcliffe best coloured round in Vicar of Laleham; Francis Truelove best Dwarf Beans; and Mr. Hunt the best Scarlet Runners in Sutton's A1, very handsome. Mr. Crust had the best Peas in the Duchess; whilst Mr. H. Brown had superb Intermediate Carrots. These are but a few out of the many capital things shown. Everything reflects the highest credit on the executive of the show and the locality.

— DO LEAVES ABSORB WATER?—CORRECTION.—“W. D., *Turnford*,” writes:—“Please read the first two lines of the second paragraph on page 100 as follows—‘The leaves of some plants do not develop cutin or wax; others which do, have cells in the epidermis where water can pass through, &c.’”

— MR. W. MABBOTT, Dowlais, Glamorgan, writes:—“The following is a summary of the weather here for the past month:—Total rainfall, 6.95 inches. Number of days on which rain fell, fifteen. Maximum, 1.80 inch, on the 1st; minimum, 0.01, on the 15th. Total amount of sunshine, 135 hours, 40 minutes. Sunless days, three. Very strong wind at intervals throughout the month. The wind was N.W. and N. on twenty-five days. There has been more rain for this month than for the previous three; the total for that time only being 5.85 inches.”

— HEMEROCALLIS MINOR.—This plant, which appears in gardens under several names, is a native of Eastern Siberia and Japan. It is less stately, perhaps, than *H. flava*, which flowers early in June, but it is a very beautiful plant, with its long, grass-like leaves and pale yellow fragrant flowers clustered on slender stems 2 feet or more in height. It has been in bloom now, says the “Garden and Forest,” for the last two weeks, and is one of the best and hardiest of summer flowering herbaceous plants, alike suitable to decorate a border in the flower garden or to naturalise in some half-wild woody glade. The flowers, when cut, last a long time, and are well suited to arrange in large vases for the decoration of the house.

— DISQUALIFYING AT SHOWS.—I should like to ascertain from experienced readers what is their view in relation to disqualifying exhibitors at shows, when it is most evident mistakes are purely unintentional, done, perhaps, in the hurry of staging. Recently taking part with two very estimable gardeners as judges at a show, we came to a good dish of Dwarf Beans which contained twenty-two, the schedule asking for twenty only. I contended that as a matter of charity in such a case the odd two Beans should have been taken out to enable the exhibitor to compete. My colleagues elected to punish the exhibitor for his unintentional error by disqualifying. I do not complain that they exceeded their duty, but I thought it was harsh punishment for so trivial a mistake. I have, with other judges’ approval, often corrected such blunders or called the exhibitor’s attention to them privately to save the humiliation of disqualification, when notoriously a mere error in counting. May I ask for some expression of opinion on this matter?—A. D.

— ASHTEAD FLOWER SHOW.—The usual summer exhibition of the local society was held in Ashted Park, Surrey, on August 2nd. Apart from the show the park and grounds were a great attraction, being in the greenest and most beautiful condition. Mr. and Mrs. Pantia Ralli, who placed their charming park at the Committee’s disposal, were not only very hospitable, but did all in their power to render the proceedings very enjoyable. Mr. Hunt, the esteemed gardener, may well be congratulated on the keep of the place, and also of the very fine groups of mixed plants, Caladiums, and cut flowers and fruits he exhibited, and for which he received very high commendations. His noble centre group included Palms, Crotons, Dracenas, Cape Hyacinths, Francoas, Campanula pyramidalis, Ixoras, Crinum, Achimenes, and Ferns. Caladiums are all first-rate, and of fruit he showed good black and white Grapes, Hero of Lockinge Melon, Exquisite Peaches, Elruge Nectarines, Bigarreau Napoleon Cherries, splendid Baumforth’s Seedling Raspberries, and Red Cherry Currants. Mr. Goldsmith, gardener to the Rev. F. G. L. Lucas; Mr. Corbett, gardener to Mrs. Denshaw, and Messrs. E. Morse & Sons, Epsom, also had groups of mixed plants. There were also some pretty table decorations, Miss Harradine coming first with a combination of Gloriosa superba flowers and Fern only, and Miss M. Peake second with soft coloured drooping Begonias and Fern. The cottagers’ productions were generally excellent, W. Merrit taking first prize in the champion class for six vegetables, and J. Matthews, whose products were better in the ordinary class. W. Lisney had a capital dish of white kidney Potatoes, name not given, and J. Matthews with Windsor Castle, very handsome white rounds. He also had the best red rounds with pretty Reading Russet. Vicar of Laleham was good in this class. Canadian Wonder was shown in fine form for a Dwarf Bean, and the Runners, though fine, rather lacked the better quality found in the Ne Plus Ultra type. Onions of both classes were first rate. Flowers also were very pleasing indeed. There is, however, in several directions much room for expansion. Some good collections of vegetables were shown by the boys’ or continuation gardens.

— ABERDARE SHOW.—We learn that at this show, held on Thursday last, Mr. C. Foster, gardener to M. C. Williams, Esq., Aberpergwm, Glyn-Neath, Glamorgan, received a gold medal for the best Grapes in the show, the variety staged being Black Hamburg. Besides this, the same exhibitor secured ten other prizes. This is an excellent record, and proves Mr. Foster to be a thorough cultivator.

— JULY WEATHER AT DRIFFIELD.—Mean temperature at 9 A.M. (corrected), 60.3°; wet bulb, 56.0°. Mean maximum, 66.2°; mean minimum, 49.36°. Highest, 77.6° on the 8th; lowest, 41.0° on the 16th. Mean radiation temperature on the grass, 45.19°; lowest, 34.0° on the 16th. Rainfall, 5.33 inches. Number of rainy days, nineteen. Greatest amount on one day, 1.28 inch on the 18th.—W. E. LOVEL, *Observer, York Road, Driffield*.

— THE WEATHER LAST MONTH.—July was a wet month, the rainfall exceeding every month since January, and has proved very acceptable to everything in the garden. The wind was in a westerly direction nineteen days. Total rainfall was 3.01 inches, which fell on nineteen days, the greatest daily fall being 0.89 inch on the 18th. Barometer, highest reading 30.114 on the 7th at 9 A.M.; lowest, 29.230 on the 21st at 9 P.M. Thermometer, highest in the shade 81° on the 8th; lowest, 45° on the 6th, 7th, and 11th. Mean of daily maxima, 69.70°; mean of daily minima, 52.25°. Mean temperature of the month, 60.97°; lowest on the grass, 36° on the 16th; highest in the sun, 141° on the 8th. Mean temperature of the earth at 3 feet, 58.80°. Total sunshine, 176 hours 40 minutes. There was one sunless day.—W. H. DIVERS, *Belvoir Castle Gardens, Grantham*.

— WEATHER IN JULY.—This has been a very wet month in this district, rain falling on no less than twenty days, and the total registered for the month higher than has been the case for a long period—viz., 6.23 inches; 1.72 of this amount fell on the 21st in the short time of two hours—from 6 to 8 o’clock P.M., and was a storm of unusual violence. There has been thirteen wet days in succession during the latter part of the month, and the harvesting of the hay crops has been greatly interfered with. Mildew is infesting Peas, Onions, and other crops. Gooseberries and Red Currants are also greatly damaged by the excessive wet; the former are dropping in quantity. Having so much wet there has been an absence of sunshine during the month, but on the whole the weather has been warm. Herbaceous plants and annuals have grown very fast, the latter getting somewhat drawn. The warm moist weather also seems to suit a number of young Conifers growing in the long borders in the kitchen garden. Many of these are making good clean growth. There has been a few fine days this week, but very little sunshine; and while penning these notes (August 3rd) it has been raining very fast, and the barometer is very low.—J. S. UPEX, *Wigganthes, York*.

— THE HARBORNE GOOSEBERRY GROWERS’ SOCIETY.—The eighty-first annual show in connection with this, the oldest Gooseberry Society in the kingdom, was held at Harborne on 27th ult. and three following days. The berries were much below the average weight, it being eight years since the last similar average. The “premier” berry on this occasion was Leveller, shown by Mr. E. Withers, and only weighed 21 dwts. 12 grains. The largest ever shown at the Society’s gathering was 34 dwts. The heaviest twin berries, Ringer, 29 dwts., were shown by Mr. T. Field. In the various sections of coloured berries the following were the respective winners:—Red, Mr. Withers, 20 dwts. 20 grains; green, Mr. T. Richards, 19 dwts. 12 grains; white, Mr. G. Newell, 18 dwts. 12 grains; and yellow, Mr. Withers, 20 dwts. 5 grains. There were numerous other dishes staged by several exhibitors. Owing to the wet weather previous to the show some of the heaviest berries had burst, and for which there is a special class. A somewhat peculiar feature pertaining to the rules of the Society is the awarding of a prize to every exhibitor, according to the weight of the fruit, and the prizes include such as bottles of spirits, wine, boxes of cigars, as well as money. Not the least interesting object on this occasion was a plateful of “baby” Gooseberries, about the size of Black Currants, and unripe, being the produce of late or abnormal flowering plants. The premier berries in each section at the close of the show are put into a wide-mouthed glass bottle, in whiskey or other spirit, to preserve them until the next annual show. It is also further interesting to remark that a regular record of this octogenarian Society’s shows has been kept ever since its inauguration, and for several years past a dinner has been held by the subscribers and friends. The champion winner for several years past, Mr. E. Boraston (the Secretary), this season occupied a minor position, owing to a change of residence recently, consequently his young trees are not fully established.—W. G.

— **APPLE BEAUTY OF BATH.**—We have received from Messrs. G. Cooling & Sons, Northgate Street, Bath, a sample of this excellent early Apple, of which they have been gathering fruits from young trees for the past three weeks. The shape is flat, and the size small. The colour is very bright red on the sun side and pale yellowish green where the fruit was shaded. This should prove a splendid Apple for market purposes, the flesh being white, juicy, and sweet.

— **THE BOSTON SOCIETY OF NATURAL HISTORY.**—This Society annually offers substantial prizes for the best memoirs in English of subjects proposed by the Council's Committee. The first prizes are from 60 to 100 dollars, the second in each case being 50 dollars. One of the subjects for a memoir in the competition for 1896 is "An Experimental Study of the Effects of Cross Fertilisation in the Case of Some Plants of Short Cycle." According to a contemporary, the 1897 set of subjects includes "Original Investigations in Regard to the Chalazal Impregnation of any North American Species of Angiosperm," and "A Contribution to Our Knowledge of the Morphology of the Bacteria."

— **HEAVY HAILSTORM IN JULY.**—A severe hailstorm occurred here on July 14th, which did considerable mischief among Apples of the soft-skinned kinds, such as Lord Suffield and Ecklinville Seedling, and, more or less, according as the fruit was exposed to its force on others, the long-keeping Lane's Prince Albert faring rather badly. The violence of the storm was considerable, and I really feared that *Chrysanthemums* would have had all their young foliage dashed to shreds. Although not so much damage happened to these as I anticipated, many of the leaves were cut about badly. The ground was quite white, and the hailstones were as large as Marrow Peas. *Begonia* blooms in the flower beds naturally showed early traces of the injury inflicted, and it is surprising that so many other plants escaped with so little injury.—W. S., *Road Ashton*.

— **SUSSEX RAINFALL.**—The total rainfall at Abbots Leigh, Haywards Heath, Sussex, for July was 3.80 inches, being 1.14 inch above the average. The heaviest fall was 0.91 on the 22nd. Rain fell on fifteen days. The drought came to an end on the 18th, having continued for nearly twelve weeks. The total rainfall for that period was only 0.91 inch, which just equalled the heaviest fall of the past month, and it is rather remarkable that the amount named should fall in one hour during a thunderstorm. The maximum temperature was 80° on the 8th, the minimum 45° also on the 8th. Mean of maximum, 72.19°; mean of minimum, 52.12°; mean temperature, 62.15°, which is 1.13° above the average. Since the heavy rains, 3.36 inches in fourteen days, vegetation has revived as by magic. The change was unfortunately accompanied by strong S.W. winds for several days, doing considerable damage amongst fruit trees. August came in fine.—R. I.

— **TORQUAY DISTRICT GARDENERS' ASSOCIATION.**—The members of the above Society held their third annual outing on Tuesday, July 30th. The party proceeded in brakes to Ashburton and through the Buckland Drives (by the kind permission of Mr. B. J. P. Bastard, J.P., of Buckland Court). Under the guidance of Mr. W. Leach, the head gardener, the party had an opportunity of viewing some of the grandest scenery in Devon, that commanded from a point known as the Raven Rock being especially magnificent. From here the brakes proceeded to Widecombe-in-the-Moor, where luncheon was served. By the kind permission of Mr. J. Kitson, Heatree was next visited, the plantations of *Rhododendrons* and *Conifers* proving particularly interesting. After partaking of tea on the lawn a start was made for home, which was reached *via* Manaton Becky Falls and Bovey Tracey. The day was much enjoyed. Mr. F. C. Smale, Hon. Secretary, was responsible for the arrangements.

— **BOURNEMOUTH GARDENERS' ASSOCIATION.**—The seventh annual excursion of this Association took place on Tuesday, July 23rd, to Inwood House, and the kind hospitality of Lady Theodore Guest rendered the gathering one which will be long remembered by those privileged to take part in it. Upwards of fifty members journeyed by rail to Hensridge, which was reached about nine o'clock. Here they were met by Mr. T. Wilkins, head gardener, who in the name of Lady Theodore Guest gave them a hearty welcome to Inwood. The gardens and grounds of Sir Edward Meddlycott, Ven House, Milborne Port, were first inspected. At one o'clock an adjournment was made to a large marquee erected near the house, where Lady Theodore Guest had provided a sumptuous dinner. Fortunately the day was fine, not a drop of rain falling until the party had got into the train for the return journey. Bournemouth was reached about ten o'clock, after enjoying one of the most pleasant days it was possible to have.—J. B. STEVENSON.

— **PROPOSED PARK FOR HAMPSTEAD.**—We learn that a movement has been started by a number of influential residents in Hampstead to secure the estate of the late General Fraser as a park and recreation ground. The proposed park is situated by Finchley Road and West End Lane, and has an area of 13 acres. The grounds are finely laid out and abound with flower beds and winding paths.

— **HORTICULTURAL CLUB.**—A very successful excursion was made by some of the members of the Club and their friends on Tuesday last. The first place visited was Claiemar, Finchley, one of those extensive establishments which have of late years sprung up in the neighbourhood of London and other large towns for the purpose of growing Grapes and Tomatoes. It was a revelation to many of the visitors to see houses 450 feet long filled with Grapes, one house having 7 tons of Grapes hanging in it. When these are ripe it must be a wonderful sight; at present they are just beginning to colour. The party, numbering forty-three, was hospitably entertained by Mr. Peter Kay at luncheon, after which they drove to Hatfield, where they were conducted through the park and gardens by Mr. Norman, head gardener to the Marquis of Salisbury, who had kindly given permission to visit this noble place, afterwards adjourning to the Red Lion, where dinner was served at seven o'clock, returning to town at 8.45. There was an unanimous opinion as to its being one of the most enjoyable excursions the Club had ever made, and the members were deeply indebted to Mr. Kay, who undertook all the arrangements, and under whose able management everything went off pleasantly.

— **BOTANIC SOCIETY'S EVENING FÊTE.**—The fête given by the Royal Botanic Society of London in association with the Geographical and Medical Congresses was held on Wednesday last at the Society's Gardens in Regent's Park under most favourable circumstances. The air was warm and still, and the Gardens were illuminated by about thirty thousand coloured lights, which were hung in the trees and bordered the paths and flower beds. Visitors to the number of at least six thousand crowded the walks and conservatories and assembled near the bands, which included those of the 1st Life Guards, the Royal Horse Guards, and the Ladies' Pompadour Band. The chief exhibition was the geographical arrangement of tropical plants, special medicinal and economic plants in the large tent, while a number of artificial flowers were shown in the corridor. In the course of the evening the Gardens were visited by Her Royal Highness Princess Mary Adelaide, who was accompanied by the Duke of Teck, Prince Edward of Saxe-Weimar, and Prince Adolphus of Teck. The Royal Party inspected the Gardens and the illuminations, and remained until a late hour.—("Morning Post.")

— **THE CRADLE OF ENGLISH MARKET GARDENING.**—When I got through the ancient archway (of Sandwich) which is so low that you instinctively bow your head, I remembered that I was in the most ancient of the famous Cinque Ports, and a town which was at one time synonymous with decay and desolation. A wonderful old-world town it still remains, though the railway and the spirit of modernity are rapidly destroying its mediæval character. There are houses hidden away in the narrow, dark, dirty side streets, which date back to the days when the Flemish exiles fled here from the tyrannous persecutions of Ferdinand Alvarez, Duke of Alva. Some of the finest specimens of the old-world architecture were sacrificed quite recently to the necessities of an enlarged cattle market. One introduction of the Flemish exiles still remains and flourishes—the market garden. For miles around Sandwich the market garden is to be seen at its biggest and its best, and among those who carry it on are many descendants of the Flemish exiles who fled from Alva's cruelties, and the foreign names they bear are now looked on as local. As I stood and leaned against the iron rail of the cattle market, and the market carts laden with fruit went by to the railway station, in many instances with old French and Flemish names painted white on the waggons, I thought to myself that, whatever had happened to the old town in the long centuries since it was the Liverpool of the ancients, the refuge of Becket, and the landing place of kings and emperors, there was no denying that the Flemish colonisation had remained "fruitful" even to the present year of grace and Cherries. My youthful guide, who had the local lore by heart, showed me the house where Queen Elizabeth stayed in the year 1572, when the streets were hung with garlands of Vine leaves, and the Flemish and English children were placed on platforms to go through various performances in Her Majesty's honour, and he took me down odd deserted byways to see quaint and curious carvings of saints and devils still standing where they stood in the days of the Wise Virgin, who accepted a golden cup of wine from the Mayor and drank heartily to the health of the merry men of Sandwich.—G. R. SIMS (in the "Referee.")

— **MORINA LONGIFOLIA.**—This plant is a native of Nepaul, and attains a height of 2 feet or more. Before flowering it so closely resembles a Thistle that a writer in an American contemporary warns growers against pulling it up for a weed. The flowers are crowded in whorls in the axils of the leaves, and are nearly white when first appearing, but change with age to a delicate pink and finally to crimson. It is a plant that requires more time to attain the flowering stage than most perennials; it took two years here. It is apparently perfectly hardy, but likes a little shade.

— **HARMONIOUS BLENDING OF COLOURS.**—Anyone who is at all interested in plants and flowers will have noticed that the flowers of our fields and woods exhibit no such discords of colour in their juxtaposition as are to be found in so many gardens, but that, on the contrary, they are ever charming us with their apparently fortuitous harmonies. The reason for this is not quite obvious at first sight, but a botanist offers an explanation which may, perhaps, be the correct one. We know that the colour of flowers has been developed through natural selection, as an attraction to the insects that fertilise them. Is it not possible, he asks, that the contrasts of colour serve the purpose of attracting insects by making each colour more conspicuous, so that each flower flourishes by the side of that other whose colour best serves to display its charms?—(“Morning.”)

PENRHYN CASTLE.

ON a fine afternoon in June two tourists might have been seen wending their way to see the gardens of this notable place. On entering the doors the first sight to be seen was a magnificent Fig tree, trained against the walls and laden with fruit, a picture of good culture. In close proximity to this were two plots of Keen's Seedling Strawberry carrying heavy crops of fruit, and protected in a very convenient form. Stout posts about 6 feet high were fixed at suitable distances apart to support strong battens, this framework being covered with netting. Along the outside of this arrangement, close to the ground, wire netting 2 feet in height was fastened to the posts, to prevent the squirrels from taking the fruit.

Asparagus now attracted attention, numbers of the growths being 7 and 8 feet high, the plantation being little more than twelve months old, and one row of plants in each bed. Here the hard-working chief was found, who informed us that he had grown it considerably finer than the present plantation. A wrinkle was noted in the careful way the staking was done, strong canes being driven into the ground at an angle of about 45°, so there was no fear of damaging the crowns.

A rest and a chat on one of the garden seats prepared us for a tour through the extensive grounds. In passing, large quantities of the old China Roses were admired, as also the best of the newer ones. In the park the evergreens had suffered badly with the frost, but were pulling themselves together again, Mr. Speed remarking that the Ponticum Rhododendrons had been more severely punished than many of the hybrids. In forest trees the Sycamores stood out prominently, their sturdy, densely feather-like growth giving them a noble appearance. Through undulating scenery a rock garden was reached, a pool therein containing Water Lilies in profusion. Close at hand a large aviary was being finished for the reception of a number of doves.

Away from here the flower garden was reached, a quiet secluded spot full of endless variety. The avenue of splendid Fuchsias that once formed such a feature had been killed to the ground by the severe frost, but the stools were throwing up plenty of shoots, although it will take a long time before they reach the size of those killed. The trellis in the meantime is being covered with creepers. Notable on the walls was Rhododendron Lady Alice Fitzwilliam, Lapageria rosea, from which Mr. Speed told us he often gathered flowers at Christmas time. In the borders Liliium auratum and longiflorum were growing luxuriantly, while L. giganteum looked truly magnificent. Eulalia japonica variegata is quite hardy at Penrhyn, and retains its variegation equally as well as when grown under glass, while the greater strength of the stems renders it useful for decorative purposes. On the grass were fine Magnolias, and a specimen of the Tea plant, which had been sorely injured by the frost, was breaking again. Camellias were thriving everywhere, and many other interesting plants too numerous to mention.

Passing on, the glass houses were next inspected. Palms in all useful sizes were in plenty, and well they looked; while the Maidenhair Ferns growing on the back wall gave a finished appearance to the Palms as well as being useful. Passiflora quadrangularis was scrambling up the roof on an adjoining house in full vigour. Further along Tacsonias looked charming hanging from above, while amongst the numerous decorative plants some brilliant Cannas were noticed.

On the terrace outside the flower beds were tastefully planted, the most striking being those filled with Begonia Lemoine's hybrid erect, the plants of good habit and height, the flowers being of deep crimson. Other beds were planted with tuberous Begonias and the usual class of bedding plants. The outline of the beds is formed of Box, which was quite refreshing to see, so trim and healthy did it look. Along the front of a trellis hung festoons of Roses and Clematis, which later on will be

a sight. On the back wall the sweet-scented Verbena was quite at home.

“Come along,” said Mr. Speed; and our active guide next took us to see the Castle, a magnificent example of sterling workmanship, being in keeping with the grand scenery all around. Ivies of various kinds are growing up the walls of the Castle, which was at first attended with some difficulty, for the stems had to be laid under the pavement that extends for a considerable distance from the Castle walls. But the persevering man in charge had overcome this trouble by growing on the plants until they were long enough to enable him to plant them outside of the stone promenade, lay the stems underneath the same, and still leave sufficient length to train up the walls. Away on the left stood trees planted by Royal persons in commemoration of their visits to Penrhyn.

Off we go again, along the cleanest of walks, to the kitchen garden and the forcing houses. Here Paeonies and Irises were in abundance for cutting. Warrington Red Gooseberries, trained cordon fashion, were carrying plenty of fruit of this good late dessert variety. Close at hand to these were more Gooseberries of the best sorts, covered with wire netting to protect them. Hardy fruits of all kinds were carrying satisfactory crops, and some cordon Apple trees bearing fine fruits. A large breadth of Cabbage was seen that would be the admiration this year of many a delver with the spade. Close by a grand plot of Onions was looking all that could be desired, and gave indications of something in the autumn. Soot is used to prevent the maggot, and also sulphate of ammonia carefully applied.

A look into the fruit room gave indication of something good, and we saw Bellegarde Peaches and Elruge Nectarines that would have graced many an exhibition board. Black Hamburg Grapes, too, that had recently been cut from Vines in pots, and placed in bottles to make room for other crops, were good. A few wrinkles were also learnt respecting the packing of various kinds of flowers for travelling.

Out of this into warmer quarters, more Peaches and Nectarines were coming along finely, good wood, thinly trained, with fruit in quality and quantity, being the prominent features. Next we are in the Fig house, and here was seen the most splendid Brown Turkey Fig tree that the writer has ever seen. Trained along the front of the house on a curvilinear trellis 40 to 50 feet in length, as far as can be remembered, this tree was carrying fruits of such size and quality that would be almost impossible to eclipse. The Pines were the next to be seen. Queens of handsome proportions ripening, and the later stock of fruiterers, such as Cayennes and Rothschilds, looking all that could be desired.

Gardenias on a shelf at the back of the house were the picture of health, seeming to revel in the strong heat, with the offer of a sovereign from the chief if a mealy bug could be found on them. On we go, more Pines and Melons in succession, the principal Melon grown being Penrhyn Hero. The Melons, like the Pines, are grown in pots. A house of Ham Green Favourite Tomatoes next catches the eye, the stems literally clothed with fruit of useful size. A fine collection of Crotons in small pots were beautifully coloured. Other houses contained Begonias, Ferns, and quantities of useful plants.

In front of a range of glass on a narrow border a row of Ne Plus Ultra Dwarf Beans were turning in, aided by small lights, which are removed as required. Succession Pines, which looked like keeping up the reputation of their parents, were inspected, with small houses containing numerous plants and flowers necessary to supply an establishment of this description.

Now to the vineries, with the remark from Mr. Speed that he was going to show us some spurs of Vines 12 feet long, with a twinkle in his eye, no doubt caused by the look of wonderment expressed. We enter. “There they are,” he said, “bundles of faggots people call them!” A few moments were sufficient to understand the method adopted, the spurs being left a good length each year at pruning time to insure extra good bunches. The crop evidently proved the method answered, for the Grapes, Black Hamburgs mostly, were excellent samples of high culture, beautifully finished. The outside border of this house is covered over with bricks, the roots being preserved better in this locality for early work by this system than otherwise. The Muscats and late Grapes were promising well, although the outside roots had been unavoidably lifted late in the spring. By the style in which they were growing they certainly looked like finishing off the crops to perfection, and considering the Vines are, I think, upwards of forty years old, they are excellent examples of skilful handling. Lady Hutt, one of the newer Grapes, is being tried, and Mr. Speed thinks it will turn out a good variety. Various Orchids looked as if they were as well cared for as the other things, notably some Calanthes, in medium-sized pots, which were making splendid growth.

A move was now made to Mr. Speed's residence, with a peep at the horses on the way, that looked in as good trim as the plants. A pleasant welcome from Miss Speed, and something substantial for the inner man was heartily enjoyed, especially a fine variety of Lettuce, “New York.” A pleasant chat for a while with a longing for more time, and the tourists had to be off, with thanks to Miss Speed for her kindness and hospitality, and accompanied by our entertaining guide we make for the train, having seen one of the most clean and well-stocked gardens it has been our pleasure to visit; not merely ornamental, but something to fill the basket everywhere, and plenty of it. At last we reach the railway station, and after wishing our kindly friend farewell, with many thanks for the pains and interest he had taken to make our visit a pleasure, the writer and his companion steam out of Bangor, after a most enjoyable afternoon, especially so to the—SCRIBBLER.



MILTONIA SPECTABILIS.

THIS is one of the finest plants in the genus, and a very useful and beautiful Orchid. It is also one of the oldest, in fact the oldest in the genus, having been introduced from Brazil in 1837. It has upright, flat-looking pseudo-bulbs 2 or 3 inches high, and these spring from a stout creeping rhizome. The colour of these is usually pale yellow, the leaves being very light green. The flowers are produced on single-flowered scapes, which are covered with scaly bracts, and are each about 4 inches across. The sepals and petals are oblong, the former spreading, the latter turned back at the tips, and both pure white. The lip is 2 inches wide, deep violet purple, with lines of bright crimson running through it.

The culture of this species is not difficult, and many grand specimens are to be seen in various parts of the country. I have found it do better in either shallow baskets or rafts than in pots; but if reared in the latter the drainage must come to within about an inch of the top, as a great thickness of compost is unnecessary. If on rafts they are also more easily brought up to the light, which they must be if flowers are to be produced. A little peat and sphagnum should be placed about the roots, and the plants wired on firmly without cutting the rhizomes. A little shade is needed while growing in summer, but this must not be too dense or kept on longer than necessary.

The Cattleya house suits them best, and while growing the plants must have an abundance of water. The roots soon take to the compost if carefully moistened at first, and when they have a good hold on the raft the plants need attention sometimes as often as twice a day in summer. During the winter very little will be needed, only enough, in fact, to keep the pseudo-bulbs plump. Early in spring before the plants grow from the base a little of the old material should be taken away and new substituted, being careful not to disturb the roots too much.

M. spectabilis is a very variable plant both in size and colour, some varieties being magnificent, while others are rather poor. Var. *lineata* has a white frontal portion to the lip, with veins of rosy carmine, leading to a deep purple blotch at the base. *M. s. Moreliana* is often classed as a separate species, and is a remarkably fine Orchid. The sepals and petals are rich vinous purple, the lip lighter, with deeper crimson lines. This, too, has sub-varieties, differing more or less in the intensity of their colouring.

ODONTOGLOSSUM SCHLIEPERIANUM.

For a long time this was known as a variety of *O. Insleayi*—viz., *O. l. macranthum*; but the flowers are quite distinct from that species. It is a most unique kind, and one worthy of extended cultivation, flowering at a very useful time, and lasting well in good condition. The habit is a good deal like *O. grande*, and the treatment required is similar.

Being a native of Costa Rica, it requires more heat than the majority of species, and will not do well in the coolest house. The roots are strong, and will bear a tolerably substantial compost. Good peat, broken in lumps as large as a pigeon's egg, with a little chopped sphagnum and charcoal, will grow it well. The pseudo-bulbs must be kept well up from the rim, so that no water lodges about the base of these in the winter.

Slugs are very partial to this section of *Odontoglossums*, and an immense amount of care is needed at this season to ward them off. Not only do they eat the spikes, but also the young swelling pseudo-bulbs, to the great detriment of the plants' health and appearance. The flowers of *O. Schleiperianum* are large and showy, produced on spikes containing about six or seven. The sepals and petals are sulphur yellow with bars of rosy purple, while the lip is almost white with blotches and spots of reddish brown.

RESTREPIA ELEGANS.

This is a little gem when well managed, very dwarf in habit, and not showy, but a really pretty and attractive little Orchid. The largest flowers only span about $1\frac{1}{2}$ inch across. The upper sepal is narrow, cordate, yellow marked with red, the lower ones united and similar in colour. The petals are small, standing out from the rest of the flower, while the lip is yellow edged and spotted with red. These flowers are sometimes produced singly, at others several on a spike, which springs from the base of the leaf.

The plants should be potted in good peat fibre and sphagnum moss, and the pots must only be large enough to take the plants easily. A cool, moist, and shady atmosphere is essential during the summer months, and a plentiful supply of water to the roots. During the winter they must have a light position not far from the roof glass and still kept moist, but the greatest care is needed not to water them too much. The plants are very free-flowering, producing an almost constant succession of flowers. *R. elegans* was introduced to Berlin in 1847 by Dr. Karsten, who found it growing in very moist situations on the knotty branches of old trees in shady woods. It is a native of Caracas, growing naturally at an altitude of 6000 feet.—H. R. R.

RUBUS ODORATUS.

NUMEROUS and beautiful as are the flowering shrubs of our gardens none is more worthy of a place than the one under notice, and of which the illustration (fig. 19) portrays a flowering spray. Sometimes known as the Virginian Raspberry, it forms, when in flower, a singularly beautiful object. The plant when in good soil makes rapid growth, and forms a dense bush several feet in height and diameter. The form of the sweetly scented leaves, which are somewhat glutinous, may be readily seen in the woodcut, as also can the character of the inflorescence, which is bright rosy purple in colour. Despite the fact that *R. odoratus* was introduced nearly two centuries ago it is extremely rare in gardens, in the shrubberies of which it could never be other than an ornament. Once a plant is established no difficulty will be experienced in increasing the stock, as suckers are thrown up from the base, which can, when rooted, be detached, and will quickly commence to grow.

YOUNG HEADS AND OLD HANDS.

THE most critical period of a gardener's life is probably the first three or four years after assuming the reins of government, and starting on his career as a head gardener. In this space of time he will make his mark, either for good or bad, unless a crisis should unhappily intervene, and he is again relegated to the starting post on fresh ground. Or, may be, under special conditions the normal has been maintained, and that may be very good indeed. Anyway, as a rule, it may be taken for granted that young men are not only imbued with the responsibility of their newly acquired official standing, but are also fully cognisant of the importance of making a good start, for the beginning and the end of a race, even of life, entails the sharpest criticism, although the latter phase is generously qualified by charitable feelings seldom afforded to the former.

I have some vivid recollections of my first engagement (in two senses), when, after being duly sent forth by my trainer for inspection, approved of, and temporarily returning to the dear old bothy, he questioned me on things in general, and on the steward's room department in particular, in which, as the young head, I had been introduced to the old hands, and of which, in reply to my glowing description, he merely said, "Ah, lad!" in a tone which caused just a temporary misgiving at the time, and many a reflection after. He knew then, I know now, and knowing how many little things there are to meet, not included in the estimate of gardening qualifications, but which are extras seldom omitted, one feels a desire, yet a difficulty, to help those who in starting are apt to view the world through rose-coloured spectacles.

How circumstances alter cases. In the bothy more youthful compatriots had been wont to commiserate on my (to them) patriarchal age; from the steward's room so much pity was expressed for my youth as to cause a feeling of guilt in this respect. However, to avoid autobiography it may be stated that, failing other indictments, this one alone is sufficient to cause an unpleasant feeling, also to create unsatisfactory impressions; for like unripened wood is viewed by us, so do these old hands look on a young head. By such or similar means is one handicapped at the start, and being guilty there is no defence. Time and time alone is potent to place this matter aright. Yet I think a little wholesome reserve from the outset is an invaluable aid; and though you will soon hear through some channel that you are "stand off," better stand off than stumble over rocks not marked down on your chart. Take a few quiet observations on your own account of your critics, and be in no hurry to form hasty friendships which are often fleeting.

Probably but a short time will elapse ere it is felt that some little encroachment is attempted to be made in the gardener's field of labour; perhaps to the extent of feeling that the interference must be stopped for good and all. These matters are as delicate as they are disagreeable, requiring the greatest tact and nicest dis-

crimination in dealing with them. Here a courteous, dignified remonstrance may be sufficient to set matters right, and I would advise that extreme measures only be taken where diplomacy fails as a remedy. Only as a last resort would I appeal to headquarters, then have clearly defined your cause of complaint, for "thrice is he armed who has his quarrel just." Perhaps there are but few old boys (like myself) who have not had experiences of this kind; we can afford to smile at them now, but, at the same time, we do not condemn their importance to a young "head."

It is frequently remarked of us—gardeners—that "one man puts up for the next to pull down," which may be here interpreted as the desire to set oneself right by showing that others have been

(the perfect) it may entail the highest skill, coupled with prudence, to keep things to the normal standard. It may be that for many years the garden with its trees and bushes, its soil with rotation of cropping, the houses with the Vines, Peaches, and what not, have become so intuitively responsive to the ministering of a master hand that any variation of treatment appears to be—and is—resented by the occupants.

Hitches may, too, occur from some re-arrangement of the staff—the old hands, between whom and their special work a bond of sympathy has been woven. In an endeavour to do better, where possibly the best is attained, the wisdom to let well alone is obvious; or, at least in making changes to hasten slowly. Years—



FIG. 19.—RUBUS ODORATUS.

wrong. Without admitting this insinuation in its entirety, I think a young head, in his anxiety to show immediate results, is open to make mistakes in this direction. Far be it from me to sit in judgment on a class without being included in the category; I am, in fact, drawing equally from personal experience as well as from my stores of observation, which may, I trust, be in some measure helpful to those taking up their commissions.

In the various phases of condition a young man may find the place which he is called on to superintend is the one—taking the two extremes—on the one hand of that prime order we may term perfection; on the other, that out of tone condition a garden so quickly assumes from neglect—I will not say culpable neglect, for it may not necessarily be so; anyway, with this we have nought to do. You take the place as you find it, and finding it in what may be termed a bad way, there are especial facilities for a young man—doubly blessed with knowing what to do and having the energy to do it—of quickly making his mark; whereas, on the other hand

even half a lifetime—may elapse ere the young "head" will realise how much he owes to these old hands whose long practice in one or other phase of work contributes to the smooth running of the complex machinery of a successfully managed garden; and if he will accept this as a fact at starting, after experience may prove the wisdom of doing so.

In one case, a case in which I was appealed to by both parties concerned, excess of zeal on the part of a young "head," and some considerable stubbornness shown by the old hands, eventually resulted in the new broom sweeping them clean out of the garden, but the results were equally unfortunate to himself, and it will, I fear, take many years to erase this black mark he has scored against himself in his high-handed dealings. Faults on both sides there were doubtless, yet the results can only be attributed to a want of tact; the exercise of some forbearance; in short, the total incapacity of the young "head" to manage his men.

To the theoretical and practical qualifications on the art of

gardening we will suppose a young "head" is endowed with, so far as the measure of his years will allow, I would that he could have in addition a dash of the philosophical—pertaining to the study of his species—to blend with it. Moreover, that he should endeavour to analyse himself in the first instance; if he can do this impartially then is the power of discernment given to him to judge others, and in the judging he will not be liable to draw surface conclusions. If a man can clearly realise what he is he will soon be as he should be, and so will he see the best ways of bending others to his will, to the end that head and hands may work together harmoniously for the common good of the chief object—the garden.—OLD BOY.

A STREET "SKETCH."

"WHAT! horticulture in the streets—absurd!" I fancy I hear some reader remark, as he peruses these lines. Yet such is really the case, and anyone with a true taste for plants and flowers may never be at a loss to find something to attract his attention, even in the crowded streets of London. In no other city perhaps in the world have the masses such facilities for obtaining plants, flowers, fruits, and vegetables as the inhabitants of the metropolis; and not the smoke-begrimed, travel-stained examples that one might almost expect to find, but sturdy well-grown specimens, stamped with the brand of high culture, such as would be difficult to find in many private gentlemen's establishments.

So well have nurserymen and market growers studied the wants of the people, that they have become fully alive to the fact that it is useless sending anything but first-class produce into the markets. Some people may still have the idea that anything will do for sale; if so, the sooner they get rid of the fallacy the better. "But what does the city-reared Londoner know about the quality of a plant?" perhaps someone will remark. Well, he knows sufficient to be able to choose between a well-grown specimen and one that lacks the result of good treatment; and if two barrows stand side by side in the street, one filled with sturdy well-flowered plants, and the other containing second or third-rate samples of the same kind, it is almost needless to say that the former is empty first, even if the price is considerably higher than the latter.

It is not surprising that dwellers in the great city love to have a few plants and flowers to adorn their rooms, and with the majority of people, no matter what their state or condition in life may be, there is a regard for Nature that cannot fail to assert itself, and even amongst the poorest of London's vast population it is a common thing when laying out the money for the week's food supply for a few coppers to be put aside for the purchase of a plant. Perhaps endeavours are made to keep it growing, attended in some instances by a measure of success, but in most cases it succumbs to the adverse conditions of the surroundings. Disappointed, no doubt, but not discouraged, the owner feels there is something wanting without his plant, and brings home another to take its place. And in this way the London plant supply has opened out an industry which is annually increasing, and as in trade of all kinds open competition is responsible for the excellent quality of the produce, and the extremely low prices that bring the results of the gardener's art within reach of the crowded masses of the metropolis.

Extremely interesting, too, it is to watch a sale of plants in the streets. On a recent Saturday evening when passing through a populous thoroughfare crowded with barrows and stalls filled with both ordinary and extraordinary articles of merchandise, the attention of the writer was attracted by a bright display of flowers, made more brilliant by the flare of several naphtha lamps. Turning aside in order to study the plants more closely, they were found to consist of excellent specimens of *Ficus elastica* in 6-inch pots, not weak dwindling-looking objects, but well-grown, sturdy examples, clothed from the summit to the base with bright green leaves; Fancy, Zonal, and Ivy-leaved *Pelargoniums* crowned with fine trusses of flowers, and the plants strong and healthy, showing unmistakable signs of good culture; *Fuchsias*, chiefly Lord Beaconsfield and Lucy Finnis in 5-inch pots, shapely and graceful in habit, and displaying the same mark of good treatment, as each plant was well furnished with numerous bell-shaped blooms, with the addition of a number of small Musk plants turned out of their pots—these formed the main objects for sale.

The whole was arranged on a stall composed of two costers' barrows placed closely together with a flat table laid on the top. Presently a not very sprucely attired individual took his stand on the table among the plants, a crowd quickly gathered round, and the sale began. The auctioneer commenced by issuing several witty remarks, evidently with the intention of putting his audience in a good humour. This apparently effected to his satisfaction, he continued:—"Now, gentlemen, I've got a grand lot for yer to-night, and intends to sell 'em cheap; so bid up quickly and get yer money ready. First of all, 'ere's a *Pelegonium*; my word, ain't it a beauty? (and it certainly was). Now, what shall I be allowed to say for it? What, no offer? Well, suppose I give yer a start. One shilling. Now then, who'll have it?"

The crowd had evidently an idea that the price would stand some reduction, so kept silent. "Now, gentlemen," went on the salesman, "the quicker you buy the better we shall get on. Ninepence? who'll have it? Fancy, only ninepence for a plant like that; it's nothing else but giving it away. But, here you are, I'll take sixpence for it, and if you can buy a plant like that in Convent Garden Market for sixpence I'll give you the lot." "Wot, ain't got no roots!" exclaimed the auctioneer, in response to some remark on the subject, as he turned the

specimen out of the pot, "Ain't it, though! What do you call them? 'Ere's a fine *Pelegonium* smothered with flowers and as many more buds to come out, and I only want sixpence for it. Now, gentlemen, that's the lowest price I shall take, so seize your opportunity."

Presently a purchaser stepped forward and the plant was duly handed over. The chief difficulty seemed to be now surmounted, and the sale proceeded briskly, until in a comparatively short space of time several dozen plants were disposed of. As trade showed signs of slackening a little his attention was turned to the *Fuchsias*, with the following remarks:—"Now, look 'ere, gentlemen, it ain't often yer gets a chance of buying such plants as these, so if yer wants yer money's worth in the *Fuchsia* line now's yer time. I've got a splendid Lucy Finnis here, and if you can go and buy another like it for the same price, well, I'll give it yer. Now, then, one shilling, ninepence, sixpence! What! not give sixpence for a plant like that? Well, you'd better take this chance, 'cos you'll never get another. These 'ere flowers ain't stuck on, mind yer," and the plant was given several vigorous shakes by way of proof. "Now, look here, gentlemen, I means to sell; fourpence! who'll have it?" and the plant was held up with an air closely approaching disgust.

This seemed, however, to produce the desired effect. First one plant went, then another, and another, until in a short time the large stock was reduced to a few dozens. Anyone who knows anything at all about plants might well wonder how it were possible to raise and grow *Fuchsias* which would be a credit to any gardener and fit for the adornment of any conservatory or drawing-room, and sell them in the streets for 4d. each; but still such is the case, and gives us a striking instance of how the public reaps the benefit of competition.

Thinking perhaps that a change might be advisable, a *Ficus* was tried next, and half a crown suggested as a fair price, but at a street sale on Saturday night such a figure seems out of the question, and after much talking and bantering it fell to a shilling, and several were disposed of. Musks came next, preceded by a short preliminary oration by way of introduction from the auctioneer, as follows—"Now, gentlemen, I've got a few large flowered Musks 'ere, and if yer wants yer houses scented from top to bottom, these are the things to buy. I've only got a few, so now's yer chance. 'Ere's a beauty. 'Ere, I'll take fourpence for it. What! is that too much? threepence, then; go on, tuppence; who wants it?" Several seemed anxious to obtain it at the last mentioned price, and soon the whole was sold.

As midnight was fast approaching, and the crowd showed signs of diminishing, the few remaining plants were put up in threes. A Zonal and Ivy-leaved *Pelargonium*, and a *Fuchsia*; several of these trios were disposed of at 1s. the three, then the price fell to 9d., and the last few went for 6d., or, in other words, plants doing credit to whoever grew them were sold for 2d. each. After disposing of the whole of his stock our friend dismounted, having, we should imagine, given his lungs a fair testing. With midnight close at hand, we bied our way homeward, thoroughly satisfied that amid the many different phases connected with horticulture there is even something to be learnt in watching a sale of plants in the streets of London.—WANDERER.

THE CASTLEMANS, TWYFORD.

ABOUT two and a half miles from Twyford on the London and Reading main road is situated the residence and gardens of G. A. Tonge, Esq. The house stands well away from the road, and is sheltered from view by rows of noble Limes and Elms; a serpentine drive leads up to the mansion, which is covered with Roses and creepers. The grounds have been carefully remade during recent years, noble specimen Elms, Limes, Chestnuts, Mulberries being carefully preserved, whilst of *Coniferae* we noticed good specimens of *Abies Douglasi* and *Nordmanni*; *Cupressus* in variety, Cedars and *Thuja*. On the north side of the mansion are several large oval beds planted with choice hybrid named *Rhododendrons*, which do well here. The flower garden is on the south side, and presented a gay appearance, planted with *Geraniums*, *Calceolarias*, and *Verbenas*. The centre bed looked quite charming, filled with *Begonia Carrieri* and *Lobelia Queen Victoria*, but the features of this place are its Roses, Carnations, bulbs, and herbaceous borders.

A walk extending (when finished) nearly half a mile round part of the grounds has been formed, and a border on one side is planted with Roses and Carnations alternately, whilst on the other side is a bulb border, also an herbaceous one 6 feet wide, filled with all kinds of choice varieties for show and cut flowers. The value of such a border on a place is immense.

About 1000 standard and dwarf Roses are planted out. The best H.P.'s at the time of my visit were Beauty of Waltham, Duke and Duchess of Albany, Chio, Grand Mogul, Queen of Queens, White Lady, A. K. Williams, Eclair, Marchioness of Lorne, and Salamander; of Teas, Anna Olivier, Augustine, Halem, Dr. Grill, Edouard Litage, Grace Darling, Horner, Innocente Pirola, Sappho, Perle de Lyon, Reine Nathalie de Serbie, Waban, and White Lady; whilst of climbers, L'Idéal, Niphetos, Cheshunt Hybrid, Maréchal Niel, Rêve d'Or, W. A. Richardson, and Crimson Rambler do well. The whole of the Roses here were exceedingly healthy and clean.

Carnations are well done here, and about 1500 are planted out. Some of the best were Devonshire Lass (yellow), Lady Maud Hastings (soft silver pink), Countess of Salisbury (yellow self), General Boulanger (scarlet), Imogene (yellow self), Garville Gem (lavender self), Garraween (yellow flaked purple), Mrs. Robert Sydenham (yellow ground picotee), Jupiter (yellow self), Margaret (salmon self), Aureola (apricot), Rose Ideal (rose self), Mrs. Hyde (white self), Prince of Battenberg

(yellow claret, making a handsome flower), Twilight (yellow self), Empress (white self), and others. About seventy named border varieties are grown, whilst all the newest and best kinds of tree Carnations are grown in pots, which give abundance of cut flowers in the winter.

The conservatory can be lighted when required with the electric light, and adjoins the mansion. Opposite the door was a large circular bed of Adiantum and Marguerite Carnations mixed, which looked quite charming so various are the colours of this Carnation. The stages covered with cork were gay with Lilliums, Tuberose, Bouvardias, and Begonias, intermixed with Ferns; whilst overhead hanging in festoons was Tacsonia Van Volxemi and exoniensis. Most of the other glass erections are new, the early Grapes, in a three-quarter span vinery, had been cut, and the house was filled at the time of my visit with Chrysanthemums, about 300 plants being grown for show and cut flowers of all the newest and best varieties.

The Muscat vinery is a span-roofed house with twenty-two Vines, all Muscat flavoured Grapes, which have done remarkably well the last few seasons, the canes being short-jointed and over 2 inches in circumference; bunches weighing 4 lbs. each were hanging on the Vines, and of good colour and finish. The late vinery is a three-quarter span filled with Lady Downe's. In the plant houses, which are lean-to and span-roofed structures, we noticed in the stove huge specimens of Allamandas, a mass of flower; also Clerodendrons, Stephanotis, trained on balloons; and a choice collection of Crotons, Dracænas, Imantophyllums, Ferns, Asparagus in three varieties, with well-grown plants of Ixora Westi, Williamsi, and Dixiana, with fine heads of flower. A grand plant, recently purchased at Welford Park, of Tillandsia tessellata stands opposite the door. In the cool houses and frames were Carnations, Arum Lilies, "Geraniums," Primulas, Cinerarias, and Violets in quantity for winter cutting. A collection of Orchids is being got together. In a small house were some extra sized bulbs of Calanthes, showing strong spikes. New Orchid houses (hot, intermediate, and cool) are contemplated; also a new bothy for the young men, which when done will make this a most complete place. In front of the houses was a fine collection of named Dahlias.

The kitchen garden, over 2 acres in extent, was well stocked with all kinds of vegetables for winter and spring supply. Veitch's Main Crop and Chelsonian Peas had done well here and are much liked, and will be grown largely in future. Excellent crops of Onions and Carrots were being harvested at the time of my visit. New fruit plantations have recently been made. Royal Sovereign Strawberry is here thought well of both for forcing and general planting; a large quantity were prepared for forcing, as well as long rows planted out for summer picking. Mr. Parry has a good stock of Royal Sovereign. For forcing Vicomtesse Hericart de Thury and La Grosse Sucrée are also grown, the former plants being preferred in 5-inch pots, as they do much better in smaller sizes for very early forcing. Here Strawberries were ripe at Christmas one year, as duly recorded in the *Journal of Horticulture*. Apples bearing crops were Warner's King, Ribston, and King of the Pippins, Lane's Prince Albert, Peasgood's Nonesuch, Alfriston, Golden Noble, and Lord Derby. Of Pears Brockworth Park, Bishop's Thumb, Williams' Bon Chrétien, Louise Bonne of Jersey, Beurré Diel, Beurré Rance, Doyenné du Comice, Swan's Egg, Autumn Bergamot, and Beurré Amanlis were carrying excellent fruit. It is a pleasure in these days to see a garden being enlarged and improved. G. A. Tonge, Esq., is a great lover of his garden, which is in every part kept free from weeds, as not one was to be seen at the time of my visit, and Mr. Parry is to be complimented on the way in which he carries out his employer's wishes with so much success.—VISITOR.

HORTICULTURAL SHOWS.

BURTON-ON-TRENT.—JULY 31ST AND AUGUST 1ST.

THE forty-first annual exhibition of the Burton-on-Trent Horticultural Society was held on the dates named, and was a great success. The weather was everything that could be desired, the attendance good. The show was one of the best the Society has ever had. The various classes were well filled, the competition keen, and the quality of the exhibits good, the vegetables particularly so.

The principal features in the plant department were the groups arranged for effect in 60 yards superficial space. There were four entries, occupying the whole side of one tent. The first prize was easily taken by Mr. Cypher of Cheltenham, whose group was arranged in his usual artistic manner. Palms, Bamboos, Ferns, Humeas, Crotons, and Dracænas were the principal foliage plants, enlivened by many Orchids, fine varieties of Cattleya Eldorado gigas, Gaskelliana, crispa; Odontoglossums and Masdevallias standing out most conspicuously. Second, Mr. Reid, gardener to Earl Carnarvon, Bretby Park, who likewise showed a good group very artistically disposed, reflecting great credit on his taste in the association of plants. Third, Mr. W. Morris, Derby Street, Burton; fourth, Mr. W. Johnson, Forge Nurseries, Burton. These were considerably behind the two other collections.

For nine stove and greenhouse plants, Mr. Cypher here scored a very easy first. The Society would do well to encourage this class by offering more liberal prizes, so inducing fuller competition. For twelve Ferns, good, clean, well grown plants from Mr. Reid, Bretby, well securing the first position. Gloxinias, Cockscombs, Begonias, Fuchsias, Geraniums, were shown in quantity but call for no special comment. Table plants were well represented. First, Mr. W. Atkin, Doveridge Hall Gardens,

Uttoxeter. Second, Mr. Reid, with collections of six plants admirably adapted for the purpose. Bouquets and epergnes were only fairly shown, the first in the former Messrs. Brown & Co.; Mr. Johnson being first for epergne, also for basket of flowers. Messrs. Perkins of Coventry were easy first for Roses, showing good fresh blooms.

For a collection of fruit, eight dishes, Mr. Reid was a good first, the same exhibitor being in that position for a Pine Apple. Grapes, Black Hamburg, two bunches.—First, Mr. Atkin, Doveridge Hall. Second, Mr. Reid. Third, Mr. Milner, King's Standing. In the any other black class the same exhibitors were placed in order named, all staging creditable productions. Muscats, two bunches.—Mr. C. F. Milner was first, and Mr. A. Shilton second. In the any other white class Mr. Reid was easily first with well-finished Buckland Sweetwater. The principal prizes for Peaches and Nectarines fell to Mr. Milner; Apricots to Mr. Reid, who likewise took first for Raspberries and Gooseberries for weight, and White Currants in a strong competition. Apples were fairly shown, but Pears were very indifferent.

Vegetables were exceedingly well shown. For a collection Mr. Reid was a good first. He also took all before him in the Potato classes, Mr. W. Atkin taking similar honours in the classes for Beans. Lettuce, Celery, Onions, Parsnips, Carrots, Marrow, Beet were well shown, and there were good collections of salad, for which Mr. H. Dudd was first, the same exhibitor being first for Celery, Leeks, and Cabbage.

Great credit is due to those amateurs who showed in the various classes, for their vegetables were most excellent and were neatly staged, the competition being very strong. The same remarks apply to the fruit. Cut flowers were fairly shown also. A word of praise is due to the cottagers for the admirable display they made in the several classes.

A word of advice may, perhaps, be tendered to the Committee, who should insist on having all plants, fruits, and vegetables legibly and correctly named. With one or two exceptions this was entirely ignored. It would be educational to the public to strictly enforce this important rule, and see the same is properly carried out. It is pleasant to record the decision of the Judge gave great satisfaction, and we wish the Society every success.

WOKING.—JULY 31ST AND AUGUST 1ST.

WOKING, a growing Surrey town, is fortunate, among other things, in possessing not only ardent but enterprising horticulturists who could not be happy without a show of garden produce; and when such gentlemen as Mr. Orlando Law, Mr. H. A. Needs, Mr. H. P. Robertson, and their associates make up their minds on a matter of this kind it has to come to pass; still further, if zeal with discretion can bring about a success it would be achieved at Woking, and it has been in the Show under notice. The managers secured influential patronage in the Countess of Onslow, Baroness de Worms, Mr. and Mrs. W. S. Penley and others, with Lord Onslow, Baron de Worms, C. H. Coombe, Esq., M.P., and most of the leading gentlemen of the Vice-presidents. They also, and this is what we always like to see, obtained a goodly array of special prizes in money and various articles useful and ornamental, or both. Leaders in this generous movement were Mr. Orlando Law, the President of the Association, with a handsome cup for the exhibitor gaining the highest number of points in the whole Show, determined on the basis of a first prize counting three, a second two, and a third prize one point; Mr. and Mrs. "Charley's Aunt"—beg pardon, Penley—who gave fourteen articles, value £10 10s. in the cottagers' section; Mr. H. A. Needs, who gave a silver and bronze medal for baskets of flowers; and Mr. H. A. Whitburn, who gave similar medals for florally decorated tables. This is the way to create interest and promote competition.

The first show of the Association was held last year, and the exhibits were arranged in one tent. True it was a good-sized one, and crowded with excellent produce; but this year three marquees had to be provided, and they were crowded too, so much so that an overflow show of vegetables had to be arranged outside. The progress thus made in one year was very remarkable, and augurs well for the future. The exhibition was appreciated too, as it well deserved, for the tents were crowded with visitors "all the time," and they had certainly a great deal to see and admire in all the sections.

The schedule was in three divisions—1, open classes of plants, cut flowers, vegetables, and fruit; 2, amateurs and cottagers; 3, cottagers alone. As inquiries as to what constitutes an "amateur" and a "cottager" are not infrequent, and as, what we think, good definitions are printed in the schedule (and an excellent plan it is), they perhaps be usefully cited.

"That the definition of an amateur shall be one who does not employ professional assistance or dispose of plants, flowers, seeds, or trades in garden produce for profit, or is in the employ of a nurseryman or gardener, or is employed as a gardener."

"That the definition of a cottager shall be one who obtains his livelihood by manual labour, and who cultivates his own ground and does not possess any glass with heating apparatus, nor practises as a professional or gentleman's gardener."

Those definitions may not meet the peculiarities of all places, but all the same clear instructions of the nature indicated are useful for the guidance of exhibitors. Only a short description of the show can be given. Its character can almost be summarised in a sentence—namely, there was a great deal that was good in all the departments and scarcely anything that was bad. For the President's cup, Messrs. Osman and Seabrook had an equal number of points, and the verdict was given in favour of the former on the ground of his having the greater number of first prizes. Amongst other exhibits, he had splendid Muscat and Madresfield Court Grapes and very fine Ferns. The best stove and

greenhouse plants, and very good indeed, were staged by Mr. Hopkins. Fuchsias were much above the average, the first prize plants of Mr. Haddan being dense informal bushes in rude health. Mr. Need's Begonias were remarkable for the size and substance of foliage and blooms. Of vegetables, the display was altogether admirable, and it would be difficult indeed to excel the collection of six kinds which won for Mr. Blicke of Clandon Park the first prize, the Carrots, Cauliflowers, Onions, Potatoes, Tomatoes, and Peas being unusually fine. A wonderful collection of 110 varieties of vegetables was exhibited by Mr. A. Basile, Woburn Park Gardens, Weybridge, and ten collections were staged from the Westfield School Gardens, reflecting great credit on the youthful cultivators and their teacher, Mr. Savage.

Among the exhibits not for competition a group of Violas in pots attracted much attention; fresh floriferous plants shown by Mr. W. Baxter, Border Witch and Luteola, being very charming. The plants carried from twelve to twenty flowers. Mr. Needs was the chief winner of Violas and Pansies in the classes and he won many other prizes. Mr. Robertson was also amongst the successful exhibitors. Messrs. Jackman and Son had an extensive and beautiful display of Roses and other flowers.

HAYWARDS HEATH.—JULY 31ST.

THE Haywards Heath Horticultural Society held its seventh annual show on the 31st ult., by kind permission of Mr. Pannett, in his meadow, South Road. The weather proved highly favourable, and people of all classes came prepared to enjoy what has now become an established local half holiday. The show as a whole must be regarded as satisfactory. While there was some little falling off in plants in the open classes, there was a decided advance in the cottagers' and amateurs', showing plainly that the Society is doing good work. The fine vegetables shown in all classes also prove that with good cultivation a dry season is better for us than a wet one, notwithstanding all our grumbling.

In the groups of miscellaneous plants the entries were less numerous. Mr. Taylor, gardener to T. W. Oliver, Esq., Haywards Heath, took the first place; Mr. J. Pullen, gardener to W. Savill, Esq., second, both with choice plants, though rather crowded; while Mr. H. Sicklemore, gardener to Mrs. Stevens, Keymer, made a pleasing group with very common material, and was awarded third. Gloxinias, Zonal Pelargoniums, and Begonias were well shown, and were perhaps the brightest features in this tent. The first prizes were respectively given to Messrs. J. Mitchell, gardener to Major Maherly, Cuckfield; H. Sicklemore, and T. Taylor.

There was a good competition for six Ferns, Mr. P. Marsh taking first; and Mr. T. Butlin, gardener to S. T. Thorowgood, Esq., second. There was a good display of cut flowers, a few of the most successful exhibitors were—Carnations, Mr. G. Mortimer, gardener to S. Thorowgood, Esq.; Dahlias and Asters, Mr. J. Mitchell; Stocks, Mr. W. Manton, gardener to Mrs. Borer, Bolney; Roses, Mr. W. Waters, gardener to W. Knight, Esq., Haywards Heath.

Some of the fruit classes were not so well filled as usual. A few good samples of Grapes were staged, Mr. G. J. Warren, gardener to Carl Meyer, Esq., Balcombe, taking first for both black and white. The same exhibitor had the best Nectarines; while for Peaches, Mr. C. Thompson, gardener to R. Worsley, Esq., Cuckfield, took the lead; Melons, Mr. S. Horscroft, Ardingly, was first in a good class. Small fruits were well represented in this, as in the amateurs' and cottagers' classes. Apples are evidently plentiful in the district, and of good quality.

Cottagers made a good show of vegetables, all being fine except Cauliflowers. Thirteen exhibitors staged trays; several of the best were unfortunately disqualified, not being in accordance with the schedule. The exhibits brought together by the special prizes offered by various seedsmen were quite a show of themselves. Those most worthy of notice were a collection of vegetables by Messrs. Sutton & Sons, carried off by Mr. J. Mitchell; ditto by Messrs. Cheal, G. Stringer, gardener to R. A. Bevan, Esq., Cuckfield; ditto by Messrs. Wood & Son, S. Horscroft; Potatoes and Peas, by Mr. Goaring of Haywards Heath, was respectively won by G. Stringer and H. Holmes.

The following local firms contributed largely to the interest of the show by staging chiefly Roses, Dahlias, hardy herbaceous plants, &c. Messrs. Cheal & Sons, Crawley; Wood & Sons, Maresfield; W. Knight, Hailsham; F. Woollard, Lewes; and Meeds & Son of Burgess Hill, showed their artistic garden pottery. There were also many voluntary exhibits of interest by local ladies and gentlemen that have been fittingly acknowledged by the local press.

THE MIDLAND CARNATION AND PICOTEE SOCIETY.

JULY 31ST AND AUGUST 1ST.

THE fifth annual exhibition of the above flourishing Society was held in the Botanical Garden, Edgbaston, on the above dates under the most favourable auspices. The weather was delightfully fine, and the attendance of visitors to witness the large and fine display of exhibits unusually great, a matter most gratifying to its enterprising promoters. The Birmingham exhibitors repeated their recent successful exploits at the Crystal Palace and at the Oxford shows, chiefly remarkable being the fact that the enthusiastic grower, Mr. Robert Sydenham, secured first honours in the premier classes for Carnations at the three Societies' exhibitions. Every foot of available space in the conservatories set apart for exhibitions was laid under contribution for the variety of exhibits. The greenhouses were also gay, especially with large collections of such as Gloxinias, Fuchsia triphylla, Alonsoa acutifolia, and Francoas, while the flower beds outside were in the height of their beauty, thus altogether forming a floral fête of no ordinary character.

For twelve blooms of Carnations, dissimilar, Mr. Robert Sydenham was first with J. S. Hedderley (a superb example, and which was awarded a premier prize for the best bizarre in the show), Gordon Lewis, Master Fred, Mrs. Rowan, Guardsman, Sarah Payne, Charles Henwood, G. H. Herbert, Rob Roy, Robert Lord, Fred Phillips, and a seedling; altogether a grand stand of blooms. Mr. Tom Lord, Todmorden, was an excellent second with fine blooms of Duke of York, Bruce Findlay, Thaddeus, Magpie, Master Fred, Admiral Curzon, Arline, Robert Houlgrave, G. H. Herbert, Edward Rowan, Mrs. May, and Edith Annie. Mr. A. R. Brown, Handsworth, was third, having good blooms of Thaddeus, Arline, Feron, Thalia, Robert Lord, Edith Annie, Gilbert, Mrs. Rowan, Sportsman, Othello, Gordon Lewis, and George Melville. The latter, a purple flake, was selected for a premier prize. The remaining four prizes were awarded respectively to Messrs. J. Edwards, Manchester; Thomson and Sons, Birmingham; Wm. Read, Oxford; and J. Brocklehurst, Manchester, for very creditable blooms. There were eleven competitors in this class. For six blooms of Carnations, dissimilar, there were seven stands. First honours were accorded to Mr. C. F. Thurstan, Wolverhampton, for fine blooms of Robert Houlgrave, Sarah Payne, Wm. Skirving, Ivanhoe, Miss C. Graham, and Crista-galli. The second fell to Mr. C. Head, Hebden Bridge, for bright blooms of Duke of York, Bruce Findlay, Oscar Wilford, Master Stanley, Thaddeus, and Arline, and the third to Messrs. E. Shaw; J. P. Sharp, E. Hill, J. S. Hedderley, and Wm. Kenyon following in the order named in close competition.

For twelve Picotees there were nine stands. The first prize fell to Mr. Tom Lord with excellent blooms of Brunette, Mrs. Rodgers, Zerlina, Little Phil, Mr. A. Chancellor, Muriel, Mrs. Sharp, Mr. Geggie, Thos. Williams, Blanche, Campanini, and Esther. Mr. H. R. Brown was a good second with Little Phil, Favourite, Brunette, Esther, Mr. Gorton, Mrs. Payne, Mrs. Openshaw, Mrs. Coldridge, Ne Plus Ultra, Thos. Williams, Mrs. S. Beard, and Mrs. Sharp. Mr. R. Sydenham was third for a bright array, including Little Phil, Polly Brazil, Nellie, Muriel, Scarlet Queen, Lena, Miriam, Mrs. Coldridge, Mrs. Beale, Mrs. Openshaw, Jessie, and Norman Carr. For six Picotees there was a keen contest amongst the fifteen competitors, Mr. A. W. Jones, Handsworth, securing first honours with a splendid selection containing Mrs. Gorton and Muriel, which gained premier prize, supported by Brunette, Mrs. Burnett, Amy Robsart, and Elizabeth. The second prize was deservedly won by Mr. C. Head with Little Phil, Brunette, Miss Wood, Mrs. Sharp, Lady Louisa, and Zerlina. In the class for twelve yellow grounds, Fancy Carnations or Picotees, a strong competition was in force by Mr. A. W. Jones securing first honours with Romulus, Almira, The Dey, Ladas, Mrs. R. Sydenham, Stadtrath Bail, Annie Douglas, Mrs. Whitbourn, Mrs. Dranfield, Janira, and two others, closely followed by Mr. R. Sydenham with grand blooms of Cardinal Wolsey, Yellow Hammer, Agnes Chambers, Mrs. Henwood, Stadtrath Bail, Mrs. Whitbourn, George Cruikshanks, Almira, Mrs. Robert Sydenham, Mrs. Douglas, Janesa, and a fine Romulus, which was accorded a premier prize. Messrs. Thomson and Sons were a good third with bright blooms of Yellow Hammer, F. Wagner, Madame Van Houtte, Janira, Agnes Chambers, Mrs. W. Spencer, Mrs. Henwood, and three promising seedlings. Messrs. J. H. Wilson, Wm. Read, and R. W. Proctor & Sons following in the order named. For six blooms the seven prizes offered were well contested for and won by Mr. A. R. Brown, Mr. Thos. Anstiss, Mr. Ben Simonite, Mr. J. S. Hedderley, Mr. G. Chaundy, Thos. Anstiss, and J. W. Bentley, Manchester, in the order named.

For twelve selfs, Mr. R. Sydenham was first with fine blooms of Mrs. Audrey Campbell, Ruhy, Mephisto, Eudoxin, Uncle Tom, Theodore, The Pacha, Annie Lathir, Rob Roy, Corunna, Fire King, and Abigail; Mr. Tom Lord standing a close second with Blushing Bride, Mrs. Reynolds Hole, Ruby, Lady Agnes, Meteor, Albino, Bruce Findlay, Nero, Mrs. Fred, and Rush. The third fell to Messrs. Thomson and Sons; the fourth to Mr. Ben Simonite; the fifth to Mr. J. H. Wilson; the sixth to Mr. T. Edwards; and the seventh to Mr. Wm. Read. For six selfs a keen contest ensued between Messrs. A. R. Brown, A. F. Thurstan, Wm. Kenyon, J. Brocklehurst, and Geo. Chaundry, all with good blooms.

In the class for maiden growers—that is, by those who had never before won a prize—there were seven aspirants for the prizes offered, winning in the following order:—Messrs. F. W. Goodfellow, Herbert Smith, Rev. C. A. Gotwaltz, F. Ladbury, S. Ford, R. Lovatt, and G. Evans; the blooms shown by the first and second winners being very good. In the undressed blooms division of twelve Self, Fancy, or yellow ground Carnation or Picotee with their own foliage, Mr. A. W. Jones and Mr. R. Sydenham were respectively first and second with good examples, whilst Messrs. Thomson & Co., Weguelin of Sheldon, and J. W. Wilson followed with creditable blooms. For six blooms similarly staged, Mr. E. Hall and Mr. J. Edwards had excellent examples; Mr. C. F. Thurstan and Mr. E. B. Handley, Edgbaston, also exhibiting good blooms. Single blooms Carnations and Picotees, including also Self and Fancies, were represented, and upwards of 200 blooms were presented for adjudication—a most difficult task for the Judges, especially considering the superior quality of the major portion of the blooms.

Self Carnations were represented by good blooms of white, Mrs. Lee and Mrs. Fred; yellow or buff, Germania and Miss A. Campbell; pink, rose or scarlet, Seedling Scarlet (Jones), very fine, and Ruby; dark crimson, Mancunian. The premier Carnations and Picotees were—Bizarres B. J. S. Hedderley, shown by Mr. R. Sydenham; flake, George Melville, by Mr. A. R. Brown; heavy edged Picotee Muriel, by Mr. A. W. Jones; light edged Mrs. Gorton, by Mr. A. W. Jones; yellow edged Mrs. R. Sydenham, by Mr. A. R. Brown; Self Germania, by Mr. A. W. Jones; Fancy Romulus, by Mr. R. Sydenham. Border Carnations,

exhibited in bunches, were numerous shown. The best twelve, exclusive of yellow grounds and self, were, perhaps, by Messrs. Thomson and Co.; Mr. H. W. Weguelin was second with fine flowers; and Mr. W. Bardsey third. For six bunches, first, Mr. C. F. Thurstan, with clean and bright blooms; and second, Mr. George Chaundy. For twelve bunches, white grounds excluded, Messrs. Thomson & Co. were an excellent first, and Mr. H. W. Weguelin second. For six bunches, Mr. G. Chaundy was first, and Messrs. Proctor & Sons, second.

For six plants Mr. R. Sydenham stood pre-eminent both for plants and blooms, Messrs. Thomson & Co. being second with good examples. Mr. R. Sydenham won Mr. Ernest Benary's special prize for six plants with varieties of his own raising, as follows:—The Bride, Stadtrath Bail, Mirabilis, Monarch, Figaro, and Lily. Mr. J. Douglas was awarded a first-class certificate for a superb collection of some of the newest Carnations. Sweet Peas were a beautiful display. Mr. R. Sydenham was granted the first prize for an excellent assortment in nine bunches, comprised of Lottie Eckford, Stanley, Countess of Radnor, Firefly, Emily Henderson, Venus, Her Majesty, Lady Penzance, and Blanche Ferry. They were arranged in Hyacinth glasses and backed with Maidenhair Ferns. Mr. W. F. Gunn, who was second, had a fine display, and Mr. G. Newell followed with third. For a shower bouquet of Carnations or Picotees, first, Captain Tbewks; second, Miss Mayell; third, Messrs. Thomson & Co. For three buttonholes of Carnations, first, Messrs. Thomson & Co.; second, Mr. R. Sydenham; third, Messrs. R. W. Proctor & Son. The prizes for dinner table decorations were won by Captain Thewks and Mr. W. F. Gunn.

Amongst the miscellaneous contributions a splendid collection of Gladioli came from Messrs. Kelway & Son, Langport; from Mr. H. J. Jones, Ryecroft Nursery, Lewisham, a collection of tuberous Begonias in pots in grand form, and pleasingly interspersed with plants of Maidenhair Ferns. Mr. B. R. Davis, Yeovil, had a splendid display of cut Begonias. A fine collection of Sweet Peas came from Mr. Henry Eckford, Wem; and a collection of hardy herbaceous flowers from Messrs. J. H. White & Co., Worcester. Mr. W. F. Gunn set up a charming collection of hardy annual flowers and which attracted much attention. Messrs. W. & J. Birkenhead contributed a very large collection of hardy and other Ferns, and Mr. W. Sydenham, Tamworth, had a beautiful floral decoration formed of *Violas* and Fern fronds. Messrs. Clibran & Son, Oldfield Nurseries, Altrincham, had a collection of Carnations and Picotees, chiefly seedlings. Messrs. Edwards & Co., Nuttall, exhibited an interesting collection of Ferns, and Mr. W. Astell, Leamington, an assortment of hardy flowers.

SOUTHAMPTON.—AUGUST 3RD AND 5TH.

DURING the last twenty years many excellent exhibitions have been held in this southern seaport town, but it is doubtful if any one of the long series has excelled that held on the above dates. Certainly the vegetable exhibits on the present occasion have never been equalled here before, either in quantity or in quality. Groups of plants arranged for effect were also a feature of the show. Not only was the "style" of arrangement altered from former years, but the plants appeared to be better chosen for the purpose. Cut flowers made a show in themselves, so numerous and good were they. Unfortunately, though, the weather was most unfavourable during the afternoon, a drizzling rain keeping many persons away. A counter-attraction, the opening of a new dock by the Prince of Wales, no doubt was answerable for so thin an attendance. It seems almost superfluous to say that the arrangements throughout the whole show were perfect, so accustomed are we to find it so at exhibitions in Southampton, but to Mr. Fudge, the able Secretary, and a willing Committee, in duty bound we must say it was so. Plants were a decided feature of the show so numerous were they staged, not only in the groups alluded to but as specimens also. One large tent was devoted to the latter, and a very fine effect was produced.

For ten, four competed for the premier award and £12. Mr. J. Cypher, Cheltenham, very easily won the coveted place with faultless specimens of *Erica Austiniana*, *Ixora Duffi*, *Stephanotis floribunda*, *Croton Sunset*, richly coloured, *Kentia Fosteriana*, *Cycas circinalis*, and a huge *Latania borbonica*, all in first rate health. Mr. T. Wilkins, gardener to Lady Theodore Guest, Inwood House, Blandford, was a good second. In this collection *Croton Queen Victoria* was superbly shown. Mr. W. Peel, gardener to Miss Todd, Sidford Lodge, Shirley, Southampton, was a creditable third. In the class for half a dozen specimens Mr. Cypher was again invincible. *Erica tricolor nova*, *Ixora Pilgrimi*, and *Kentia Belmoreana* were grandly shown. Mr. Wills, florist, Southampton, was a good second, and Mr. Peel third. For six specimens, open to residents in Hampshire only, Mr. Blandford, gardener to Mrs. Haselfoot, Moor Hill, Bitterne, easily won the premier award with freely flowered and well-grown foliage plants; Mr. J. Amys, gardener to the Hon. Mrs. Elliott Yorke, Hamble Cliff, Southampton, second. Still another class was provided, for gardeners only, for six miscellaneous plants. Here Mr. T. Hall, gardener to the President, Sir S. Montague, Bart., M.P., South Stoneham, won the coveted place with highly creditable specimens, Messrs. Blandford and Peel following in the order given.

Orchids were somewhat sparsely shown. For a collection arranged with an accompaniment of small Ferns or Grasses, Mr. E. Carr, gardener to W. A. Gillett, Esq., Fair Oak Lodge, Bishopstoke, was the only exhibitor. Mr. Carr also won first prize for one specimen Orchid, staging *Cattleya Mossiae elegans*. Ferns were not quite so numerous as in years past. Mr. Peel staged the best six specimens, healthy well grown examples; Mr. Amys second. Single specimens were contributed freely. For one foliage plant, Palm excluded, Mr. Amys was distinctly

first with *Croton majesticus*, brightly coloured. Mr. Cypher, with *Erica Lady Mary*, won for one flowering plant. Mr. Amys took premier honour with a grandly grown *Kentia Fosteriana* as the best Palm. *Coleus*, *Zonal Pelargoniums*, *Begonias*, and *Fuchsias* were numerous staged, and added much to the attraction of the show by their bright and diversified colouring; Messrs. Hall, Blandford, and Mr. W. Mitchell, gardener to J. Willis Fleming, Esq., Chilworth Manor, being the principal prizetakers.

Groups of miscellaneous plants, arranged for effect, filled one-half of a long tent, making a charming display. The premier group was to occupy a space of 180 square feet, arranged in any form to produce the best effect. Mr. Wills was awarded premier honour for a distinctly creditable arrangement of plants just suited to the purpose. Tall, healthy, half-specimen *Cocos Weddelliana* and *Kentias* were elevated on mounds of Fern thinly over the space, filled in with smaller mounds of *Crotons* and *Asparagus duplex*. *Caladium agryrites*, forming the base for the latter, was very effective. Orchids, tuberous *Begonias*, herbaceous *Lobelias*, *Tuberoses*, and *Francoa ramosa* dotted here and there gave colour to the whole; indeed, it was a group possessed of much individuality, and worthily deserved its position. Mr. E. Carr was a good second. The Palms in his exhibit were not so healthy, and therefore lacked the decided contrast produced by those in the premier group. Taken as a whole it was a bright and effective arrangement. Mr. Wilkins was third with an arrangement in mound-like groups; the base round about them was too thinly covered with plants to be effective. The back, too, was somewhat "hard." In the smaller class form very creditable groups were arranged. Mr. Peel was an easy first with plants lightly disposed and very effectively grouped; Mr. Hall second. Mr. H. Andrews, gardener to Mrs. R. F. Wilson, Ferniehurst, Rownhams, third.

Cut flowers were admirably represented. Roses were remarkably good considering the late inclement weather. For twenty-four distinct Messrs. Keynes, Williams & Co., Salisbury, occupied the post of honour with medium-sized bright examples, amongst which were especially notable Alfred Colomb, Earl Dufferin, Marquise de Castellane, Senateur Vaisse, Marie Baumann, and Catherine Mermet. Mr. Will Taylor, Hampton, Middlesex, came second with smaller but bright blooms. In the class for twelve Messrs. Keynes and Taylor occupied similar positions. The class devoted to gardeners only Mr. R. West, gardener to H. J. Wigram, Esq., Northlands, Salisbury, won first place with an even creditable stand. For twelve bunches of stove or greenhouse flowers Mr. Henbest, gardener to Mrs. E. G. Marshall, Crawley Court, Winchester, was the most successful, staging choice flowers most tastefully arranged. Mr. Carr a good second. Herbaceous blooms made quite a feature, so numerous and good were they. For twelve bunches Mr. B. Ladhams, Southampton, easily won first place with massive examples of such plants as *Zauschneria californica*, *Helianthus multiflorus major*, *Campanula grandiflora*, *Heuchera sanguinea*, *Coreopsis lanceolata*, *Pentstemon Rosy Gem* and *Montbretia crocosmæflora* neatly set up in vases. Mr. West being second. For twelve Dahlias Messrs. Keynes, Williams & Co. carried off the premier award with fully developed blooms, and also did they for twelve Pompon Dahlias. Carnations and Picotees were best staged by Mr. Ladhams.

Dinner table decorations, bouquets, and baskets of flowers were contributed in sufficient numbers to make an attractive display. For the best dressed table, 8 feet by 4 feet, with flowers and foliage, Miss Kate Golding, Portswood, easily out-distanced all others with a distinctly pretty arrangement of simple yet pleasing flowers. Miss E. B. Hobby, Padwell Road, Southampton, was second; and Mr. E. Chamberlain, Pear Tree Green, third. Ball and bridal bouquets were distinctly creditable. In the former class Mr. Ladhams won, and in the latter Mr. St. Julien Arabin, Portswood, was successful.

Fruit formed an extensive display. For a collection of six distinct dishes, Pines excluded, there were no less than seven competitors. Mr. H. W. Ward, gardener to Earl of Radnor, Longford Castle, Salisbury, was awarded premier honour for an even and good collection. Grapes, Black Hamburg, small in bunch but good in berry and colour; Muscat of Alexandria fairly good, very fine Sea Eagle Peaches and Windsor Castle Melons were the most important dishes. Mr. G. Inglefield, gardener to Sir J. Kelk, Bart., Tedworth, Marlborough, second. Barrington Peaches and Elruge Nectarines were especially fine. Mr. G. Hall, gardener to Lady Louisa Ashburton, Malchet Court, Romsey, was third. Grapes were numerous and good. For three bunches Black Hamburg Mr. J. Sanders, gardener to C. Sloane Stanley, Esq., Paultons, Romsey, won first place with medium sized bunches of excellent berries, grandly finished. Mr. Mitchell second with larger bunches, but lacking the finish of the former; Mr. Ward third. For three bunches any other black Mr. Hall staged really fine examples of Madresfield Court, Mr. J. Sanders following with the same variety; Mr. Mitchell third with Gros Maroc, perfect in colour. White Muscats were not quite so fine; Mr. Mitchell, Mr. Sanders, and Mr. Ward taking the prizes in the order here given, all staging the Alexandrian variety. Mr. T. Hall won first place with very fine Buckland Sweetwater in the class for three bunches any other white, Mr. Ward following with the same sort, Mr. G. Hall depending on Foster's Seedling for third place. For two bunches any black variety Mr. Pope, gardener to the Earl of Carnarvon, with well finished medium sized bunches of Madresfield Court, secured first award; Mr. Henbest being second. Mr. West obtained a first prize for two bunches any white with Buckland Sweetwater.

Single bunches of both black and white were a strong class, Mr. Mitchell, with Madresfield Court, winning in the former, and Mr. Ward, with Buckland Sweetwater, in the latter class. Peaches were a good

class. For one dish Mr. G. Hall won with richly coloured full-sized fruits of Lord Palmerston; Mr. Sanders coming next with Dymond; Mr. Ward third with Prince of Wales. Mr. Inglefield, with highly coloured full-sized fruit of Elruge was first for a single dish of Nectarines. Mr. Waite, gardener to the Hon. W. P. Talbot, Glenhurst, Esher, second with the same variety. The best green-flesh Melon was the Earl's Favourite, from Mr. Ward; Mr. E. L. Brown, Portland House, winning for scarlet-flesh. Hardy fruit made a good display. For six dishes Mr. West won easily with Alexander Peaches, Whinham's Industry Gooseberry, and Norwich Wonder Raspberries; Mr. Pope following with second. Mr. G. Hall had the best three dishes of Apples.

Vegetables, not only in quality but in quantity also, were remarkable. For nine distinct varieties there were five competitors. Mr. Wilkins just managed to beat Mr. Pope for the premier award with a very fine collection, arranged in his well-known style. Onions Spring Champion, Cauliflower Autumn Giant, Tomato Perfection, Potato Satisfaction, Runner Bean Ne Plus Ultra, and Carrot New Intermediate were the most noteworthy. In Mr. Pope's collection occurred very fine Pea Duchess, Potato Seedling, and Tomato Polegate. Mr. Waite third. Messrs. Sutton & Sons, Messrs. Webb & Sons, and Messrs. Toogood & Sons, Southampton, offered prizes for collections of six kinds, distinct, which brought out very strong competition. In the two former Mr. Pope beat Mr. Wilkins with perhaps superior produce to that in the larger class. Especially fine were the Potatoes, Carrots, Peas, and Cauliflowers; Mr. Wilkins showing well in each class; Mr. Waite coming third. Mr. Wilkins won first prize in the latter class with examples of the highest skill. Mr. West won first prize for a collection of Potatoes, eight varieties; Mr. Wilkins for spring Onions; Mr. Pope for Peas; and Mr. Inglefield for kidney Potatoes. Mr. Ladhams first for one dish of Tomatoes, with Ladhams' Perfection; grand examples they were too.

Non-competitive exhibits were numerous, and added much to the attractiveness of the show. Mr. B. Ladhams had a bank of all the finest kinds of herbaceous flowers in a cut state; Messrs. Longster Bros., Bassett, a much smaller group of the same kind; Mr. E. Hillier, nurseryman, Winchester, a group of flowering and foliage shrubs, Apples, Pears, and Cherries in pots, as well as several baskets of fruit, Peaches and Apples being especially good; Mr. Rogers, Red Lodge Nurseries, Southampton, a handsome collection of shrubs in pots; Mr. J. Miles, gardener to F. Perkins, Esq., Portswood, two dozen dishes of hardy fruit, exhibiting much skill in culture; Messrs. Keynes, Williams & Co., two dozen Cactus Dahlia blooms; and Mr. Douglas, Bookham, choice Carnations.

LIVERPOOL.—AUGUST 3RD AND 5TH.

UNDER the most depressing circumstances, as regards the weather the sixteenth summer show was opened by the Lord Mayor of Liverpool on Saturday last. Perhaps on no former occasion, if we except when the huge stove and greenhouse plants formerly shown by Messrs. Cypher, Finch & Mease, has a more beautiful exhibition been seen in Liverpool.

The groups this time were charmingly arranged, the first prize, staged by Mr. J. Bracegirdle, gardener to the Right Hon. the Lord Mayor of Liverpool, being one of the most artistic groups ever seen at Liverpool. The second prize was worthily won by Mr. Jellicoe, gardener to F. H. Gossage, Esq. J.P., Camp Hill, Woolton; and the third by Mr. Cromwell, gardener to T. Sutton-Timmis, Esq., J.P., Cleveley, Allerton, for an admirable arrangement. The first prize, eight stove and greenhouse plants in bloom, staged by Mr. Cromwell, were splendid examples, and in no way behind the grand specimens staged in former years by this successful cultivator. The best plants in his collection were Kentia Fosteriana and Phoenix reclinata, a well-coloured Croton Countess, Ixoras coccinea superba, Williamsi; Clerodendron Balfourianum and Lapageria alba. Mr. Bracegirdle was a creditable second, and Mr. R. Pinnington, gardener to Mrs. Banner, Blacklow House, Roby, third. Mr. Cromwell also won classes for one stove plant in bloom with Allamanda grandiflora; one foliage plant with a well-coloured Croton Williamsi; three exotic Ferns with most healthy specimens of Microlepia hirta cristata, Nephrolepis rufescens tripinnatifida and Nephrolepis davallioides furcans; six Dracaenas and twelve varieties of stove and greenhouse cut flowers, and four pans Lycopods. In all the above classes the plants were of more than ordinary excellence.

For four fine-foliage plants Mr. Bracegirdle was easily first. The same exhibitor won for four stove and greenhouse plants in bloom, prominent being a superbly flowered Allamanda Hendersoni and Ixora regina. Mr. Jellicoe was second in each class with some particularly good plants. For six stove and greenhouse plants Mr. T. Healey, gardener to Col. Wilson, Hillside, Allerton, was the only exhibitor, and staged good specimens of Crotons Williamsi and Queen Victoria, and Gloriosa superba. For three stove and greenhouse Mr. J. Bounds, gardener to A. L. Jones, Esq., Oaklands, Aigburth, staged in fine form Ixora salicifolia, Statice profusa, and Clerodendron Balfourianum; Mr. McFall, gardener to E. C. Severton, Esq., Oakfield, Roby, being a fair second. Mr. Healey won with three Palms, Mr. R. Pinnington being second. For one Palm Mr. J. Pattinson, gardener to S. J. Waring, Esq., Palmyra, Aigburth, was first, the same exhibitor winning with two Lilioms. Mr. T. Gowen won with six exotic Ferns, staging Gleichenia dicarpa, Gymnogramma peruviana argyrophylla, Davallia fijiensis plumosus, and Goniophlebium subauriculatum, Mr. R. Pinnington being a good second. Mr. Gowen also won with one Fern, and Mr. F. Field, gardener to J. H. Wilson, Esq., Aigburth, was first with six hardy Ferns. Begonias were grand, Mr. T. Ankers, gardener to W. B. Bowring, Esq., Sefton Park, winning with six. Fuchsias, Cockscombs, Coleus, Ivy-

leaved Pelargoniums, Gloxinias, and Caladiums were all of the highest quality, the winners being Messrs. McFall; T. Hitchman, gardener to Arthur Earle, Esq., Childwall Lodge; J. Stoney, gardener to Sir T. Earle, Bart., Allerton Towers; J. Grant, gardener to W. S. Atkinson, Esq., Grassendale; and Mr. T. Carling, gardener to Mrs. Cope, Dove Park, Woolton. Mr. Carling was first for Tomatoes in pots not exceeding 12 inches in diameter, and one plant in each pot. For four exotic Orchids in bloom Mr. J. Edwards, gardener to S. Banner, Esq., Sefton Park, was first, having Cattleyas guttata, Leopoldi, and granulata variety Banneri very fine. Mr. Bounds was second with a pretty piece of Lælia tenebrosa as the pick of the collection. Mr. T. Gowen was first for one, with Saccolabium Blumei majus, seven spikes, and Mr. T. Wilson, gardener to O. H. Williams, Esq., Aigburth, for two cool Orchids.

CUT FLOWERS.—This section was never more grandly represented, England, Ireland, and Scotland doing battle amongst the Roses, which were remarkable for size, form, and colour. For forty-eight cut Roses, distinct, single blooms, Messrs. Harkness & Sons, Bedale, beat the celebrated Irish firm of Alex. Dickson & Sons, Newtownards. Their collection comprised Marie Baumann, Madame Eugène Verdier, Madame Hausmann, Mrs. John Laing, Leopold Hausberg, Paul Neron, Comte de Raimbaud, Her Majesty, Horace Vernet, Etienne Levct, Duke of Fife, Marchioness of Londonderry, A. K. Williams, François Michelin, Marie Rady, Marie Verdier, La France, Victor Hugo, Niphotos, Chas. Lefebvre, Madame Hoste, Alfred Colomb, Prince Arthur, Gustave Piganeau, Marie Finger, Duke of Edinburgh, Ernest Metz, Duke of Teck, Marie Van Houtte, Harrison Weir, Merrie England, Camille Bernardin, Comtesse d'Oxford, Ulrich Brunner, Dr. Sewell, White Lady, Duchess of Bedford, Countess of Rosebery, Dupuy Jamain, Madame C. Crapelet, Margaret Dickson, Duke of Wellington, Lady Mary Fitzwilliam, Sénateur Vaisse, and Queen of Queens. Messrs. Alex. Dickson & Sons had a most noteworthy stand, the best being Horace Vernet, Pierre Carnot, Annie Wood, Dr. Andry, Mrs. John Laing, Alfred Colomb, Marie Baumann, Gustave Piganeau, Helen Keller (fine), Madame Eugène Verdier, and Innocente Pirola. Messrs. J. Cocker & Sons, Aberdeen, were a good third. For eighteen Teas, Hybrid Teas, and Noisettes Messrs. Dickson & Sons were well first, conspicuous in the exhibit being Hon. E. Gifford, Golden Gate, and Kaiserin Auguste Victoria. Messrs. Cocker & Sons were second, and Harkness & Sons third. For twelve Roses, distinct, local, J. Raffles Bulley, Esq., Liscard, was a good first; Mr. McColl second; and Mr. Carling third. For twelve Roses, six light and six dark, there was a splendid show, Messrs. Harkness winning with splendid Mrs. J. Laing and Alfred Colomb; Alex. Dickson & Sons being second with the same varieties; and Cocker & Sons third with Her Majesty and A. K. Williams. The boxes of Roses arranged for effect were delightful to look on, and a decided improvement on former years. Mr. G. Dutton, gardener to Cheshire Lines Committee, Otterspool, was first; and Mr. J. Salisbury, gardener to L. F. Bahr, Esq., second.

For a collection of twenty-four herbaceous and bulbous flowers Messrs. Cocker & Sons and Harkness & Sons put forth their full strength with stands of most exceptional merit, the prizes going in the order named. For twelve herbaceous, Mr. J. Grant was first; Mr. Jellicoe second; and Mr. T. Foster, gardener to J. Branker, Esq., Watertree, third. Bouquets were well shown, Messrs. E. Whittle, gardener to R. G. Allen, Esq., and J. Williams, gardener to C. J. Procter, Esq., Noctorum, being first and second.

FRUIT.—This was of extra quality throughout, making a most imposing display. For six dishes Mr. J. Stoney was placed first with capital Muscat of Alexandria and Madresfield Court Grapes, Sutton's Scarlet Melon, Improved Downton Nectarines, Teton de Venus Peaches, and Jargonelle Pears. Mr. Elsworthy, gardener to A. R. Gladstone, Esq., Court Hey, Broad Green, was a good second, having fine Madresfield Court Grapes, Bellegarde Peaches, and Hero of Lockinge Melon. For four dishes, distinct, Mr. R. Pinnington won well with a handsome bunch of Black Hamburg Grapes, good Crimson Galande Peaches, Stanwick Elruge Nectarines, and Hero of Lockinge Melon. Mr. M. Blundell, gardener to G. W. Swire, Esq., Southport, was second, having good Muscat of Alexandria Grape and Royal George Peaches. Mr. Oldham, gardener to Joseph Beecham, Esq., Huyton, won somewhat easily for four bunches of Grapes, two black and two white, his Black Hamburg and Buckland Sweetwater being perfect, the others being Madresfield Court and Muscat of Alexandria. Mr. Elsworthy was second with fine bunches, but not quite so well finished, Bucklands and Hamburgs being very good. Mr. Oldham won with two bunches any other white with Buckland Sweetwater. Mr. J. Barker won with Madresfield Court for any other black, and also with Black Hamburgs, Messrs. Oldham and Stoney following. Mr. Stoney won with almost perfect Muscat of Alexandria, Mr. Elsworthy closely following. Mr. Stoney was also successful with green and scarlet-flesh Melons, showing Dickson's Exquisite and Sutton's Scarlet, and also for a basket of fruit arranged for effect. Mr. Elsworthy won for Peaches with grand Bellegarde, and Mr. Pinnington with Nectarines, showing a splendid dish of Stanwick Elruge. Mr. Ankers won with Cherries, and Mr. W. Mackerell with six dishes hardy fruits.

VEGETABLES.—As in former years these made an exhibition in themselves. Mr. J. Hathaway, gardener to the Earl of Lathom, Lathom House, near Ormskirk, taking the prizes for twelve and six varieties. Mr. Stoney was a good second. Mr. J. Pownall, Prescott, won for eight varieties, all of which were most satisfactory. Tomatoes filled a table themselves. Mr. Carling won for four dishes with choice samples of Perfection, Polegate, Blenheim Orange, and Dedham Favourite, Mr. McFall being second. For three dishes Mr. R. Pinnington was first with Alexander, Polegate, and White's Wonder; second, Mr. J. Stephenson.

MISCELLANEOUS EXHIBITS.—These were even of greater interest than in former years. Messrs. Dicksons, Limited, Chester, put up a stand of herbaceous cut flowers, which were the admiration of all present. Messrs. Eckford & Son staged about fifty vases of Sweet Peas, which produced a charming effect. Messrs. Ker & Sons had a splendid selection of Caladiums and plants of their new Gloxinia Aigburth Scarlet. Messrs. Jno. Cowan & Co., Limited, Garston, staged new and rare plants, Orchids, and some fine Gloxinia types, also a splendid group of Tea Roses in pots, which was much admired. Mr. Chas. A. Young, Floral Nursery, West Derby, had a stand of choice Carnations, also of other miscellaneous cut flowers. Mr. J. Forbes, Hawick, staged Carnations, Picotees, and Violas in superb condition. To all the above firms certificates were granted.

CARSHALTON.—AUGUST 5TH.

THIS usually quiet Surrey village presented a more lively appearance on Bank Holiday owing to the fact that it was the occasion of the Beddington, Carshalton, and Wallington Horticultural Society's show. No more suitable place could have been chosen for a flower show and gala than the park, kindly lent for the occasion by J. W. F. B. Taylor, Esq., and though the weather was not altogether favourable, owing to the periodical downpours of rain, there was a good attendance. The show was divided into classes for gardeners and amateurs, and cottagers residing in the neighbourhood, and though the former showed some little signs of falling off, this was counterbalanced by the increase of exhibits in the cottagers' section, and especially amongst the vegetables was the competition, both in point of numbers and quality of the exhibits, more than usually keen. The ladies were also in evidence, and for the prizes offered for a dinner-table decoration there were no less than eight competitors. Awards were also given for home-made jams, preserves, jellies, pickles, bread, and honey, and also for the best dinner produced at a given cost sufficient for a family, the whole of these classes arousing much interest.

In the principal class, open to gardeners and amateurs in the district, the first prize for a group of plants arranged for effect was won by Mr. J. H. Stevens, gardener to E. G. Coles, Esq., Carshalton. For six table plants Mr. J. Slater, gardener to Mrs. Hulse, Carshalton, was first with compact specimens; Mr. J. Wright, gardener to Mrs. Bridges, Beddington, was second; and Mr. J. H. Stevens third. Mr. J. Slater was an easy first for six tuberous Begonias with excellent specimens, the second prize falling to Mr. A. Etheridge, gardener to A. Z. C. Cressy, Esq., Wallington. Gloxinias were well shown, the prizes falling to Mr. J. Slater, Mr. J. Wright, and Mr. J. H. Stevens in the foregoing order. First honours for three Fuchsias were taken by Mr. J. Slater, and for four flowering greenhouse plants Mr. J. Wright claimed the premier prize. The last named exhibitor was also first for three Coleus, staging good specimens; Mr. A. Etheridge following with second, and Mr. J. Slater third. Mr. J. H. Stevens was a good first for six exotic Ferns, Mr. J. Slater taking the second place.

In the fruit classes Mr. H. Shoebridge, gardener to M. Beddington, Esq., Carshalton, was first for three bunches of black Grapes, Mr. J. Slater being second. For a scarlet-fleshed Melon Mr. J. H. Stevens was first, Mr. A. Etheridge second, and Mr. H. Shoebridge third. Mr. W. Clayson, gardener to A. Dry, Esq., Carshalton, took the premier place for a green-fleshed Melon. For a dish of Tomatoes Mr. Dann, Wallington, was first, Mr. J. Wright second, and Mr. J. Slater third. The last-named exhibitor was also first for both Peaches and Nectarines, Mr. R. Hill being second and third in both cases. Mr. J. H. Stevens was first for six dishes of hardy fruit, staging Red Currants, Apples, Cherries, Peaches, Plums, and Apricots; the second prize fell to Mr. J. Slater, and the third to Mr. J. Wright. For a brace of Cucumbers Mr. W. Clayson was first, Mr. J. H. Stevens second, and Mr. J. Slater third.

An interesting feature in the Show was the excellent collections of vegetables, for which the sum of £5 was distributed amongst six successful competitors according to the number of points allotted to each. Mr. J. H. Stevens gained the highest number—namely, sixty-one, and took the sum of 19s. 4d.; his collection included clean and well-grown samples of Peas, Potatoes, Kidney Beans, Beet, Cabbages, Carrots, Onions, Turnips and Marrows. Mr. J. Slater was second with fifty-seven points, taking 17s. 11d.; Mr. H. Shoebridge third with fifty-five points, taking 17s. 4d.; Mr. H. Hopkins and Mr. W. Clayson were equal fourths each with forty-nine points, taking 15s. 6d.; and the last award went to Mr. J. Davies with forty-six points, taking 14s. 5d. Amongst the exhibits not for competition were a small but effective group of plants sent by A. H. Smee, Esq., of "My Garden;" a collection of hardy flowers from Messrs. J. Peed & Sons, Norwood, which was very effective, and a group of plants from Messrs. J. W. Silver & Co., Streatham Nurseries.

TRADE CATALOGUES RECEIVED.

Dicksons & Co., Waterloo Place, Edinburgh.—*Catalogue of Flower Roots.*

Little & Ballantyne, Carlisle.—*Bulb List.*

Louis Van Houtte, Père, Ghent, Belgium.—*General Plant List.*

Jas. Veitch & Sons, Royal Exotic Nursery, Chelsea.—*Bulb Catalogue.*

B. S. Williams & Sons, Upper Holloway.—*Bulbs, Fruit Trees, and Roses.*

CLITORIA TERNATEA.

THE large family of the Leguminosæ yields us abundant useful garden plants, but those with blue flowers are not too frequent in this or any other section of the plant world. One of the best examples of a really handsome blue-flowered plant is *Clitoria ternatea*, of which a specimen is represented in fig. 20. This is seldom seen in gardens, and yet the brilliant colour of its flowers ought to render it a general favourite. According to Paxton "this handsome plant was first brought beneath the notice of botanists and floriculturists as long ago as the year 1739. From that period down to the present it has been



FIG. 20.—CLITORIA TERNATEA.

erroneously considered by many as an annual species, and slighted accordingly. Such an opinion probably had its rise in the mode of culture which has occasionally been pursued. Instead of treating it as a stove plant, it was, from the facility with which it ripens seeds, raised anew each spring as a half-hardy annual, and transferred to the open flower border, where it was destroyed by cold.

"From circumstances similar to the above, this plant has not been an isolated example of false notions being imbibed respecting its habits. Notwithstanding the evident bent of cultivators rather to supply a plant with too high a temperature than to suffer it to be too much exposed, here is an instance, out of several others that we might mention, in which a contrary method has been practised. When, on the other hand, it is retained in a stove, to which a moderate amount of heat is furnished, it assumes quite another appearance. The stems, instead of perishing yearly, become shrubby at the base, the lower leaves remain through the winter without withering, and it is the upper branches alone that exhibit any signs of decay. Its natural habit is, therefore, decidedly suffruticose, and that to which it has been reduced in our gardens is simply a constrained one."



FRUIT FORCING.

Figs.—*Early Forced Trees in Pots.*—When the second crop is cleared examine the trees for red spider and scale, as these pests increase through keeping the trees somewhat drier at the roots, and the drier condition of the atmosphere consequent on a free circulation of air. Thus the enemies steal a march whenever they get the chance, or cannot well be prevented during the ripening of the fruit; therefore, when that is cleared off the trees recourse must be had to cleaning, and as the foliage and wood are far advanced in ripening destructive agents may be used at a strength which would not be safe earlier. If, therefore, these pests, and especially scale, have made undesirable progress, syringe the trees with some insecticide, of which there are many advertised, and all efficient when the instructions are strictly followed. The mixture may be kept from saturating the soil by tying a handful of dry moss round the stem, and then raising a sort of pyramid of the same, placed about the plant. Badly infested wood should be brushed to dislodge scale, and repeating the syringing in a few days, afterwards sponge thoroughly with the insecticide and cleanse by a thorough syringing with tepid water.

The trees will need proper attention for watering, so as to prevent the foliage becoming limp, ventilating to the fullest extent day and night, but protect the trees from heavy rains, which have a tendency to saturate the soil and prejudice the ripening of the wood. Placing trees outdoors is favourable to the hardening of the wood if the weather be bright and dry, but if wet and dull the air moisture causes growth, which does not ripen well, and the first crop fruit drops in consequence. Judgment must, therefore, be exercised as to whether the trees are kept under glass or placed outdoors. If the latter, the position must be sunny, the pots stood on a layer of ashes, with similar material about them, and though the trees must not suffer from dryness, material must be at hand to apply so as to throw off heavy rain, and prevent the soil becoming sodden. Whether kept under glass or placed outdoors they cannot have too much light and air, the growths being fairly thin and the points well exposed.

Early Forced Planted-out Fig Trees.—The second crop now ripening will need a circulation of air constantly, more, of course, by day than at night. If dull weather prevails a gentle heat in the pipes makes a difference in the quality of the fruit, and prevents spotting and splitting. A little sulphur brushed on the flow pipes gives off fumes disliked by red spider and spot fungus. Watering at the roots must be diminished, syringing over the trees discontinued, but a moderate air moisture should be secured by occasionally damping the floor and border for the benefit of the foliage. If red spider is present heat the pipes to 160°, or so hot that the hand cannot endure the heat, and then coat them with a thin coat of sulphur and skim milk, keeping the house closed for an hour or two, then allow the pipes to cool and admit air as usual. By closely gathering the fruit syringing may be resorted to, but it is a bad expedient, as a free circulation of warm, rather dry air, is essential to perfection in the fruit of the Fig tree, and it acts beneficially on the foliage and wood.

Late or Unheated Houses.—Excellent Figs are grown in lean-to structures facing the south, ventilating so as to entrap and retain the sun heat. Success also depends on restriction at the roots, for these allowed to ramble far and deep cater too freely, and the trees are not amenable to control. Narrow borders one-third the width of the house are ample, well drained, and 18 inches to 2 feet deep. Calcareous and firm soil is essential. Where natural calcareous loam does not exist old mortar rubbish to the extent of a sixth will supply lime in a useful form, or chalk with an addition of gritty matter, such as road scrapings, in a similar proportion may be used with advantage. Figs like calcareous gravelly loams, preferably rather strong, hence clay marl is an excellent addition to sandy soils for the growth of Figs. Unobstructed light and free ventilation are well known principles in securing Figs of the choicest description, careful attention being given to details of culture; one of the most important is watering and judicious feeding. The growths must be thin so as to secure solidified wood through the assimilation of matter elaborated in the leaves fully exposed to light. The finest fruit is had on extensions kept renewed by cutting out worn out and replacing with young, a moderate amount of spurs only being allowed. The fruit is now advanced for ripening, therefore spare no pains in freeing of red spider by syringing in the morning and afternoon. Admit a little air early, increasing it with the sun heat, maintaining through the day a temperature of 80° to 85°, with free ventilation, closing early so as to increase to 90° or 95°, and when the sun power is declining a little air may be admitted at the top of the house, so as to allow the pent-up moisture to escape and temperature gradually lowering.

Water or liquid manure will be required once or twice a week, according to circumstances, in order to keep the soil properly moist and supply nutrition. When the fruit gives indications of ripening syringing must cease, watering be gradually reduced at the roots, a circulation of air secured constantly, freely ventilating when favourable, and husband-

ing sun heat, not by closing, but by lessened opening of the ventilators, as it is a confined atmosphere that causes the fruit to crack or become mouldy, a little ventilation preventing the moisture condensing.

Pines.—Prepare houses as they become vacant for re-occupation. If hot-water pipes are employed in furnishing bottom heat, the bed, whether of leaves or tan, must be removed at least once a year, so as to replace the spent by fresh material and get rid of woodlice. All brickwork should be scalded and brushed with hot limewash, the wood and ironwork cleansed with soap and water, using a brush, and keeping the soapy water from the glass as much as possible, which should be cleansed inside and outside with water only. Chambered beds, the hot-water pipes being covered with slate or other material, are much in advance of those surrounded or passing through beds of rubble. Those composed of the latter may be turned over, and any dirt or small parts removed, re-arranging the material so that the heat given off by the pipes can penetrate uniformly through the bed. Provide fresh tan in other cases; if wet, turn it occasionally on fine sunny days. With hot-water pipes beneath about 3 feet depth is ample; more will be needed where such aid is not provided.

Suckers started in June will soon fill their pots with roots, and must be shifted into larger pots before the roots become closely matted together. Queens may have 9 or 10-inch pots, and those of stronger growth 11-inch pots. Water immediately after potting if the soil be dry, but it ought to be neither that nor wet, but moist, then do not water, and plunge in a bed having a temperature of 90° to 95°. There is no greater mistake in growing Pines than crowding young plants. The plants become drawn and weakly, instead of having a sturdy base. Attend to the bottom heat of beds that have recently been disturbed by the removal of plants, not allowing the heat to exceed 95° at the base of the pots without immediately raising them, as too much bottom heat will disastrously affect plants with fruit or those having the pots filled with roots. Examine the plants about twice a week for watering, and maintain a moist well-ventilated atmosphere. The climatic conditions are now so favourable that Pine plants grow luxuriantly; therefore continue any shading such as may have been employed for an hour or two at midday, when the sun was powerful. Admit air plentifully when the temperature ranges from 85° to 95°, affording to fruiting plants a night temperature of 70° to 75°, and succession 65° to 70° at night. Reserve another batch of suckers on the stools for starting at the commencement of September.

Cherry House.—The buds are as plump as they need be, therefore undue excitement must be guarded against by exposing the trees to the influences of the atmosphere so far as the house will admit, which the best means of arresting premature growth, to which the Cherry is liable when forced year after year successively. The border must not be allowed to become parchingly dry, but have copious supplies of water, and if the trees are weak afforded liquid manure. To subdue red spider give an occasional washing with the syringe or garden engine. Black aphides attack Cherry trees; keep an eye on them, and whenever they appear promptly assail them with tobacco water. Trees in pots must be regularly watered and syringed to maintain the foliage in good condition, for though it may not be capable of much further effort in elaborating sap and storing matter, it has some, and it is necessary that the leaves perform their functions to the last.

Cherry trees in pots are the most interesting of all fruits grown that way. They offer such a variety, and afford fruit over so long a period, that it is remarkable they are not more commonly seen. With very slight forcing they ripen in May, and afford a succession of fruit up to August. In a house without heat, but light and well ventilated, ripe Cherries can be had early in June, and a succession with proper care and selection of varieties to late September. Early Rivers, Empress Eugénie, May Duke, Governor Wood, Black Eagle, Archduke, Duchesse de Palluan, and Emperor Francis afford a good succession of fruit, and succeed in pots.

THE KITCHEN GARDEN.

Onions.—The weather lately has been very favourable to the spread of mildew, and some quarters of Onions are completely overrun by this insidious disease. Its effect will be to quite paralyse the growth of the plant, and the roots will fail to mature. A close look out should be kept for the first symptoms of it, and preventive measures be taken at once. If a few of the leaves are partially or wholly covered with the mildew, all badly infected plants should be carefully drawn, carried away, and destroyed, isolated mildewed leaves being similarly treated. Newly slaked lime is a good fungicide, and would be made still more so by the addition of ten parts of powdered sulphate of copper to ninety parts of lime. Give the whole of the Onion plants a thorough dressing with this, applying it in the morning when the dew is on the leaves. If washed off quickly by rains apply more.

Sowing Onion Seeds.—Early in August is the time usually selected for sowing Onion seeds, the plants obtained standing through the winter and maturing early the following year. The Tripoli section is, as a rule, given the preference for this sowing, but is not any hardier than the White Spanish types. Any Tripolis grown this season will not keep later than midwinter, whereas autumn-sown Nuneham Park, Reading, Giant Zittau, and such like will keep five months longer. Autumn-raised Onions duly thinned out or transplanted invariably mature earlier and more surely, and are less liable to be destroyed by the Onion maggot than is the case with the Tripoli section. The ground selected ought to be moderately rich, and made firm prior to sowing.

Turnips.—There should be no undue delay in thinning out Turnips. Directly they are safe from slug and insect attacks thin out the stronger

growers to a distance of 8 inches or so apart, leaving the strap-leaved varieties, including the valuable Chirk Castle Blackstone, 6 inches or rather less asunder. If from any cause there are many failures either hoe up what few have survived and sow afresh, or else sow more seeds where the failures occur. Ground newly cleared of Potatoes, made fine, firm, and level, suits winter Turnips well. Nearly every seed will germinate, therefore avoid sowing thickly. Directly the plants are seen dust over with soot and lime, keeping them coated to ward off attacks of Turnip fly and slugs.

Cabbage.—First sowings of Cabbage to stand through the winter have failed in many gardens. There should be no delay in sowing more seed, even where plants are plentiful. It sometimes happens that the earliest raised plants are a little too forward, those raised later standing best. Some varieties, again, are more liable to run to seed prematurely than others, and one sowing may turn out right and the other wrong. In any case a number of small late-raised plants left in the seed beds all the winter are very handy for planting in the spring. Summer Cabbages are badly eaten by caterpillars this season. Instead of leaving them as they are, cut them over and throw the hearts on the rubbish heap; or, better still, give them to the pigs and poultry. The old stumps will soon push out fresh growths and neat little hearts be had next winter. June-raised plants of London Rosette Colewort, and other small quick hearting Cabbages ought now to be put out in quantity.

Potatoes.—Soaking rains have fallen in time to save the later planted breadths generally, and late varieties are all growing strongly. It is to be feared the haulm is too abundant and sappy, and a bad attack of disease would quickly ruin all. Dressings of either anti-blight powder or the Bordeaux mixture ought, ere this, to have been applied, repeating the dose directly that first given is washed off. Where the tubers had ceased to grow when the rain fell the proper course to pursue was to lift and store.

Mushrooms.—We are having abundance of Mushrooms from the fields now instead of in the autumn, and those who grow for the markets as well as private gardeners generally will do right in making and spawning beds as quickly as circumstances will permit. Ridge-shaped open air beds ought particularly to be started now. The beds should be formed on a dry hard bottom, preferably in a position sheltered from cold winds, may be of any length, 30 inches to 3 feet wide at the base, the same in height, and tapering off to a width of 6 inches. The manure ought to be put together very firmly and neatly, every particle of it used being in a semi-moist state. It will heat strongly at first, and directly the trial stakes show a steady decline the time has arrived for spawning. If there is little likelihood of overheating soil at once, otherwise wait three days. Keep trial sticks inserted through the centre of bed. If overheating threatens form deep holes with an iron rod through the centre, this letting out superfluous vapour. On the other hand if the heat declines fast cover heavily with a strawy litter saved for that purpose, and dispose this as much as possible in the form of a thatch so as to ward off heavy rains.

THE BEE-KEEPER.

APIARIAN NOTES.

BEES AT THE HEATHER.

WE, under favourable circumstances and weather, managed to have our bees flying and working shortly after mid-day on the 25th July. The Heather is early, gorgeous, and profuse in bloom, unlike other native flowers, of which there is a great paucity, many not showing a single bloom. The meadow hay crop in many instances has yet to grow.

The first rain worth speaking about began to fall on the evening of the 25th, and continued for forty-eight hours. Owing to the very dry ground it ran off quickly, raising the rivers, but leaving the lands in want of more. Although our bees have as yet had only two working days, the first pollen mostly, and the second honey, I never experienced better promise of an abundant yield of the latter. The rain coming at the early stages of bloom, and on the heated earth, cannot fail to cause a plentiful secretion of honey, and with eight or ten days settled fine weather any time in August the bees will secure it.

To be strong and speedy in flight is certainly a property desirable in the honey bee. Shortly after the introduction of the Italian Alp bee, as some of your readers will remember, I tested the new comers against our native bees, the former beating the latter in a comparatively short flight by many seconds. This, with their honey gathering qualities, endeared them to me as a superior bee, notwithstanding the voluminous writings against them.

The introduction of the Carniolan about ten years later possessing properties superior to the Italians, of which by this time the pure race could not be had, and being subject to chloric dropsical fever, I became used to the cleanly, mild tempered, and industrious Carniolans. From the first I observed their hardiness, with great power of wings and the distance they flew, always

finding them further from the hives than any other variety. On July 31st I went over the hills a distance of fully two miles, and Carniolan bees were the only ones working on the Heather at that distance, having flown over large tracts of beautifully bloomed Heather to reach that which was probably richer in honey.

It is by testing bees of different breeds side by side we arrive at facts. There are many experiments I have not carried fully out, such as placing different breeds together at various distances from the honey fields, and that done thoroughly would be a means of benefit. By the introduction of foreign bees and stamping the original black bee out of existence, is the sole cause of the greater yields of honey, and not to the so-called modern improvements. —A LANARKSHIRE BEE-KEEPER.

SEASONABLE NOTES.

As the weather continues unsettled, and showers are very prevalent, it is not advisable to leave supers (in whatever form they may be employed) on the hives after this date, as with a lower temperature the bees will commence to carry the honey down and place it in the brood combs. Sections that are well finished off should be put in a dry place until required for use. They should be well cleaned of any propolis or wax adhering to them, and if packed in boxes, or put in half-dozen lots and wrapped in paper, they may be kept quite free from dust. Those that are not sealed satisfactorily should be uncapped and the honey extracted, the sections being stored in a dry place for use another season.

Stocks that have been worked on the doubling system, either with shallow frames or standard size, should now have the top storey removed and the combs all passed through the extractor. These should then be stored away in their sizes in a cool, dry place for future use. At this time of the year there is often a difficulty in getting the bees to leave their combs, and when such is the case it is advisable to lift the top storey off, and carry it a few yards from the hives, then lift the combs out one at a time and shake the bees off on to the ground, brushing the few that are left off with a feather. These will at once fly to their parent stock, and the operator will not be troubled with robber bees as much as if the operation had been carried out close to the other hives. Little smoke should be used, as when used too freely the honey sometimes becomes tainted from that source, and the flavour is spoiled.

A cloth that has been sprinkled with carbolic acid is very useful when manipulating the bees. This should be spread over the top of the frames, and will prevent robbers from the other hives obtaining an entrance, as they are ever on the alert when outdoor supplies are getting short to obtain an entrance to the other colonies. Where the old-fashioned bell-glass is used as a super on straw skeps, as it is in many country districts, it should be removed, and carefully turned upside down, and the bees brushed away with a feather. Those that remain will in a short time come to the light, when they may be brushed off, and the super will be quite clear of bees in a short time. —AN ENGLISH BEE-KEEPER.

TO CORRESPONDENTS

* * All correspondence should be directed either to "THE EDITOR" or to "THE PUBLISHER." Letters addressed to Dr. Hogg or members of the staff often remain unopened unavoidably. We request that no one will write privately to any of our correspondents, as doing so subjects them to unjustifiable trouble and expense.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Bee subjects, and should never send more than two or three questions at once. All articles intended for insertion should be written on one side of the paper only. We cannot reply to questions through the post, and we do not undertake to return rejected communications.

Book (T. M.).—The "Garden Manual" will suit you admirably; it may be had from these offices for 1s. 9d., post free.

Fruit of Cydonia japonica—Varieties for Preserving (W. E. G.).—The fruits of the varieties you name will be likely to make excellent jelly or conserve, and most are first-rate candied, they being bright in colour and of taking form with a delightful perfume. C. j. Maulei is perhaps the best of the varieties for preserving purposes, their value depending on the amount of flesh, the "woody" fruits not being suitable; therefore be guided by the development they attain on the respective trees or bushes.

Picotee (J. T.).—The flower sent is a rose-edged Picotee of good substance, which should, if distinct, make a good variety. We cannot tell its particular name as there are several closely resembling it.

Strawberry Plants to Afford Runners for Forcing (Waltham).—As you have no stock plants the best plan is to procure some strong runners now of the desired varieties, and plant them in the open ground in well prepared land, placing the plants in rows 2 feet 3 inches asunder, and 15 inches apart in the rows. These plants will give strong runners early in 1896, which being layered into the fruiting pots will be the best possible for producing ripe fruit in April, 1897. The necessary instructions for preparing Strawberry plants for forcing were recently given in our "Work for the Week" column.

Chemical Manure for Tea Roses (Eve).—You could not have any better than those advertised, all being excellent when applied according to the instructions, and as a rule cheaper and more genuine than often is the case by purchasing small quantities and mixing at home. You may use the following:—Superphosphate, 5 parts or lbs.; sulphate of potash, 3 parts; nitrate of soda, 2 parts; mix thoroughly and apply at the rate of 4 ozs. per square yard early in the spring, and repeat occasionally during the summer; or use 2 ozs. per square yard at six weeks intervals during the summer, either when the ground is moist or washing in after application. Cease manuring at the beginning of September, or omit the nitrate of soda after that time.

Vine Leaves Scorched and Grapes Scalded (Ebermeizia).—There is no mildew on the leaves or Grapes, but one leaf has a large scorch-blotch, and there is a little rust on the berries, and some are slightly scalded, all of which are not diseases, but due to cultural defects. The scorching is a consequence of not admitting early in the morning, or before the sun has acted some time powerfully on the house. Scalding is a result of similar conditions, and can be avoided by a rather free circulation of air in the daytime, and a little constantly, so as to prevent the deposition of moisture on the berries, and allow the Grapes to warm correspondingly with the surrounding air. This can be readily effected by a gentle warmth in the hot-water pipes for about three weeks during the completion of stoning and up to the Grapes changing colour. The rust is caused by allowing the temperature to rise considerably, and then admitting air so as to cause a draught, or by rubbing with the hand or hair.

Tomato Fruit Affected with Black Rot (E. Mason).—1, The fruit is diseased in the usual manner by a fungus, which we are now able to state definitely is *Peronospora lycopersici*. However, there is only the mycelium in your fruit; the destruction of the tissues by this causes the blackness, and is called blotch, black stripe, and black rot. The latter is a better popular term than the other, for it means the destruction of the fruit. The fungus has been vaguely guessed at as that of the Potato disease fungus (*Phytophthora infestans*), but it is not that pest, though related to it, yet the last also sometimes infests Tomato plants, but it does not produce this particular disease. To avoid the *Peronospora lycopersici* you must (1), sow perfectly clean seed, for the parasite can be and is transmitted in the seed to every part of the world where Tomatoes are grown; (2), disinfect the houses and soil where plants affected with it have been grown; and (3), dust the plants at intervals of about a fortnight after they are a foot high, or before they show flower, with a fungicide powder, or spray with Bordeaux mixture at similar intervals, a quarter strength as used for Potato plants sufficing; and continue one or the other at fortnightly intervals until the last fruits on the plants are set and swelling. This, with careful cultural management, has proved thoroughly successful. 2, To aid the fruit in swelling use the advertised fertilisers, all being good, only follow the instructions carefully. We cannot recommend any, but you will not be doing wrong to use a mixture of bone superphosphate, 5 parts; sulphate of potash, 2 parts; and nitrate of soda, 1 part; mixing and using 4 to 6 ozs. per square yard, afterwards giving nitrate of soda, 1 or 2 ozs. per square yard, as vigour is wanted, at intervals of three weeks.

XL All Fumigator (H. Ward).—Mr. Bardney writes:—"The precautions necessary are to use the fumigator according to directions, and then I have found amongst plants the most tender foliage is not injured. Where mealy bug exists in the house we use a stronger dose than advised, for instance in a house containing 8500 cubic feet of air we have used sufficient nicotine for 12,500 cubic feet, and have found this to kill all active mealy bug. The house in which this was tried contained greenhouse Rhododendrons, Abutilons, Heliotrope, Begonia Carolina and two small-flowering winter kinds, Dracenas, Eulalias, Gloxinias, Cannas, and several other plants. A few *Adiantum cuneatum* were left in, the majority removed. Those left in had not the most tender frond injured, and none of the other plants; but of the mealy bug, all active insects, lay dead in the morning. So far I have not tried it on the tender foliage of Vines—when the foliage is developed there need be no danger in using it. We used the nicotine nearly double the strength on Vines that were dormant, and with a sharp look out have been troubled very little this season. To clear houses of mealy bug, whether vineries or plant houses, frequent operations are necessary; but so far I do not advise its use on the foliage of Vines while it is tender, although I do not believe any harm will result. The only method of testing this is to raise Vines of various kinds, which I intend doing on purpose another year, and see what they will really stand. Peaches appear to bear it very well, and the fruit is not tasted in the least; but the strength advised, while it kills all active thrip, does not entirely clear out red spider. We are experimenting as far as we can, and hope before the end of the year to give readers of the Journal the results of our experiments."

Dwarf Kidney Beans for Profit (Cross).—We have grown both Ne Plus Ultra and Canadian Wonder for marketing and found both excellent, the former being somewhat the earlier, and a smaller pod takes well with some buyers; but of the two we found the second give the best returns generally. Ours were grown in rows 18 inches apart for Ne Plus Ultra, and the beans about 4 inches asunder. Canadian Wonder 2 feet apart from row to row, and 6 inches asunder in the rows. By sowing in 3-inch pots and planting out you perhaps induce a dwarfer habit, as the plants can be kept nearer the glass in the early stages, and being five in such pot they can be set in clumps 18 inches asunder every way for Ne Plus Ultra and 2 feet for Canadian Wonder. When sown in the ground the plants are liable to become drawn, but that is occasioned by keeping too warm and close.

Apple Scab (E. M.).—There is no remedy for this or indeed any fungoid disease, as nothing will restore destroyed tissue, therefore the most that can be done after attack has commenced is to arrest the spread of the malady, and save as much of the current crop as possible. This, however, can hardly be done, as once affected the fruit cracks in swelling, even after the fungus has been destroyed; besides, the usual specific, Bordeaux mixture, is not safe to use late to early ripening Apples. You may now employ permanganate of potash, a wineglassful to a gallon of water, for spraying, or that quantity diluted with water to 3 gallons for syringing. The best and only desirable practice is preventive measures, spraying in spring, just before the leaf buds open, with quarter strength Bordeaux mixture, repeating the application just before the blossoms open, spraying for the third time after the blossoms have fallen, and in fourteen to twenty-one days—the shorter if wet, longer if fine—spray again. This suffices for early Apples, and mostly for all but very late.

Dark Mark in Tomato Seed (Saltaire).—The dark mark on one of the seeds yielded the mycelium of a fungus, quite fresh but dormant. It appeared to be that of the black rot or black stripe parasite, the fungus called *Peronospora lycopersici*. Such seed may or may not give rise to the disease in the plant developed from it, in which case the plant must succumb, and is common enough in the early stages of growth, but not until the fungus has produced spores, which may spread over other plants and set up the disease in healthy plants. As the fungal plasma is embedded in the integument of the seed you may possibly destroy it by disinfecting the seed before sowing by using a solution of corrosive sublimate, two grains (apothecaries weight) to one gill (quarter of a pint) of water, bearing in mind that it is a terrible poison, and when dissolved, it being best let stand overnight and stirring two or three times, allowing the seed to remain in the solution an hour and a half, then remove and sow at once. This treatment will destroy the fungoid threads it reaches, and possibly the diseased seeds, in either case reducing danger of disseminating the disease by the seed.

Tomato Leaves Diseased (Acacia Rawdon).—The leaves are badly infested with a fungus, producing yellow spots or blotches, which spreads and sometimes destroys the whole leaf or leaves. It is the *Cladosporium fulvum* of Dr. Cooke and *C. lycopersici* of Prof. Plowright. As many of the outgrowths are mere stumps the spores will have been disseminated through the house, and no doubt fresh colonies have been established. We advise cutting off the worst infested leaves and burning them. This, of course, will tend to distribute the spores through the house to a certain extent; but it is better to do that than leave bad leaves to foster this and other fungi. Then spray the whole house with Bordeaux mixture, for which formulas have repeatedly been given in this Journal, this being the most certain remedy, but it will have a disparaging effect on the fruit through the coating of lime and sulphate of copper. It must not be used with a syringe, but as that is what you wish to do you may procure a bottle of Condy's fluid, and use a wineglassful to a gallon of water, wetting every part of the house as well as the plants with the solution. It may be necessary to repeat the syringing in about ten days, as possibly some parts of the fungus may not have been reached at the first application. If you wish for a fungicide in powder form there is "Fostite," which has been advertised in our columns, and other preparations.

Plants for Farmer's Garden to Afford Cut Flowers in Winter and Spring (M. G.).—Christmas Roses are the first to flower, commencing in November and December; the common (*Helleborus niger*) and giant flowered (*H. maximus*) having white flowers are most suitable. Anemone coronaria (the Crown) and *A. stellata* (the Peacock) afford a quantity of flowers early in spring of gorgeous colour, especially the latter. *Dielytra eximia* produces Fern-like foliage and racemes of drooping reddish flowers. *Doronicum caucasicum* has bright golden yellow flowers. *Iberis sempervirens plena* produces abundance of white flowers. The Primroses are very pretty; the double white, double sulphur, and double lilac are esteemed bunched, also *Primula Harbinger*. Violets are indispensable; Czar and Russian are good singles, and Marie Louise for a double blue. Count Brazzi (double white) does fairly well in a sheltered situation. You will have Snowdrops already in quantity, and no doubt common Daffodils galore. To these you may add the Tenby Daffodil (*Narcissus obvallaris*), and the following varieties of Star Narcissus—*Burbidgei* and *ornatus* of the *N. poeticus* section, and of the *N. incomparabilis Leedsii* (white variety) or *N. Leedsii*, and of Ajax type *N. Horsfieldi*. There are many others, but those named are moderate in price. You should ask for quotations of prices, and select according to the quantities you have means for growing, remembering that the stock will increase yearly. Wallflowers must be grown in quantity, these of course being raised from seed each year, of which you will have a good stock from a May sowing.

Absorption of Moisture by Leaves (*E. M. G.*).—The leaves of Seakale, Strawberries, and Spinach, as well as the Grape Vine, absorb moisture when in contact with their surfaces, and the moister the atmosphere or conditions under which they are produced the readier they take in the water when dry. The water, however, enters most pronouncedly by the footstalk, as you say, and for all practical purposes it is well to act on the principle that leaves do not absorb moisture, as it is a fundamental principle that the roots of plants be properly supplied with water and nutriment. This is better than physiological ideas based on conjectural physiology or quotations from books. Only practical experiments with a view to usefulness have weight with cultivators.

Asters Dead at the Collar (*Chas. Bellis*).—The second batch of Asters have the same appearance as the first—namely, destroyed in the stem as if by an overdose of chemical manure or too strong liquid. As you say neither has been used, and there not being anything in the shape of the outgrowths of a fungus in the present specimen, we are unable to account for the sudden collapse of the plants beyond what was stated in the reply on page 95. There is the similar mycelium of a fungus in the dead woody tissue of the second specimen as in the first, which may give rise to *Fusarium myosotides* later, and on the dead roots, or, rather, in the dead tissues, there are resting spores. The plants given away and collapsing similarly to your plants were probably infested when presented, for *Fusarium* are proverbially "sleepy" in their action, as Tomato growers know to their cost, generally causing the collapse of the plants when coming into profit, just as your Asters fail when giving promise of fine flowers; indeed, they are excellently grown plants, and barring the stem malady perfectly healthy in the tops. It is at the root where the mischief is, and your not having it before on the same ground is no reason why the plants should not be attacked this year. Most crops are grown on the same ground until they cannot be grown any longer, for it is simply a question of host and of parasite; but your plants are not in this category, as they have not been grown on the same ground before. By liming the land you will get rid of the spores, or the organic matter on which they are fostered in development, and beyond that nothing is usually necessary.

Culture of *Aphelandra Roezli* (*C. L.*).—The following note by a successful grower will answer your question:—This is a handsome plant either for the stove or for room decoration. The flowers are of very short duration in a cut state; indeed, for this purpose it is of little use, as the whole spike is never fully out at one time, and, moreover, the expanded flowers are so very easily shaken from the spikes that the least touch causes them to drop. This *Aphelandra* is easily propagated either by cuttings or from seeds. The latter mode is by far the best; from seeds they grow much stronger, producing finer leaves and flower spikes. The seeds are very readily produced if the plants are kept in a dry high temperature when in flower, and not allowed to become dry at the roots. Plants in flower about Christmas will under ordinary treatment ripen their seeds by May, when they should be sown in a moist heat and well shaded; indeed this is a very essential point through all their growing period, for if exposed any length of time to direct sunshine the foliage soon becomes twisted and hard, with, in most cases, a drooping tendency. The seeds should be sown on the surface of a propagating bed, that is, if the material which covered the bed is old leaf soil or spent tan. They germinate freely without any covering, and when the plants are large enough to handle they should be pricked singly into thumb pots, using a mixture of leaf soil and silver sand, placing them on a shelf close to the glass. In three or four weeks they will require a shift into larger pots, say 5 inches in diameter. The soil this time must be more substantial, and consist of good fibry loam two parts, one part of sheep droppings or cow manure, and one part of crushed charcoal and a dash of sand. They should be potted very loosely, care being taken in draining the pots that a little charcoal is used with the crocks, as it tends to keep the roots healthy. If the plants when in flower are removed to a little lower temperature than that in which they have been grown their flowering season will be prolonged. They enjoy supplies of weak liquid manure twice a week all through their growing season; it enlarges the foliage and imparts a deep silvery sheen.

The Margaret Apple (*Somerset*).—The Apple of which you send samples has many names, as may be seen in the *Fruit Manual*, from which we give an extract. "Margaret (Early Red Margaret; Early Red Juneating; Red Juneating; Striped Juneating; Early Striped Juneating; Striped Quarrenden; Summer Traveller; Eve Apple, in Ireland; Early Margaret; Marget Apple; Maudlin; Magdalene; Marguerite; Lammas).—Fruit, small, 2 inches wide, and the same in height; roundish ovate, and narrowing towards the eye, where it is angular. Skin, greenish yellow on the shaded side, but bright red next the sun, striped all over with darker red, and strewed with grey russet dots. Eye, half open, and prominent, with long, broad, erect segments, surrounded with a number of puckered knobs. Stamens, median; tube, funnel-shaped. Stalk, short and thick, about half an inch long, inserted in a small and shallow cavity. Flesh, greenish white, brisk, juicy, and vinous, with a pleasant and very refreshing flavour. Cells, roundish ovate or obovate; axile, closed. A first-rate early dessert Apple; it is ripe in the beginning of August, but does not keep long, being very liable to become mealy. To have it in perfection, it is well to gather it a few days before it ripens on the tree, and thereby secure its juicy and vinous flavour. The tree does not attain a large size, being rather a small grower. It is a good bearer, more so than the Joaneting, and is quite hardy, except in light soils, when it is liable to canker. It is well adapted for growing as dwarfs, either for potting or being trained as an espalier, when grafted on the Doucin and Pomme Paradis stock. This is

a very old English Apple. It is without doubt the Margaret of Rea, Worlidge, Ray, and all our early pomologists except Miller. 'The Margaret or Magdalen Apple is a fair and beautiful fruit, yellow, and thick striped with red, early ripe, of a delicate taste, sweet flavour, and best eaten off the tree.' Ray gives no description of it, but it is only reasonable to suppose that it is this variety he refers to, seeing it is the Margaret of all authors both immediately preceding and subsequent to him." You would make sure of perpetuating the variety by grafting, but trees can be obtained from good nurseries.

Names of Plants.—We only undertake to name species of plants, not varieties that have originated from seeds and termed florists' flowers. Flowering specimens are necessary of flowering plants, and Fern fronds should bear spores. Specimens should arrive in a fresh state in firm boxes. Slightly damp moss, soft green grass, or leaves form the best packing, dry wool the worst. Not more than six specimens can be named at once, and the numbers should be visible without untying the ligatures, it being often difficult to separate them when the paper is damp. (*F. R.*).—1, *Gypsophila paniculata*; 2, *Mimulus cardinalis*; 3, *Lilium calcedonicum*; 4, *Lilium Martagon*; 5, *Spiraea filipendula flore pleno*. (*R. S.*).—1, *Acer Negundo*; 2, *Populus alba*; 3, *Sedum ibericum*; 4, *Francoa ramosa*; 5, specimen insufficient. (*J. J. C.*).—*Quercus ambigua*. (*H. M. G.*).—It is impossible to say from the miserable specimens sent whether the Currants are Raby Castle, La Versaillaise, or Long Bunch Red. (*G. C.*).—*Rhynchospermum jasminoides*.

COVENT GARDEN MARKET.—AUGUST 7TH.

OWING to Bank Holiday nothing of note has happened this week.

FRUIT.

	s.	d.	s.	d.		s.	d.	s.	d.
Apples, Nova Scotia, per barrel.. ..	0	0	to	0	0	Currants, per half sieve ..	3	3	to 6 6
„ Tasmanian, per case	0	0	0	0	0	Grapes, per lb.	0	6	1 6
Cherries, per half sieve	4	0	9	0	0	Lemons, case	10	0	15 0
Cobs, per 100 lbs.	0	0	0	0	0	Peaches, per dozen	2	0	6 0
						Plums, per half sieve	3	6	4 0
						St. Michael Pines, each ..	2	0	6 0

VEGETABLES.

	s.	d.	s.	d.		s.	d.	s.	d.	
Beans, Kidney, per lb. ..	0	6	to	0	0	Mustard and Cress, punnet	0	2	to 0	0
Beet, Red, dozen	1	0	0	0	0	Onions, bushel	3	6	4	0
Carrots, bunch	0	3	0	4	0	Parsley, dozen bunches ..	2	0	3	0
Cauliflowers, dozen ..	3	0	6	0	0	Parsnips, dozen	1	0	0	6
Celery, bundle	1	0	1	3	0	Potatoes, per cwt.	2	0	4	0
Coleworts, dozen bunches	2	0	4	0	0	Salsafy, bundle	1	0	1	6
Cucumbers, dozen	1	6	3	0	0	Seakale, per basket	0	0	0	0
Endive, dozen	1	3	1	6	0	Scorzoneria, bundle	1	6	0	0
Herbs, bunch	0	3	0	0	0	Shallots, per lb.	0	3	0	0
Leeks, bunch	0	2	0	0	0	Spinach, bushel	1	0	1	6
Lettuce, dozen	0	9	1	6	0	Tomatoes, per lb.	0	3	0	4
Mushrooms, punnet ..	0	9	1	0	0	Turnips, bunch	0	3	0	6

AVERAGE WHOLESALE PRICES.—OUT FLOWERS.—Orchid Blooms in variety.

	s.	d.	s.	d.		s.	d.	s.	d.	
Arum Lilies, 12 blooms ..	3	0	to	4	0	Orchids, dozen blooms ..	1	6	to 12	0
Asparagus Fern, per bunch	2	0	4	0	0	Pansies, various, dozen				
Asters (English) doz. bchs.	3	0	6	0	0	bunches	1	0	2	0
Asters (French), dozen						Peas, Sweet, doz. bunches..	2	0	4	0
bunches	9	0	15	0	0	Pelargoniums, 12 bunches	4	0	9	0
Bouvardias, bunch	0	6	1	0	0	Primula (double), doz. spys.	0	6	1	0
Carnations, 12 blooms ..	1	0	3	0	0	Roses (indoor), dozen ..	1	0	2	0
dozen bunches..	4	0	8	0	0	„ Tea, white, dozen ..	1	0	2	0
Cornflower „	1	0	2	0	0	„ Yellow, dozen (Niels)	3	0	6	0
Eucharis, dozen	1	6	2	6	0	„ Safrano (English),				
Gaillardias, doz. bunches..	2	0	3	0	0	dozen.. .. .	1	0	2	0
Gardenias, dozen	3	0	4	0	0	„ Yellow, dozen blooms	0	6	0	9
Geranium, scarlet, doz.						„ Red, dozen blooms ..	1	0	1	6
bunches	4	0	6	0	0	„ various, doz. bunches	3	0	6	0
Lilium lancifolium, twelve						Smilax, per bunch	2	0	4	0
blooms	1	6	2	6	0	Stephanotis, dozen sprays	1	6	2	0
„ longiflorum, 12 blooms	2	0	3	0	0	Sunflowers (small) dozen				
Marguerites, 12 bunches ..	1	0	3	0	0	bunches	2	0	3	0
Maidenhair Fern, dozen						Sweet Sultan, doz. bchs.	2	0	3	0
bunches	4	0	6	0	0	Tuberoses, 12 blooms..	0	4	0	6

PLANTS IN POTS.

	s.	d.	s.	d.		s.	d.	s.	d.		
Arbor Vitæ (golden) dozen	6	0	to	12	0	Geraniums, Ivy, per dozen	3	0	to 6	0	
Aspidistra, dozen ..	18	0		36	0	Heliotrope, per dozen ..	4	0		6	0
Aspidistra, specimen plant	5	0		10	6	Hydrangeas, per dozen ..	12	0		42	0
Calceolaria, per doz. ..	3	0		4	0	Lilium lancifolium, 12 pots	12	0		18	0
Coleus, per doz. ..	2	6		4	0	Lobelia, per dozen ..	3	0		4	0
Dracæna, various, dozen ..	12	0		30	0	Lycopodiums, dozen ..	3	0		4	0
Dracæna viridis, dozen ..	9	0		18	0	Marguerite Daisy, dozen ..	6	0		9	0
Eunonymus, var., dozen ..	6	0		18	0	" Yellow " ..	9	0		18	0
Evergreens, in var., dozen	6	0		24	0	Myrtles, dozen ..	6	0		9	0
Ferns, in variety, dozen ..	4	0		18	0	Palms, in var., each ..	1	0		15	0
Ferns (small) per hundred	4	0		6	0	" (specimens) ..	21	0		63	0
Ficus elastica, each ..	1	0		7	0	Pelargoniums, per dozen ..	8	0		12	0
Foliage plants, var. each	2	0		10	0	" scarlets, doz.	3	0		6	0
Fuchsias, per dozen ..	4	0		6	0	Rhodanthe, per dozen ..	4	0		6	0



AUTUMN WORK.

THOUGH an early harvest may mean light corn crops, it also gives us clear stubbles in time for thorough autumn tillage,

so that we can have the land clean and in ridges before there is any serious risk of hindrance to the work by heavy rain. We had this year Wheat harvest in full swing in the midlands the last week of July; Oats were reaped a week, and in some instances a fortnight, earlier; very much Barley is becoming so ripe and golden that it must follow the Wheat closely, so that with fine weather much of the corn will be stacked in the next fortnight, and there will be a rare opportunity for autumn tillage, which if turned to full account should leave the land clean and ridged for winter ready for manure and cropping in spring.

Greatly do we deplore seeing so much foul land—so many inferior crops this summer. Better have no land than land foul and poor. If corn is sown at all now it is only under every advantage of rich soil, good seed, and thorough tillage that it can answer. As being one of the most important factors to success, we plead once more for autumn tillage, for the destruction of all perennial weeds, such as Couch Grass, Thistles, Docks, and Coltsfoot. Where Coltsfoot is rampant it is a certain indication that the drainage is at fault, and while water is retained in the soil so as to render it sodden and cold, full crops of any sort are an impossibility.

Drainage is a matter in which the landlord will help; it is, moreover, work best held over for winter. It is bare stubbles and tillage rather that we have now to deal; let us see what can be done with them. With corn off the land so early, and a certain failure or half crops of roots, stubble Turnips are certain to be sown largely, for if they give no large roots they are certain to afford a lot of useful feed or keeping for the flock. Sutton's Early Six-weeks Turnip sown now gives under favourable conditions excellent late autumn feeding, and the same firm's Purple-top Mammoth winters well from an August sowing, especially on light land. We should not hesitate to sow it also on good mixed soil.

As a succession to it, Hardy Green Round answers well if sown a fortnight later; its habit of rooting well into the soil is much in its favour as a hardy winter variety. We do not like a very stimulating manure for late Turnips, but then it is utter folly to sow on poor land. For a clean but rather poor field, time being of importance, we are just using the means lying ready to our hands, and that is 4 cwt. per acre of a combination we have given here once or twice:—One-eighth nitrate of soda, one-eighth sulphate of ammonia, one-eighth steamed bone-flour, one-eighth muriate of potash, one-half mineral superphosphate. We know, at any rate, that here are all the essentials, and that we are perfectly safe in using such a fine all-round plant food in moderation for late Turnips or any other crop sown in soil somewhat deficient in fertility, and what soil is not deficient in some degree after a crop is taken from it?

For wintering well a strong plant in a free soil must be had of the crimson Italian Clover (*Trifolium incarnatum*). The early harvest is obviously in favour of this useful crop, and it will probably have a trial farther north than usual. In the southern counties it is regarded as a sure crop if got in early enough. We have had excellent crops of it in mixed soil in Suffolk, but never so good anywhere as in Sussex. If only a really clean stubble on porous soil can be had we like sowing fairly early in August—broadcast, with a turn or two of heavy bush harrows, followed at once by light Barley rollers. If sown early—say, by the middle of August—24 lbs. of really good seeds per acre are sufficient, if later 3 or 4 lbs. more seed is worth while. After August we regard sowing this *Trifolium* as a speculative matter. With a fine month or six weeks after the sowing it may do, but the point of importance is a full strong plant carpeting the soil well before the October fall of temperature and heavy rainfall is on us.

Though not a crop to wait upon the chances of harvest, Thousand-headed Kale must have mention here, because it is

indispensable. A good bit of fallow got clean and in good heart is just the place for it. A rich free soil and drilling at the end of July or early this month gives us an invaluable supply of the most wholesome, nutritious green food in March and April, or even a month earlier in a mild winter. But it is really cold, trying weather that we have most in mind when sowing Kale, for it bears the most severe weather with impunity; the bulk of food which it affords is large, it does not cause scour, and then above all things from this particular sowing we have a supply of food just at that critical time of year when winter stores run low, when the mind will dwell on the number of weeks till turn-out time, and weigh the possibilities of an early spring.

In all such provision for winter and spring we have to take into account a possible long, hard winter—head of stock to be wintered so many, quantity of food required so much. Surely in this matter he is the wise man who takes good care to allow a liberal margin on the side of food, and to resolve so to store and provide so to be able to keep up condition in herd and flock, so as to turn them out fresh and thriving when spring time comes once more.

(To be continued.)

WORK ON THE HOME FARM.

With root-singling, haymaking, and corn harvest all in hand, both the farmer and his men are having a busy time just now. It is just worth while giving a thought to cause of this muddle, and to resolve to try another season to have things a bit more in order. This year, even with the aid of self-binders, every hand procurable appears to be wanted. It is indeed a busy time, and it should continue to be so right onwards into October. We hold that with harvest saved early more good work can be done on the land for the month or six weeks that follow than at any other time of year.

Reap at once when the corn of both Wheat and Oats becomes so dry that no juice can be squeezed out of it. If Oat straw is required for fodder it is best reaped early, and for another good reason—*i.e.*, to prevent the corn from being shaken out. On the whole the corn stands up well, only occasional fields of it having been beaten down by storms. Where the crops are thin it appears to be coming down very ripe, and will soon be ready for the ricks.

Timely showers have given us an abundant aftermath, and pasture generally is green once more; but there is very little of useful growth on poor land, and we actually saw hay given to cows out on the pasture in the last week of July on our way up to London from Leicester one evening. Potatoes are much improved by the rain which fell in time for the main crop, but earlier sorts are sprouting, and should be got up at once, or the crop will be spoiled.

We have seen no blight spots yet, and hope not to, as we have had the sprayer briskly at work with the Bordeaux mixture, to be successful with which it is obvious that we must be watchful, and if after once using it heavy rain falls on the Potatoes it will wash off the dressing, which must be applied again promptly. Only the interval of a day may prove fatal, and the reason why is that while the coating of the Bordeaux mixture remains intact it forms an effectual shield against blight, but if washed off the blight spores may fall upon the leaves and become established in them before another dressing is applied.

METEOROLOGICAL OBSERVATIONS.

OAMDEN SQUARE, LONDON.

Lat. 51° 32' 40" N.; Long. 0° 8' 0" W.; Altitude 111 feet.

DATE.		9 A.M.					IN THE DAY.				Rain.
1895. July and August.*		Barometer at 32°, and Sea Level.	Hygrometer.		Direc- tion of Wind.	Temp. of soil at 1 foot.	Shade Tem- perature.		Radiation Temperature		
			Dry.	Wet.			Max.	Min.	In Sun.	On Grass.	
		Inchs.	deg.	deg.		deg.	deg.	deg.	deg.	Inchs.	
Sunday	.. 28	29.607	55.9	55.2	N.E.	62.6	61.8	53.0	77.9	53.4	0.125
Monday	.. 29	29.901	60.9	56.6	N.	61.1	67.4	55.0	110.8	53.8	—
Tuesday	.. 30	30.030	60.1	54.3	N.	61.1	68.6	54.2	111.3	52.1	—
Wednesday	31	30.024	61.1	57.1	N.	61.0	71.2	55.0	118.1	54.4	—
Thursday	.. 1	30.045	59.8	55.0	N.	61.1	67.4	47.3	89.2	42.9	0.010
Friday	.. 2	29.723	60.0	58.7	S.	60.9	72.0	56.8	113.9	52.2	0.116
Saturday	.. 3	29.591	58.8	55.9	S.W.	60.8	64.6	53.1	97.9	49.0	0.472
		29.846	59.5	56.1		61.2	67.5	53.5	102.7	51.0	0.723

REMARKS.

28th.—Heavy continuous rain from midnight to 6 A.M., and almost continuous drizzle or fine rain till 8 P.M.; but rainless intervals, especially in the morning.

29th.—Fine and pleasant, but frequently cloudy.

30th.—Sunny till about 2.30 P.M.; overcast later, and looking storm like.

31st.—Overcast early; generally sunny after 10 A.M.

1st.—Sunny morning; haze and thin cloud in afternoon.

2nd.—Overcast early, and drizzly from 7 A.M.; rain from 10 A.M. to noon; generally sunny after.

3rd.—Overcast, with spots of rain in morning; showers in afternoon, and heavy rain in evening and night.

A cool, wet week.—G. J. SYMONS.

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inches to 6½ inches in circumference
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variety, of splendid form and great size, with light brown
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Tripolis	per pkt., -/6; per oz., 1/6
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Giant Rocca, very fine -/4; .. 1/-
White Lisbon, the best for using green in Spring	
	Per lb., 4/6; per oz., -/6

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Journal of Horticulture.

THURSDAY, AUGUST 15, 1895.

HARDY FLOWER NOTES.

OF late we have been witnesses of a conflict
between the weather and the flowers. Un-
willing spectators have we been, and, as our
sympathies are with the flowers, we have done
our little best to succour them in their distressful
condition. It is not without a pang that we see
some tall border plant tossing and swaying as a
fierce gust sweeps from the sea or down the
hill side; nor can we view with calmness a
drenching rain, which in its fall despoils many
a flower of its petals or sadly dims its lustrous
beauty. Yet we can do but little to ward off
these enemies, except mayhap an extra stake or
firmer tying may bring security to the suffering
flower. With this wind and rain it is not to be
expected that the garden should have so bright
an aspect, yet one cannot but wonder at the
number of flowers in bloom.

Every now and then throughout the season
the flowers seem to come with slower pace, and,
although there is never an absolute gap in the
succession, there is a visible pause. Such there
was when July ended, but now that August has
come the order seems to have been given to
close up the ranks, and flowers are coming on
apace, although the weather has been boisterous
enough.

Phloxes in many colours are now bright and
most effective. Veronicas, with bright spikes of
blue, or white, or pink, are very pleasing still.
The dark purple globes of Allium descendens
are very conspicuous in the borders, and two
or three others of the same genus, one of which
is spoken of below, are also in bloom. The
day-blooming "Evening" Primroses are very
bright all day, and in the evening the fine
flowers of Oenothera biennis grandiflora, better
known as OE. Lamarckiana, light up the parts
of the garden in which they grow. Sea Hollies,
too, with their spiny heads, are ever admired,
and a small group of a tall white Echinops are
very effective with their handsome leaves and
their ivory heads of flowers, which, in dry
weather, are hardly ever without bees in search
of honey. The bright variety of Lythrum
salicaria named rosea is very effective also.

Tall Campanulas continue in beauty, and
some of the dwarfer kinds help to make the

rockeries attractive. *Linaria macedonica* is pretty also, and some of the Michaelmas Daisies have begun to flower. Carnations, too, in gardens where they are much grown charm everyone by their exquisite colour, perfume, and elegance of form. They are very fascinating, and I can only regret that the task of looking after so many bulbous, alpine, and other border flowers prevents me from growing more of these delightful Carnations and Picotees, over which one could linger for many hours. Monardas are still gay as I write, and with Sunflowers, Scabiouses, Aconites, *Gypsophila paniculata*, *Lychnises*, *Verbascums*, and other flowers make the beds and borders attractive.

Many Alpines are out of bloom, but there are some bits of colour showing conspicuously among the varied shades of green presented by the foliage of the occupants of the rockeries. With these many hues of green the rock garden is never desolate or uninteresting, but there is much besides to greet the eye. The bright yellow *Linum flavum* is very pretty on the ledges of some of the rockeries, and multiplies so exceedingly by sowing itself that it has to be "weeded" (save the mark) out with remorseless hand. The charming little *Linaria anticaria* is still profusely in flower, and a dark coloured species, which seems to be closely akin to *L. origanifolia*, is very pleasing with its dark green leaves and small purple-and-white flowers with a tinge of yellow at the throat. It does not seem very hardy, but comes up freely from self-sown seed. *Hypericum napaulense* has again begun to flower, and one must admit its inferiority in some respects to the hybrid *H. Möserianum*. The flowers of the latter are finer, and in addition they are held more erect, so that their beauty is at once exposed to view.

Sedum dasphyllum, which is very pretty even when out of flower, has covered itself with its white flowers. *S. Ewersi* is opening its purple blooms, and the variegated-leaved form of *S. Sieboldi* will soon be in flower also. Others there are of the genus still in bloom, and they help to give colour to many spots where some brightness is desirable at this time. *Androsace lanuginosa* forms a mass of silvery or silky foliage trailing over the stones, and bearing a number of its beautiful soft rose flowers with a yellow eye. At the base of one of the rockeries the exquisite Autumn Snowflake (*Leucoium autumnale*) is beautifully in flower, and in other places the charming Neapolitan Sowbread (*Cyclamen neapolitanum*) is coming into bloom. Looking round, too, one sees more in flower than at first appears, and more than enough remain for notice at present.

There are so many pleasing plants among the Alliums, that it seems to be particularly unfortunate that their odour is so disagreeable. This is more noticeable in some species than others, and we must pardon this unpleasant feature on account of the undoubted merits of some of these Garlics. Some of the drooping white-flowered species, such as *A. triquetrum*, are very pleasing, and the common *A. Moly* gives a touch of gold when it comes in June, to add to the many flowers then in bloom. One received as *A. pulchellum* var. *flavum*, although hardly so bright yellow as *A. Moly*, being, indeed, almost canary-yellow, has been noteworthy for two or three weeks, and as I write looks as if it would be in flower for a few weeks still. It grows about a foot high, and produces small drooping flowers in loose heads. These flowers are small, but are very numerous, one head having more than forty blooms. These are produced in succession. It is quite hardy, but I am rather doubtful as to its name, my only authority for the one I have being that of a leading London firm, which is generally very careful as to nomenclature. In any case it is a useful thing to have some of these dwarf bulbs coming into flower in the end of July and beginning of August, before the autumn Croci and Colchicums come into bloom.

Very pretty in the border and of much value for cut flowers is *Galega orientalis* of Lamarck, a native of the Caucasus and introduced in 1810. It grows here to about 4 feet in height, and as it lasts for a long time is a valuable border plant. The flowers are

light purple and arranged in racemes, which are produced from the axils of the leaves as well as at the tops of the flower stems. The leaves are what are known as impari-pinnate—i.e., having a terminal or odd leaflet. It is scarcely necessary to say that the *Galegas* belong to the Natural Order Leguminosæ, and that the flowers are thus pea-shaped. The general appearance of *G. orientalis* will be understood by those acquainted with *G. officinalis* or its white variety. It may be distinguished from these by its creeping habit and its flexuous stems, these growing in an undulating direction. *G. orientalis* grows well in light soil, and may be increased by division or by seeds.

It is a great drawback to the varieties of *Agrostemma coronaria* that they are only of biennial duration. This fault is greatly modified, however, by the freedom with which self-sown plants are produced in many gardens. Familiarity has, no doubt, made us careless of the ordinary *A. coronaria* and its varieties *alba* and *bicolor*, but the double form is prized by the few who possess it, and who are at the trouble to propagate it by division of the roots. It is a long time since I saw this double Rose Campion, and I fear those who think it worth while to preserve it are becoming fewer still. There is in my garden a very deep-coloured form which has been sent out as *Agrostemma Walkeri*, but appears also under various names, of which *hybrida* is one of the most inapplicable, so far as can be judged from the appearance of the plant and its flowers. The colour is very fine and difficult to describe, although it may perhaps be most satisfactorily called deep crimson. It is not only very deep in colour, but has also a most attractive velvety look, and as a further attempt to make its appearance plain, one might say the flowers are like "ruby velvet." The white woolly-looking leaves and stems add considerably to the attractions of the Rose Campions, which were favourites with flower-lovers long years ago.—S. ARNOTT.

LETTUCES IN WINTER.

It usually happens that the article produced in the greatest abundance during the season is the one most in request; and in general Nature so ably balances the supply to the demand of everything more immediately depending on her, that the oldest and most illiterate inhabitant of rural districts foretells with more certainty than an astro-meteorologist that a severe winter is likely to follow a good crop of haws on our hedges. This wise provision for the wants of the feathered creation is exemplified in many other ways not necessary here to mention; but as luxury and refinement have added considerably to the number of articles we are accustomed to regard as necessities, we must not be surprised if Nature leaves the providing of them more to our own management than she does the wild fruits set aside for the other members of the animated creation. Nevertheless, in a certain sense each country produces the articles of most use to its inhabitants.

Fruits are most plentiful in dry, hot climates, where by their delicious juiciness they contribute to the enjoyment as well as the wants of the native population; while in cooler and more moist districts cereals and vegetables are produced in greater abundance, and form an agreeable article in the bill of fare of everyday life. Habits and modes of living have given certain classes a preference to special articles, and it would be wrong to find fault with this arrangement; but in the general advancement of society the wants of the community become multiplied to an extent little dreamt of by the more primitive settler in an unexplored district. It is one of the features of that very luxury which has augmented to such an extent the number of useful articles our gardens possess (vegetable as well as floral)—and the ardent admirers of good, useful things at table have no right to despise the floral beauties as being less useful, for, excepting the very commonest of all articles of food, rigid adherents to the maxims of some of the doctrines propounded by certain of the strict sect, whose cognomen is a long unpronounceable, and, therefore, unnecessary name, insist that every article not absolutely wanted to support life in the most frugal way is a luxury, and must therefore be eschewed as such in favour of this doctrine. I have nothing to say on the contrary, so long as a temperate course be adhered to, the number of such gratifications as witnessing and admiring the growth of good vegetables, fine trees, and gay flowers, cannot be too much increased, as they all tend to develop that grand lesson which points to their original existence.

Useful, good articles, therefore, being admissible to any extent,

let us see how far improvement can be carried in the way of furnishing our tables with an article not always found in the best condition at all times, the subject of the present chapter being one of the most common of garden vegetables, nevertheless, it is one of the most popular, and, in a general way, one of the most wholesome, especially in hot seasons; but as it is not always to be had in good order at all times, let us try to explain how that may be done more effectually than at present, and show that *Lettuce*, which is the vegetable we mean, may be had in good condition in March, as well as in July or August.

Like many things else in the vegetable line, especially such as are eaten uncooked, quickness of growth secures one of the best qualities of this vegetable. Its newly formed leaves collecting themselves into as small a space as possible to shut out the daylight, are in the most admired condition when their whole previous existence extends over a very short period, as by that the firm, fibry matter which gives this and other plants consistency has not had time to form, hence a rapid growth accompanied with other points of excellence is what is sought for in the *Lettuce*, and to effect this object the best ground is seldom thought too good for it.

The sowing and other features of the cultivation being thoroughly understood, it needs only to be said here that although a rapid and luxuriant growth produces the crispest and best article in summer, it by no means furnishes the one capable of withstanding the hardest winter. On the contrary, a more tardy growth, checked by the absence of rich food, which it devours so greedily when in vigorous health, tends to prepare a plant capable of braving the storms of winter better than the more mushroom-like growth of the more delicate article; but circumstances of other kinds also operate on this as well. Cold weather checks vegetation, however favourable the soil may be for it, and, added to this, Nature justly balances her work with the capabilities of her workers, and growth to a great extent ceases in the autumn, at the proper time, even if a cold atmosphere does not intervene. Vegetation in a measure ceases, and the previous growth hardens to withstand the cold that is to come, and this hardening in the case of the *Lettuce* becomes, of course, a defect in the article produced.

The lesson, therefore, to be taught in the case is simply to place the plant in such circumstances as will insure a more quick and continuous growth than would be the case in winter if only allowed to struggle on in the open ground, unprotected and exposed to all the rigours and changes of an ordinary autumn and winter—say, for instance, such as usually occur in the centre and north of England.

As this article is intended principally to show the means of obtaining a good *Lettuce* in winter or early spring, the ordinary routine of summer treatment need not be gone into, and that for the winter may be summed up in a few words. In some cold pit which can be covered with glass plant a good breadth of the best Winter *Lettuce* in the early part of September, allow it to grow on without any protection until frost or very heavy rains threaten to chill the ground, then put on the glass, giving plenty of air, and in very severe weather cover up with mats or straw so as to exclude frost in a great measure, at the same time admit as much light as possible on all occasions, and the growth of the plants not being much checked, the vegetable will have much more crispness than Winter *Lettuces* usually have when they are merely autumn-grown ones kept alive during the winter.—GROWER.

VARIEGATED PLANTS.

WHEREVER the most attractive species and varieties of this class of plants are met with in good condition they invariably command a large share of admiration, and those who are constantly engaged in plant decorations, both indoors and in the open air, know full well how valuable they are for the creation of artistic effects. In nature we find many lessons on the beautiful combinations of colours to be wrought with coloured foliage, not so much with permanently variegated leaves as with the leaves of trees which change their tints with the autumn. These indeed show what delightful combinations of colours may be effected by the mingling of many tinted leaves.

Notwithstanding the numerous uses to which variegated plants may be put, it is not often that we find them systematically cultivated, except in the case of those wanted for the embellishment of the flower garden. Here the demand for a certain number each year is met by growing them in batches. An altogether different state of affairs is, however, presented when we turn to the usual course followed with pot plants, grown for the many uses they are put to in house decoration.

In this case we find a few odd plants of this or that variety of

a certain species, and so on with others; but no attempt is made to select some of the very best among them, and grow them to meet all requirements. I usually find that the uses to which variegated plants may be put largely increases as the stock becomes more extensive. Sudden demands for various kinds of decorations do not always find us prepared with a sufficient number of flowering plants to supply enough colour; then variegated plants, if we have a good stock of them, come without fail to the rescue, let the season be what it may.

Groups of plants arranged for effect form a great feature at many of our horticultural exhibitions, and in many instances successful attempts are made to introduce some novel style of arrangement. This is quite necessary, because however good these groups may be, the public tire of them unless there is sometimes a departure from the "beaten track." The idea has crossed my mind while writing these notes that some of our flourishing societies might do worse than offer prizes for the most effective groups formed entirely of plants having variegated or coloured leaves. If this idea was taken up by a few good exhibitors I feel confident we should see some delightful combinations, for groups arranged with such materials certainly need not be deficient in brightness or lacking in variety, and a capital opportunity would be presented of showing the true taste of an artist, by working out gradations of colour which should glide almost imperceptibly from the deep to the lighter shades.

In order to draw particular attention to variegated plants useful for decorative purposes I propose to enumerate a few which I have found well adapted for that kind of work, and perhaps other readers of the *Journal of Horticulture* will kindly supplement my list. *Dracenas* and *Crotons* I shall leave out, because they are classes of plants usually kept well to the front, their great values for decorative purposes being well known. Among stove plants, taking them in alphabetical order, the *Acalyphas* first claim attention, and a showy and bright class of plants they are. The only difficulty about their culture seems to be that of keeping them free from thrips, but with constant care in the matter of syringing and a timely use of insecticides this may be overcome.

Plants in 5 and 6-inch pots are very effective for grouping, and when they have lost their bottom leaves it is an easy matter to take off the tops and root them in bottom heat. It is also a good plan to shift some of the leggy plants with single stems into larger pots, as they are useful for dotting about among a groundwork of Ferns, which serves to hide the bare stem at the base. Equal parts loam and peat or leaf soil, with a little sharp sand added, is a compost in which they succeed admirably. The plants ought to be kept close to the glass, and receive only a slight amount of shade. *Macafeana* and *macrophylla* are the most showy varieties. *Alocasia macrorrhiza variegata* is a very bold and striking plant not quite suitable for growing in large numbers, but if a few specimens can be cultivated they have a noble appearance when arranged among groups of other plants for special occasions. Like all the *Alocasias* it requires abundant drainage, a rough open soil, consisting of lumps of fibrous loam, peat, and charcoal, with a fair proportion of sphagnum moss. Then with plenty of water at the roots during the growing season and a little bottom heat there is no difficulty in growing it well.

Aralias Veitchi and *Veitchi gracillima* cannot well be left out of my list, for although not particularly showy plants, they are extremely elegant in appearance, and supply peculiar shades of colour, which harmonise well with many other variegated leaves. Sandy loam, fibrous peat, or good leaf soil instead of the latter, used in equal parts, with the usual quantity of sand, form a suitable compost; in other respects ordinary stove treatment should be given the species.

Begonias of the *Rex* type, which are grown principally for the beauty of their foliage, are indispensable for room decoration, as they have quite a distinct character of their own, and are so easily grown and propagated. I have raised hundreds from leaves by simply notching the leaves on the under side, then laying them on pans of sand and weighting the leaves with small pebbles. If these pans are placed in a Cucumber or propagating house, the sand being kept regularly moist, many young plants may be raised from a single leaf.

Caladiums are well known to be some of the handsomest of stove plants grown for the beauty of their foliage, and being somewhat prolific in varieties I shall forbear to particularise them, as every variety enumerated in the catalogues of trade firms of repute is worthy of culture. Many of the newer varieties, however, far surpass the older ones, and the length of the purse the gardener has to draw on must usually determine which varieties he shall procure. All should, however, work up a good stock of *argyrites*, that fine old variety with miniature leaves. Turfy loam, leaf soil, and peat, with a little decomposed manure and sharp sand, are ingredients which when mixed form an excellent compost for

Caladiums. During the growing season a warm moist atmosphere, a little bottom heat, and judicious shade are cultural conditions to be aimed at.

Curculigo recurvata variegata is an extremely handsome plant, not nearly so widely grown as it should be. It thrives well in either peat or loam, or an admixture of both. With good drainage abundance of water at the root is required, or the leaves will become browned at the edges. Exactly the same remarks apply to *Cyperus alternifolius variegatus*. It is best propagated from tops inserted in sandy soil placed in pans. When these tops are rooted they should be potted into thumb pots, as they then form beautiful plants for dinner-table decorations or arranging in *jardinettes*. Increased in this way the young plants are much more elegant in growth than when propagation is effected by division.

Dieffenbachias, when well grown, are always admired, as their peculiarly marked leaves have an unique appearance, and are valuable for arranging singly in large vases, when their beauty can be displayed to advantage. Three of the best varieties are *magnifica*, *nobilis*, and *regina*. They require similar culture to *Caladiums*.

Ficus elastica albo-variegata is a plant which has been much used for decorative purposes during recent years. It should be potted firmly in soil consisting principally of sandy loam; if a rich compost is used it often loses much of its variegation. Though classed as a stove plant, its true character is best brought out when grown in the intermediate house. *Fittonias argyrea* and *Pearcei* ought to be grown in every plant stove, as their bright clearly veined leaves are much sought after for dinner-table decorations. For supplying leaves for this purpose it is a good plan to root a number of young shoots for planting in balloon or pyramidal-shaped trellises. These, if fixed securely to large pots, may be lined with moss and filled in with peat. The rooted shoots can then be dibbled in evenly over the surface of the moss, and when they have grown a few inches pegged to it. Cuttings may also be inserted in pots of various sizes for placing around the sides of stages. When these have produced trailing shoots a few inches in length they are of great value for edging groups and large vases.—PLANTSMAN.

(To be continued.)

THE EVILS OF OVERCROWDING.

THE overcrowding of plants, trees, and crops is, perhaps, the greatest and most common of all the mistakes that are made in the routine of gardening. The evils of this practice are manifold. They involve a waste of seed and of plants, also undue impoverishment of the soil, and in the end a waste of labour, for when a garden is suffered to become overgrown with what cannot be used a much greater expenditure of time is requisite to render it presentable than if a better considered and more intelligent system of culture had been pursued.

Most persons agree that masses of weeds flowering in gardens do not betoken good management. They are objectionable in spoiling the appearance of a garden, but more so because they are robbers extracting the virtues from the soil that might support useful or enjoyable crops. What better are waste crops and superfluous growths than weeds? They are no better, but are equally robbers, more or less unsightly, indicating a great want somewhere. There is no doubt whatever that it is absolutely impossible to prevent the growth of weeds in many gardens, because of the great extent of surface and the limited means allowed for keeping it in order. Under such circumstances the overcrowding of certain crops is, perhaps, in some degree inevitable. But admitting this, it must be said that in cases innumerable it is preventible.

A great want amongst gardeners is a capacity for estimating correctly what is required. The result of this is that they raise far more than is needed, forgetting that this surplus is waste or useless, and as exhausting as weeds. They make work for themselves and for others that might have been avoided. They fritter their resources over too wide a field, and attempt what they cannot possibly carry out well. Things are started that cannot be finished, and there is driving and confusion and overcrowding all round.

Another want is a lack of promptitude. A man cogitates, wavers, procrastinates hour after hour and day after day until the moment passes when he can act effectively. That is one of the most fruitful of all sources of overcrowding in gardens, which has often such unfortunate, not to say disastrous, results. There is a time for doing work the most quickly, easily, and in the best manner. Let that time pass, and obstacles accumulate with increasing force every day. This applies to work of all kinds—mowing, weeding, hoeing, planting, thinning, pruning, watering, potting—everything. Every gardener of a quarter of a century's experience knows the

truth of this. Mow the lawn to-day, and it will not take half the doing that it will a week hence, and the more quickly it is done the better will be its appearance. See that tinge of green on land and walks—myriads of weeds just showing themselves. They are small yet. Let them alone to-day, to-morrow, and so on till the rain comes and continues. What then? This: it will take a week to remove the weeds that at first might have been destroyed in an hour.

Look at those upspringing crops of Carrots and Turnips and Beet; they are ten times too thick—a mistake in sowing—but will stand another day, and another, but next they are spoiling. No time spent in thinning now can make the crops so good as if the right moment had been seized, while at least thrice the time must be spent in the work that would have sufficed then. And what are all these plants doing, Broccoli, and the like, tall and crowded in the seed beds? No land ready? Then the seed was sown too soon—a fault in calculation.

But too often the land is ready and the opportunity for planting allowed to slip by when weeks of dry weather follow, and what might by prompt action and an hour or two's brisk work have been done well can scarcely be done at all. It is so with everything. Peas, if left to fall over in the rows before staking, never succeed well, while much time is spent in putting them straight that would not have been wasted had the work of staking been done promptly at the right time. Then there is waste of material in the vegetable quarters, and further waste of time in putting them right. Why are those headless Cauliflowers and running Lettuces left to luxuriate? Could not the plants of the former have been pulled up or used instead of being beheaded? and could not the superfluous rows of the latter have been more quickly removed in a small than a large state, and the fertility of the soil conserved instead of uselessly abstracted?

Then we have Vines in the spring and fruit trees bristling with growths. They are allowed to extend day by day, while eventually it is imperative that something must be done. An hour with the finger and thumb in disbudding promptly would have saved ten hours of pruning long delayed, while the earlier and quicker work is infinitely more satisfactory than the later and slower. Half an hour's finger-and-thumb work among Vines, Peaches—indeed, all kinds of fruit trees, also Melons, Cucumbers, and Tomatoes—in preventing overcrowding is immeasurably more efficacious than any amount of after cutting. By the first process an evil is averted, by the last it is incited, and a remedy must of necessity be sought which in itself is often, when roughly and hurriedly applied, almost as bad as the evil it is intended to cure.

It is little short of deplorable to see the overcrowding that is permitted, and which, by foresight and promptitude, might have been prevented in gardens. A few extra hours in early morning and in the cool of the evening at a critical time may make all the difference between confidence and distrust, comfort and disappointment, success and failure. "It is easy to preach," does someone whisper? "but what about practising?" Just this: it is only by years of practice that the truth of what is stated has been proved. It is the outcome of long experience; of years of labour, early and late; the lesson taught by many a struggle and many a failure, but at last success.—A. G.

HAWFINCHES.

I AM very much indebted to Mr. James Hiam for his highly interesting notes (page 80) on the habits of hawfinches, and I have no doubt that the information he gives will be instructive and appreciated by many readers beside myself. Mr. Hiam suggests that the birds' attack on our Cherries was for the purpose of getting the seeds or kernel, which I should think very probably was the case to some extent, but they evidently were not disposed to waste the pulp in getting to the stone, for these were left hanging on the trees after the fruit had been stripped off them. Possibly moisture, or the lack of it, might have tempted them to take Cherries, the drought at the time being very severe. Perhaps, too, an explanation to the stones being left hanging on the trees was due to the fact that the birds were frequently disturbed by workmen about the garden, thereby not allowing them sufficient time to deal with the pulp and stone. Not having any suspicion that they were bent on taking Cherry stones, their mode of attack was not closely scrutinised, but nets at once put on to prevent any further loss.

Evidently it is not a common occurrence for hawfinches to attack such fruits, or it would certainly have come under the notice of such a keen observer as Mr. Hiam; but should the opportunity occur again I shall certainly endeavour to ascertain whether their visits are for the purpose of taking stones, seeds, or fruit. With us bullfinches have been unusually scarce this season. As a rule they pay us visits during July to take the ripening Raspberries, and although we are so closely surrounded by woods we have not seen one this summer, and only one pair during the winter among the Gooseberry bushes.

I should certainly think the writer of the sentence quoted by

Mr. Hiam, that "a large increase of these (hawfinches) is desirable," would seriously change his opinion had he the patronage of only a pair of birds among his Pea rows in summer. Unless he was a large grower his sample of gathered pods would not win him many prizes at vegetable shows, nor gain much favourable comment from the kitchen, and County Councils ought not, in my opinion, to be advised to schedule these as a suitable bird for protection under the new Act.—W. S.



CATTLEYA HARDYANA.

THIS superb Cattleya is supposed to be a natural hybrid between those two splendid species, *C. aurea* and *C. gigas*, and it combines the best features of the parents in a remarkable degree. The first plant exhibited was from the collection of the late G. Hardy, Esq., of Timperley, after whom it was named about ten years ago. Since then it has from time to time appeared among importations of *C. gigas* or *C. aurea*, some of the more recent varieties excelling the original plant in beauty. The flowers measure upwards of 7 inches across, the sepals and petals rosy purple, but the lip is the most magnificent part of the flower. This is sometimes as much as 3 inches across, with a fimbriated margin; the side lobes have each a large yellow blotch; the spreading portion is rich velvety crimson with yellow lines leading to the throat as in *C. aurea*.

C. Hardyana, like its parents, flowers on the current season's growth, and on this account should be kept dormant after flowering. All this section delight in a position not far from the roof glass, and may be grown in suspended pots or baskets. This is not usually the warmest part of the house, and the growths rapidly attain their full size. If taken to the flowering house while in blossom this has usually the effect desired; but any plants that have for some reason or another not flowered should, as soon as the pseudo-bulbs are completed, be at once taken to a drier and rather cooler temperature. No other means will be of any avail; the plants will not flower if they are growing during the winter, so growers must now be on the alert, and alter the atmospheric conditions immediately this is required. It is worthy of note that

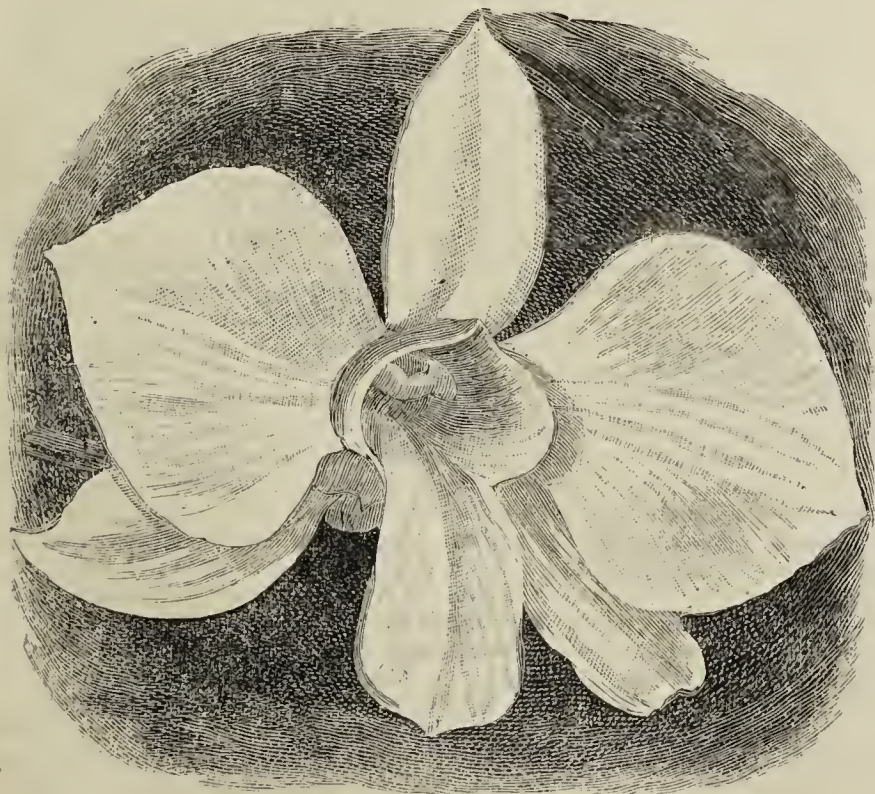


FIG. 21.—DENDROBIUM HOLOLEUCA. (See page 159.)

while some plants of *C. Hardyana* bear sweetly scented blossoms those of others quite lack fragrance.

ODONTOGLOSSUM CORDATUM.

Although not to be compared with the *crispum* and *Pescatorei* varieties, this fine old Orchid is well deserving of care on account of its free blooming qualities. It is, moreover, very easily grown, and will thrive in either the cool house or where more heat is afforded. It is one of the most variable of Orchids, some not being

very showy, while others are very fine. The pseudo-bulbs are ovate, bright green, each bearing a leaf broadly oblong from 6 to 8 inches long. The spikes are erect, sometimes branched, and bearing a great many flowers. The sepals and petals are yellow, almost covered with chocolate markings, wavy on the edges and



FIG. 22.—ODONTOGLOSSUM WATTIANUM. (See page 159.)

pointed. The lip is heart-shaped but ending in a recurved point, and is white with purple brown markings.

It is somewhat late for this species to be in flower, but like all in the genus it varies in its time of blooming. *O. cordatum* should be grown in pots in peat and sphagnum over good drainage. A variety I saw recently had the two lower sepals much elongated and very narrow, the ground colour being very light. This was marked *caudatum*, but I know of no authority for the name. The var. *sulphureum* is remarkable in having no dark markings, the flowers being nearly white with yellow on the lip. Other good varieties are *aureum*, *nigrum*, *pictum*, and *superbum*. All are natives of Mexico, whence the type was introduced in 1837.

RODRIGUESIA SECUNDA.

There are several other species belonging to this genus, but this is the only one generally grown. Botanically it resembles *Burlingtonia*, and the habit of growth is also similar. The usual way this is grown is on a block of wood or cork dressed with sphagnum, allowing the small white roots to extend into the atmosphere and feed on the moisture rather than covering them with compost. Perhaps where the plants are very carefully looked after this is the best way to grow it, but a great deal of attention must be given it to obtain good results.

A less troublesome mode of culture is to place the plants in shallow pans well drained with a thin compost consisting largely of sphagnum moss. Here they will not need so much attention, and if not overwatered will do well. The new pseudo-bulbs as they swell up will have to be brought into contact with the compost by pegging or tying down, the roots then having the choice of moss or not as they like. No attempt need be made to force the roots into this, for those growing in the atmosphere are excellent auxiliaries to those in the compost.

The plants must be grown in a good light, the heat of the Cattleya house suiting them well if kept provided with atmospheric moisture. They must be kept moist while making their growth, and even while resting must not be too dry. The plants are very subject to white scale, these insects secreting themselves in the sheathing bases of the leaves, and soon disfiguring them. Frequent and timely spongings are the best means to eradicate them, using a pointed stick where the sponge cannot be inserted. It is a very free blooming Orchid, and its unusual colour

makes it very attractive. This is soft rosy purple, and the flowers glisten as if covered with hoar frost.

The earliest flowers appear in August, and they last a considerable time in full beauty, successional plants carrying on a display until well into November. The racemes spring from the base of the pseudo-bulbs, and have the appearance of being larger than they really are owing to the flowers being all produced along one side. It makes a bright and pretty show during some of the dullest months of the year for Orchids.—H. R. R.

PROFITABLE EMPLOYMENT OF GLASS STRUCTURES IN WINTER.

(Silver Medal Essay by Mr. R. MORROW, 12, Corn Street, Leominster.)

(Concluded from page 126.)

WHERE or what is the flower that can command more respect or yield more pleasure than the Violet? Its fragrance gives it a welcome everywhere. It finds a place in the buttonhole, in wreath, in bouquet, and in vase, while in the sick room its presence is a pleasure. It is a flower for the poor as well as for the rich. What is important, too, is that it is easy to grow, and no trouble and expense are involved in bringing it to perfection. It preserves its freshness and fragrance long after it has been picked; it is but little affected by travel, and it can be had in bloom from the end of October until the end of February. The larger the growth, the larger seems the demand.

No flower has been more neglected by the gardener, while no flower has a larger circle of friends among the public. Its cultivation is easy. It will stand the severest weather, and protected with a little care it may be preserved out of doors through the winter months. I have in mind, however, a culture which seeks, as with the Chrysanthemum, perfection. Are the exquisite flowers of the Violet—emblems of constancy and purity—inferior to any?

Speaking as a gardener, I find Marie Louise the best all round for a crop. Young offshoots must be selected, and these allowed to grow in the early part of the year—the earlier the better—say the end of February. The next thing is to root them in pots, pans, or boxes, whatever is most convenient, in a cold frame; they must be kept shaded from the sun for a week or so, and by April they will be well rooted. An open piece where the sun has great power must be found, so that the crowns may ripen, a matter of great importance. Trench the ground, add plenty of manure with leaf soil, which will help to make balls to the roots.

When the time comes for lifting them they must be planted out singly, about 10 or 12 inches apart, and if dry beneath they must be watered until fairly started. Through the summer it is advisable to keep hoeing lightly between the plants to keep the weeds down, all runners and offshoots being cut away from the crown, and in very hot and dry weather it would be well to syringe in the evening to keep down the red spider. I would give no chemical manure at this stage; at any rate, of a kind likely to cause rank growth, and by September there ought to be good clumps fit for 6½ or 7-inch pots. I put mine in 6½-inch pots, lift with as much earth as will go in comfortably, have ready a mixture of two parts loam, one part of leaf mould, and one of decayed manure, such as that used in a Mushroom bed, and a sprinkle of silver sand with a good dash of chemical manure. I then place the plant in some shady place on boards or ashes to keep the worms out, and syringe in dry weather, keeping them from flagging for about a week or so. When they have recovered I bring the plants out and place them in the sun. There ought then to be flowers, which will be ready to do their duty when called on.

Now the Tomatoes are over the house must be cleaned out, the walls whitewashed, and if necessary the woodwork painted, the time being more convenient than in the spring. If the woodwork is not painted it should be washed with softsoap and petroleum, say a wineglass to 3 gallons of water. Use as much softsoap as will give a good lather, in the meantime having the supports for shelves made. I got mine from a blacksmith, quarter-inch round iron rods, taking the level of the houses and having them made accordingly, long enough to keep the plants from touching the glass; the eyes of the supports must not be too large, and ought not to slip over the head of an inch serew. I have iron rods stretched from one strong bar to the other along the house, about 2 feet from the top, so that there are two shelves, and they at the same time are a support to the house and able to bear the weight of the pots on the shelves.

When the plants are placed on the shelves they will want careful attention; the temperature should not fall much below 50° at night. If the weather keeps fine air should be given, as the Violets do not like much confinement. The watering must be attended to, a little manure may be given, say once a week for the first month, then twice a week the following month, and a little stronger or more often afterwards. About January the offshoots might be allowed to grow, so as to obtain stock for the next year, this increasing the blooms. If red spider makes its appearance the hot-water pipes should be painted with sulphur, mixed up like thin paint with water, and the fumes will keep the mischief down. The same thing may be done in case of mildew. When the houses are wanted the Violets may be planted out in beds, and the flowers picked all through the spring. Room can be afterwards made for other things, for I should not plant Violets in the same beds every year.

What has been my experience with regard to the profits of this cultivation? My houses are 40 feet long, and 9 feet wide. I have five shelves on each side, or ten altogether. I can place, say, forty plants on each shelf, and have, therefore, 400 plants, each of which on an average produces 200 blooms from October till February. I have made up little bouquets at 3d., 4d., and 6d. each net, six, eight, and fourteen blooms in the bunch. At Covent Garden the prices for Violets are 2s. 6d. and 3s. for a bunch containing at the outside not more than 100 blooms; and allowing one-half for commission the value of each pot would be 3s., and this would give a total of £60 for one house. This may seem extraordinary, but I have counted over fifty blooms on one plant at one time, and I am sure many gardeners who have given themselves to this culture will agree with me as to the great number of Violets that can be produced from the pot work which I have described.

The cultivation of Rhubarb now claims our attention, and is of equal interest from a business point of view. There is no vegetable more appreciated in the spring months; it is looked forward to as an enjoyable dish; it can be turned into a wholesome jam or wine, and it is used for medicinal purposes. The demand is consequently large, and there is an exceptional scope and advantage in its cultivation. That cultivation, moreover, is easy, and very few words are needed to explain why I have associated it with Violets. My reason for doing so is simply that Rhubarb will stand the drip that comes from the Violets. The culture of the vegetable is so simple that it seems like a waste of space to enter into any details.

It may be interesting, however, to make a few remarks with regard to forcing it with the Violets. Supposing there is a stock of plants ready by the end of October, a good piece of ground may be selected, very deeply dug, with plenty of manure, and the roots placed about 3 feet apart, and 4 feet between the rows. Double the quantity must be planted, so that half may be forced each year. The best varieties are Victoria, St. Martin's, and Linnaeus. When they are growing in the open care must be taken not to allow any sticks to be pulled from them, as this checks the growth and naturally weakens the crowns. Foliage is what is wanted, and in the winter a good mulching of manure should be given to those intended for the following season.

As soon as the leaves are decayed the plants will be ready for removal to the house. Each of the houses has a space of 3 feet on each side, where a quantity of plants ought to be put together. Of course, much will depend on the size, but the first thing to be done will be to get abundance of short horse manure, such as would do for Mushrooms. As this retains the heat well, a layer should be placed underneath, the roots then being packed closely together, and the spaces filled up with manure. This treatment will give a gentle heat, enabling the plants to start into growth, and when thus started they will push freely. I only give one good watering after planting, so as to settle the manure round the roots. That will be enough, as the drip from the Violets will keep the plants from getting too dry.

By Christmas, or early in January, there ought to be a good row of sticks ready for the eager demand which will certainly be made. I have no doubt that if as much again was grown, and sold at a little lower price, there would be no lack of customers. When the house is wanted the roots will have to be turned out. It would be too hard to turn them out into their summer quarters, as the weather at such a time is often unfavourable; but I place them in a shed in a heap with some dry litter over them until April. It is surprising how hardy Rhubarb is, and what hardship it will endure.

With regard to the profit from this source much will depend on the size of the roots and their condition. If they are good roots 200 may be put on each side of the house, and these ought to produce from 2s. to 3s. worth of sticks each, say 2s., the rest being allowed for commission, and that would mean £20 per house. With the Violets and Rhubarb combined we have thus £70 or £80 per house.

I have thus tried to explain myself, and keep to the object of the paper as near as possible. I daresay this essay could be improved; but I have looked at the subject from a practical, and not a theoretical, point of view. Many persons, I have no doubt, will refer to various other matters, such as keeping bedding Pelargoniums placed between the pots of Violets, and sundry other things that the grower may want for his summer's requirements. He can put out shelves under those for the Violet; but these must be a little narrower to let the drip fall on each side of them so as not to interfere with the plants. If "A Perplexed One" procured a quantity of Pelargonium cuttings and rooted them in store pots, that is, five to six in a pot, and place on these shelves, they would make good plants in February or March, and advertised them at 5s. to 6s. a 100 he could command a profit that would pay for the labour and fuel. On this principle he could grow over 20,000 Pelargoniums in one house, and that in itself would make a handsome profit.

There is always a great demand for these, and they require so little attention in the winter, simply keeping the dead leaves off and watering very sparingly. Now, as regards the light Pelargoniums would receive, there is a good space between each shelf, and the houses running north and south would give ample light. Of course the shelf over the Pelargoniums naturally hurts them, but in the winter, in their dormant state, they would keep very well.

There are various other things that would be profitable, as the market and demand at present stand. The market ebbs and flows, every year brings forth its fashion, and the grower has to forecast all such difficulties, and have in view what is most likely to be profitable. When we look over the various articles that have created such a "rage" for a time, we may take, for instance, the Tomato. This has been in great vogue for some years past, and, in fact, is now. But look at the

quantity of glass put up throughout the country every year for these alone, and look at the quantity sent into the market. We must therefore have something else in view to make more than ends meet. Then, again, there is the cut flower department; but it is only a good business house that can command a price that anything like a profit can be secured. The wholesale man is at the mercy of the middleman, who can buy from private sources at his own price.

There is another item in the market gardeners' pocket-book, and a very serious one—that is, labour. Of course, we cannot do without it, and must employ good men. A man or woman who studies his or her master's profit ought certainly to receive a good wage. The question of labour in this paper is one that requires careful consideration from the standpoint of profit. I daresay various suggestions and methods will be given. Gardeners, like doctors, differ, some believing in one thing and some another, but the experience which I have given has been of great advantage to me, and I have not the slightest doubt that the winner of the medal will be able to show to everyone who has taken an interest in the subject the same kernel. I hold, however, to my view, believing that I have suggested what is simple in cultivation, economical with regard to labour, and advantageous in results.

A VISIT TO BROCKLESBY.

WITH distinct recollections of a previous pleasant visit to Mr. Hazelton at Brocklesby Park the writer recently seized another opportunity that presented itself, and if on his first visit he received a hearty greeting from his host, the one accorded on this occasion was decidedly more so, and was, moreover, followed by equally kind words of welcome from Mrs. Hazelton. These promises of a pleasant time were indeed fully borne out by the after event, for no one could have spent a more enjoyable time, nor could anyone have been the recipients of more kindly hospitality. The stay was not by any means a protracted one—in fact, it was not nearly so long as one could have wished, but it sufficed to show us many things of interest in this magnificent home of the Earl of Yarborough.

The changes that have perforce had to be made in the arrangements of the gardens were previously referred to, and need not now be repeated, especially as it will probably offer more interest if a rapid glance is taken round the gardens. A few alterations in the planting of borders have been carried out, and old houses are having such attention bestowed on them as will render them of far more use than is the case at present. But if one might be permitted to take a general survey before going into any details, one would say that on the whole the gardens look better than they did upwards of a year ago. This can only have been the result of hard and incessant work on the part of the gardener, who may usually be found busy over something or other. A visit a few weeks ago would have found him laying hot-water pipes, while a few days after he was found running his hoe over the Asparagus beds. These two facts will prove how anxious he is that all work that can be done shall be, and how assiduously he strives to merit and retain the entire confidence of the noble family that employs him.

Let us now take a glance round the kitchen garden, which is upwards of nine acres in extent, five of which are enclosed by splendid walls. This is necessarily one of the busiest departments, and one that requires constant care and attention. All seasonable crops were seen in good quantity, and, with the single exception of the Onions, in good condition. Unfortunately these had been attacked by the mildew, and what had promised to be a grand bed resolved itself into one that was decidedly patchy. Peas and Beans were especially fine, and some excellent Cabbages were noticed, while the Parsnips gave every promise of coming out remarkably well. In many places Carrots have been a whole or partial failure this season, and Brocklesby was not exempt, for three sowings had to be made before anything like a crop could be insured, and with regard to Beet Mr. Hazelton had been in precisely the same predicament.

In what may be termed the outer garden Potatoes are grown in large numbers, and at the time of our visit were turning out exceedingly well. Not many varieties are grown, and of the early sorts Early Rogers is destined to take the place of honour. It is several days in advance of Sharpe's Victor, and gives excellent crops of splendid cooking tubers. It is a Lincolnshire sort, having been raised within a few miles of Brocklesby Park, and is not in commerce, but should it be placed on the market it is safe to predict for it a great popularity. Besides these there are green crops in this outer garden, and the display of Kales, Broccoli, and other winter greens, both here and within the walls, reflects very high credit on the gardener's selection and the excellent provision for the winter months.

From vegetables one naturally turns to the fruits, and of these there may be found a large assortment, both in the open and on the walls, which are, perhaps it is needless to say, admirably adapted to this purpose. Apricots, Pears, and Plums occupy a large percentage of the space at disposal, and, generally speaking, the crops are very satisfactory, especially so when the age of many of the trees is taken into consideration. In the open Apples are seen in considerable numbers, and the majority of the trees is carrying good crops, though some varieties are decidedly thin. All kinds of bush fruits are well represented, Currants and Raspberries being especially fine. Of the latter Superlative is given the best position, and the freedom and length of time over which it carries its handsome berries render it in every way worthy of its position. Strawberries and Gooseberries, too, are

grown well, the plants and bushes being in the best of health, the latter, of course, still in fruit. In this brief and inadequate manner we must dismiss the fruit and turn to the flowers.

One of the most pressing necessities of the establishment is an abundant supply of cut flowers at all times, though more especially during the autumn. These are provided to gratify the taste of the Countess, who is extremely fond of floral decorations, and moreover is, speaking generally, a greater lover of out-of-door flowers than of the occupants of the stove and greenhouse, though, of course, this department is not neglected. In most of the borders and numbers of beds are seen Dahlias, Chrysanthemum frutescens, besides an almost endless variety of other kinds, from which flowers can be cut by the bushel, instead of by twos and threes. One of the most popular plants for September and October blooming is Anemone japonica alba, while a scarlet flower is found in Lobelia cardinalis. These are only two of many, but they are as many as can be noted now, as both time and space are rapidly growing less.

Keeping in view the want of cut flowers a Rose garden, comprising mainly varieties of the Tea section, was formed some little while ago, and so far has proved a great success. The plants were at the time of our visit carrying splendid blooms in good numbers, and though only planted last year, they passed through the late severe winter with scarcely a loss. This was readily accounted for by the dense covering of snow that had fallen, and which proved such a fine protector, only those shoots being cut off that were above the snow. A few Hybrid Perpetuals are grown, these also giving every satisfaction, and standing the severe weather remarkably well. With care such as is now bestowed on it, this portion will eventually become one of the most interesting as well as the most useful in the garden, so well does it promise. The plants all make splendid growth, and throw flowers of very beautiful colour and form.

In the flower garden proper, as it may be termed, and which is naturally situated in close proximity to the mansion, the bedding is of the simplest. Zonal Pelargoniums, Begonias, Mignonette, and other similar plants are largely utilised, while trained on wire trellises over, between, and round some of the beds are a number of old-fashioned Roses, which always produce very great quantities of bloom. All the grass between the beds and the whole of the lawns is kept in first-rate condition by the aid of the mowing machine, and as the areas are somewhat extensive, this gives a great deal of work. On one side of the lawn in front of a shrubbery a new border of hardy plants has only recently been formed, but judging from present appearances these will soon be thoroughly at home. Here and there about the lawns one notices the handsome trees, which comprise Cedars of Lebanon, purple Beeches, the Maidenhair tree, and several others, of which individual mention cannot be made in these brief notes.

Leaving the flowers we come back again to the enclosed garden proper for the purpose of taking a look through the various houses. In these fruit is grown very largely. Grapes of course claim a good share of room, and these look better than at the time of our previous visit. The bunches are not perhaps so numerous, but the berries are larger and better finished, in fact the crops are really good in every way. Of the Peaches and Nectarines the same may be said, while the Melons were well above the average. Tomatoes, though not fruits, are worthy of note, as they are grown extensively. Large crops of "fruits" are taken from these as a rule, though in one house all the plants were rapidly succumbing to disease, and this, despite the fact that several measures had been taken for its eradication. These plants were about to be cleared out, when the whole of the structure was to be thoroughly cleansed, so as to endeavour to preclude the appearance of the pest in the future. Let us hope that these labours will have their reward. In another house heavy crops of Cucumbers were noticed, and in still another a number of young Tomato plants were just coming into bearing.

In other houses are many plants of various sorts, most of them being grown for decorative purposes. Beauty of leafage is apparently of more importance than are flowers, for a very large per-centage of those cultivated is grown for its foliage alone. In preparation for the autumn and winter is now placed by the sides of the walks near the glass a good number of Chrysanthemums. These are all clothed to the pot with splendid leafage such as can only be produced by thoroughly matured wood. They alone will be worth going a considerable distance to see at the time when the autumn queen reigns supreme. In the adjacent frames many plants were noticed, and amongst them berried Solanums looking remarkably well.

One could not in justice go to Brocklesby without taking a walk round the grounds, which are full of interest and beauty. In one of the lakes a number of Water Lilies have been planted, which will, if they become thoroughly established, tend materially to improve what has hitherto been a somewhat uninteresting feature. In addition to these several hardy plants have been placed at intervals on the margins, so that ere long these will, it is hoped, present a very beautiful picture. From the lake we slowly wend our way beneath noble trees to the nursery, where the young forest trees for the estate are raised. There, too, one sees rows of standard Roses in the best of health, which, with the young stock all around, reflect very great credit on their grower, who is the forester, and not, as might be supposed, Mr. Hazelton.

Returning to the gardens we again take advantage of our friend's kind-heartedness, shown this time in the form of an excellent dinner, after which we find the time is soon with us for gathering together our belongings and making our way to the station homewards.—NOMAD.

CARNATIONS AT HAYES COMMON.

A PEEP at Mr. Martin Smith's Carnations on Saturday, July 20th, will leave a lasting impression. Entering the first of two large span-roofed houses we found it entirely filled with the most vigorous plants in large pots, usually three plants in each, carrying immense heads of bloom. The outer stages were filled with varieties which had been fully tested, many having been already distributed to the public; while the centre stage was covered with the last two years' seedlings for trial, no plant being allowed to go into commerce until it has been thoroughly tested.

Some of these we noticed had already been named; others, which really appealed to our highest sense of admiration, were not in accordance with the standard required by Mr. Martin Smith, and would be consequently discarded. As a proof of the necessity of these trials it is occasionally found that seedlings which the first year have reached the required standard have fallen away the second, and so lost their name.

The second house we found also filled with splendid robust plants full of bloom. These were all kinds which had borne the test of constancy, with many of which we are already familiar. Here we noticed the systematic care with which the fertilisation of the blooms is carried out. Already plump pods of seed, labelled with the cross, were in evidence. In this galaxy of beauty it was difficult to concentrate one's admiration to individual varieties, but among the newer kinds the following are deserving of special mention:—

White.—Ellen Terry, Mrs. Eric Hambro, Lady Ridley, and Sea Gull. White with a shade of blush.—Waterwitch and Her Grace. Very dark crimson.—Mephisto (this variety attracted our attention by the very erect manner in which its blooms were carried), The Master and Boreas. Scarlet.—Hayes' Scarlet, King Arthur, Solon and Centurion. Yellow.—Corunna, Miss Audrey Campbell, Duke of Orleans and Britannia. Buff or crimson on a yellow ground.—The Dey, George Cruickshank, Cardinal Wolsey and Mrs. Seymour Bouverie. Rose colour.—Braw Lass, Horace Trelawney, Sadek and Princess May. Yellow ground Picotees.—Cowslip, Gilda, Eudoxia, Ceres, Gift and Phœbus. Terra-cotta.—Winifred, The Hunter and The Pasha. Blueish purple.—Bendigo.

Passing from the houses through the garden to the shrubbery we found numerous semicircular beds, cut in the lawn, filled with seedling Carnations in bloom, many of great merit. We could not fail to be struck with the extraordinarily robust habit of the plants, both under glass and in the borders, except the flakes and bizarres, which, at least in contrast with the border varieties raised by Mr. Smith, seem to be of singularly feeble growth.

In the kitchen garden we noticed on each side of the centre walk a row of the newer kinds of border varieties, such as Cardinal Wolsey, Corunna, Ellen Terry, and others, all in vigorous growth and throwing splendid blooms, showing that those who have no glass houses to flower such varieties in can succeed perfectly well with them in the open.

Before taking our departure yet another surprise was in store, for in an adjacent field we were shown about 6000 seedlings, planted in beds about 4 feet wide, in full bloom, truly a magnificent sight.

We have regarded the name of Martin Smith in connection with Carnations as a sufficient guarantee of their quality, but it is only by a visit to The Warren that one is able to realise the splendid work that is being carried out by this king of Carnation raisers, assisted by his prime minister, Mr. Chas. Blick, to whose genial kindness and attention in showing us all we have noticed above we desire to bear testimony.—SYDENHAM, Woodford.

FROST AND HEAT AT WAKEFIELD.

A STATEMENT having been made at a meeting of the Wakefield Paxton Society that 24° of frost were registered in a garden near that town in June of the present year, we suspected that a mistake had been made of an innocent and not uncommon nature—namely, that the mercury fell to 24° on the scale, or 8° below freezing. That it did fall to this extent we know, in several places, and as a consequence Potatoes and other tender plants were cut down to the ground.

Mr. Pitts, gardener, Thornhill House, Walton, near Wakefield, the author of the statement in question, now writes in answer to the letters we have published which questioned its accuracy. We are desired by Mr. Pitts to insert his communication in its entirety, "taking nothing from it nor adding thereto." With every disposition to oblige our correspondents we really cannot go so far as to let every man be his own editor; and in this case it must suffice to cite from Mr. Pitts as follows:—

"The minimum thermometer 6 inches from the ground registered 24° of frost. The needle stood at 8. The minimum 4 feet from the ground stood at 34, or 2° above freezing. To the inexperienced it may seem a great deal of difference between the readings of the two thermometers; but the fact remains the same—it is so."

We quote accurately, giving Mr. Pitts whatever advantage he may obtain by his grammatical rendering of the case, and we suspect that everybody will agree with him that the difference in question was very great indeed. He further states, "The thermometers are the best Messrs. Negretti & Zambra can supply." It will be admitted then that they were good when supplied; but it will also be admitted that the best of thermometers, like the best of watches, go wrong at times. We were once called to witness a thermometer registering 28 "degrees of frost." The mercury had fallen to 4° on the scale, which was just 20°

too low. The mercury had got divided. A few sharp jerks of the instrument put it right, and its proper level was 24° on the scale, or 8° below freezing. Thermometrical vagaries are not always apparent at a glance.

Mr. Pitts is so convinced that the facts are as he has stated that he wants to give a sovereign to some institution if he can be proved wrong. He must be something of a humourist, for if the instruments remained stationary at their "differences" they would be very remarkable thermometers indeed. We have no doubt he recorded accurately what he observed, and had no intention whatever to mislead, though we suspect he did not see quite all that was to be seen on careful examination in a good light. The subject scarcely seems appropriate for heated argument, and the whole matter may now well cool down to its proper level of not being worthy of further discussion in the Press.

We have received another letter, written by Mr. G. W. Fallas, Hon. Secretary of the Wakefield Paxton Society, who, after failing to see the necessity of a "splenetic correspondence" on the temperature question, goes on to say:—

"What I particularly desire to refer to, by your kind permission, is the latter part of Mr. Garnett's letter (page 80) as to repudiating any connection with our Society. Let me say that the Committee, not Mr. Garnett himself, terminated his connection with the Paxton Society by passing a resolution, on the 20th March last, expelling him from the Society unless he within a few days of the notice being given denied the authenticity of a letter which had appeared in the local papers. This was voted unanimously at a meeting attended by twenty members of the Committee. They had the best of reasons for assuming him to be the writer, and which was clearly proved by subsequent letters. The Paxton Society at Wakefield is stronger to-day than ever; and the Committee intend to maintain the integrity of the Society."

[It would seem that Mr. Garnett preferred expulsion, and then disclaimed nothing that he had written. We have seen some remarkable statements in a local paper, and a discussion of far too heated a nature for our columns, and we shall decline, as we have declined now, to publish matter of an obviously acrimonious nature.]

ROYAL HORTICULTURAL SOCIETY'S EXAMINATION.
RESULTS.

MR. A. DEAN (page 60) says, "One marvels to find not a single candidate from Scotland, Ireland, or Wales." If Mr. Dean had read the list carefully, he would have seen that Wales was represented by at least one candidate, who stands at No. 1 in the second class.

Having more or less successfully passed through the ordeal of the R.H.S. exam, I should like to offer a few remarks to encourage those who have not been able to obtain the requisite 100 marks. In the first place I say, "try again." It is no disgrace to fail to pass such an examination as the last one proved to be, for I believe that every one of the candidates will admit that it was stiff, especially so to those who, like myself, have not been able to attend classes or lectures.

There is one thing, however, in the power of every young gardener to obtain, and that is a gardening paper. For myself, I have taken, or had taken for me by my employers, the *Journal of Horticulture* for about twelve years, and I believe the last volume to be one of the best published in that time. There are many articles in it especially useful to students, giving more information than many men would obtain in a lifetime by hard work. May I advise those who intend having another try next year to keep a notebook (a penny exercise book would do), and when they read an article they think will be useful to them, write down the chief points contained in it, as I think this helps one to remember things better than by simply reading them?

Another bit of advice I would give to young gardeners is this, If you read anything you do not understand ask your chief to explain it to you, and if it should be beyond his power to do it, write a short and courteous note to the editor of the paper you are reading, who will gladly give you any information in his power. If you have the opportunity join a class in the coming winter. If you cannot attend a class on horticulture join one on any useful subject, as this will give you most useful practice in composition, handwriting, and spelling, as I believe these are all taken into consideration by the examiners. As an instance of the benefit derived from joining a class, a friend of mine, a professional gardener, was a member of a "science and art" class, subjects mining and geology, under an excellent instructor, and the experience he gained was of the greatest possible use to him when sitting at the R.H.S. exam.

I do not consider it is very surprising to see other than gardeners taking passes at the R.H.S., as in the classes I have alluded to my friend took a first advanced pass in mining, and an advanced pass was taken by another friend, who is a signalman on the Midland Railway. I hope next year to see the number of candidates at least doubled. It will not be any fault of mine if there are not several from this district, and I hope Scotland and Ireland will not allow Mr. Dean to repeat what he has said on page 60, in the sentence quoted above.—SECOND CLASS, *Glams.*

As one who sat for this examination I have been greatly interested in the articles that have appeared in the *Journal of Horticulture* on this subject from your correspondents, Mr. A. Dean, "W. D.," and "A Candidate."

I think that the majority of the candidates are agreed that the time is insufficient, and might at least be extended to three hours. Young gardeners as a class are not used to sitting for examinations, and cannot put their ideas on paper so readily as those who take these things as a common occurrence. The excitement of the occasion, and the knowledge that the time is so short, flurries them, and they do not do themselves justice. I should like to know how many were satisfied with their papers when they had finished. Speaking for myself I was not. I think "W. D." made some very good suggestions with regard to altering the B section of the questions, which the authorities would do well to note.

The thanks of all who sat are due to the Journal for publishing the class list. In my opinion the question of the time has a great deal to do with the position the students at the Swanley College take, and I think they should have a separate exam to themselves.—J. G.



EVENTS OF THE WEEK.—Wednesday next, August 21st, will be the first day of the great horticultural fête at Shrewsbury, an event always looked forward to with great interest. It continues open over the following day. The three-days show of the Aberdean Society will commence on Thursday, August 22nd.

— WEATHER IN LONDON.—The weather in the metropolis still continues very unsettled, rain falling in great quantities. On Saturday night London was visited with a very severe thunderstorm, during which a perfect deluge of rain fell. Monday was a very showery day, and rain fell during the whole of Tuesday morning, but at the time of going to press on Wednesday it was very bright and clear.

— BIGNONIA RADICANS.—There is a wonderfully fine plant of this old greenhouse climber in the very large conservatory attached to Mr. Braithwaite's fine mansion at Epsom. The stems which support the plant are very stout, and the entire area of the roof of this splendid house is dressed with the climber. It has occasionally to be severely pruned as it makes such strong growth. The scarlet trumpet flowers seem to be almost always open. It is still one of the finest of house climbers as seen here.

— CHRISTMAS ROSES.—A curious sight at this pretty place also was a fine mass of Christmas Roses just in front of the mansion, the leafage as solid, compact, and green as could be desired, the whole of an oval shape, being edged with *Coleus Verschaffeltii*. If the bed was not of a very effective nature, it was at least very cool and pleasing. The produce of flowers from it in the winter is very great.—A.

— A LUNG FOR CLERKENWELL.—A new open space for Clerkenwell has just been opened, and was secured with the £10,000 received from Government by the London County Council instead of a share in the land formerly occupied by Clerkenwell prison. The new space is but quarter of an acre in extent, yet it affords a great relief from the surrounding closely packed buildings. Spa Green is the name by which this new garden will be known.

— CLAY CROSS FLORAL AND HORTICULTURAL SOCIETY.—The thirty-eighth annual exhibition of the above Society was held on Tuesday, August 13th. The weather in the early part of the day was very wet, but it fortunately cleared in the afternoon and people flocked in thousands to the show. Prizes were offered to the amount of £275, and brought forth many entries and keen competition. Mr. Stollard and his Committee are to be congratulated on the excellent arrangements, for everything seems always to work well and pleasantly. We trust the Society will continue to flourish, as it richly deserves to. The groups of plants arranged for effect are always a great feature here. There were six entries for the 200 feet groups, and five for 100 feet. In the former class Mr. Joseph Ward, gardener to Thomas H. Oakes, Esq., Riddings House, Alfreton, was first; Mr. Edmonds, gardener to the Duke of St. Albans, a good second; and Mr. Shakespeare of Tibshelf third. The chief prizewinners in the other classes, in which some splendid produce was staged, were Messrs. G. Harvey, C. Mee, A. Webb, H. V. Machin, Proctor & Son, J. J. Nelson, J. R. Pearson & Sons, J. Goodacre, J. Ward, R. Mease, J. Read, J. Major, J. Edmunds, C. Hall, and W. W. Kemp.

— BALDOCK SHOW.—At this show, on Monday, August 5th, we are informed that Mr. A. W. Young, Holmesdale Nursery, Stevenage, Herts, was awarded a silver medal for a collection of Begonias.

— GARDENING APPOINTMENT.—It is announced that Mr. P. Isherwood, who has been for some years foreman with Mr. McKellar at Sandringham, has been appointed head gardener to Lord Alington, at Crichel, Dorset. We hear Mr. Isherwood takes up his duties on the 1st of September, and from what is already known of his ability as a gardener, he is likely to sustain the reputation of these gardens.

— CARNATIONS FROM SCOTLAND.—From Messrs. Laing & Mather, the well-known nurserymen of Kelso-on-Tweed, we have received a few Carnation blooms, cut from plants that had been grown in the open ground all through the late severe winter. They are very beautiful indeed, and do not show any signs of having been damaged by the frosts; in fact they are superior to many grown under glass. An examination makes it evident that this firm can grow these favourites thoroughly well, and that their soil suits them. The form of the flowers was very good, and the colours were rich and clear. Amongst the varieties were Mrs. Reynolds Hole, Ketton Rose, Mary Morris, Mrs. Frank Watts, Dundas Scarlet, Duchess of Fife, and a beautiful salmon seedling.

— WHO WILL DO LIKEWISE?—On Wednesday last, through the kindness of A. Mordan, Esq., a garden party was held in the grounds of Stone House, Reigate, for the benefit of the Gardeners' Royal Benevolent Institution, established for the support of aged and infirm gardeners. The weather being exceedingly fine the grounds were visited by over 1000 persons. Amongst those present were Lady Jennings and party, Mrs. Simpson and family, the Misses Baxter, Mr. and Mrs. Mordan, Mrs. Lawder Eaton, Miss Mordan, Mr. R. E. West, and Mr. Davidson. In the evening the grounds were beautifully lighted by fairy lamps and Chinese lanterns, especially the verandah, which was most effectively illuminated. The whole of the grounds and greenhouses were thrown open for the inspection of the visitors, many of whom were heard to remark on the admirable way in which the grounds were kept by the head gardener (Mr. G. Steer), who, it should be mentioned, ably carried out the general arrangements of the gathering. Dancing was carried on in the evening with much vigour. The Redhill Town Band, whose services were highly appreciated, played the selections. By this effort the funds of the Institution will be benefited by over £12.

— A STATESMAN ON GARDENING.—At the Hawarden Flower show on Monday, Mr. Gladstone said, "You may depend upon it there is an immense deal to be done in this country by drawing forth the bounty of old Mother Earth in detail. It is all very well to talk about machinery, and there was a time when people used to think that the steam plough was going to drive hand labour out of existence; and undoubtedly in manufacture the advances in machinery have been astonishing. But as regards cultivation of the earth, as regards garden cultivation, as regards all small cultivation, depend upon it there is more room than ever there was for both adding to the store of the beautiful products of Nature, with the capacity of producing which Providence has bountifully endowed the soil, and of largely increasing and consolidating the efforts and advantages of rural life. The use of gardens, the universal provision of gardens, is a matter of the greatest importance to the country. It is also of the greatest importance and most desirable that other small holdings, as they are called, should be multiplied; and I most earnestly trust that the day will soon come when these holdings will be made universal."

— THE USE OF HENNA.—The Henna plant (*Lawsonia alba*), which is a shrub found widely distributed throughout India, Persia, Kurdistan, Syria, Egypt, and Northern Africa, and which is so well known for the use of its powdered leaves as an orange yellow dye by the Egyptians from remote antiquity, seems to be somewhat extensively grown in the gardens outside the city of Tripoli, where it is said to be highly appreciated by the people as a dye. The twigs and leaves are gathered three times a year, the root, which is allowed to remain in the soil, reproducing the plant almost indefinitely. According to a contemporary the Arab women use it to stain their feet and finger-nails, and it is said to be very efficacious in the cure of chilblains. Last year the value of the exports of Henna from Tripoli, chiefly to Tunis and Algiers, amounted to £8000. The mode of preparing Henna in the East is very simple, and consists of reducing the leaves and young twigs to a fine powder, to which sometimes is added a little Catechu. To use it the powder is made into a pasty mass with hot water and spread on the part to be dyed, where it is usually allowed to remain for a night before being washed off.

— **MR. BARRON'S RETIREMENT.**—In connection with the retirement of Mr. A. F. Barron from the R.H.S. gardens at Chiswick we understand that the Council has resolved to give a retiring pension of £180 a year.

— **WE** learn from the "Journal of Botany" that the herbarium of the British Museum has recently acquired a very fine collection of *Hepaticæ*, made by Herr F. Stephani. It numbers about 10,000 specimens, and includes types of 1100 new species, described by Herr Stephani.

— **THE MANRESA VINE.**—Once again it has been my privilege to inspect this noble Vine that has been brought to such perfection by the skill of that genial gardener, Mr. M. Davis. For years now this Vine has been renowned throughout the entire kingdom as a wonderful example of what skill in conjunction with perseverance will do. For season after season enormous crops have been borne, and this year is no exception, the bunches numbering 705, with a total weight of fruit of 886 lbs. Last year upwards of 1300 lbs. of Grapes were taken from it, and the grower decided to give it rest for this year, and therefore took the amount named, and surely no one will consider this a small crop for one Vine to carry. The berries were of good size and splendidly finished, while the leafage and wood are as good as anyone could wish for, and considerably better than is often seen. Again I congratulate Mr. Davis on his splendid achievement, and trust that each succeeding year will bring with it equal success.—H.

— **THE VITALITY OF SEEDS.**—M. Casimir de Candolle contributes to the "Archives des Sciences Physiques et Naturelles" an important paper on the latent life of seeds. From a series of experiments, chiefly on seeds of Wheat, Oat, and Fennel, he concludes that dormant seeds pass through a period of completely suspended animation, in which all the functions of the protoplasm are quiescent, but from which they revive when again placed in conditions suitable for germination. The immunity from injury appears to depend on the protoplasm of the seed passing into a completely inert state, in which it is incapable of either respiring or assimilating, before exposure to the unfavourable conditions. The period of suspended animation may extend over an indefinite time, probably through a long series of years, and the seeds may during this period be subjected to very low temperatures without destroying their vitality. Those above mentioned were exposed, in a refrigerator, as many as 118 times in succession, to a sudden cooling to temperatures varying between -30° and -53° C., without injurious effects. On the other hand, seeds of the Sensitive Plant and of *Lobelia erinus* succumbed, for the most part, to similar treatment. These statements have an important bearing on the question of the retention of their vitality by buried seeds.—("Nature.")

— **MORDEN FLOWER SHOW.**—Having vegetated for two years in the local schoolrooms, the Committee of this Society, situated in a charming Surrey village near Wimbledon, resolved this year to break bounds and get outdoors. Leave having been obtained to use the recreation ground for the purpose, a large tent was erected and the show held on the 9th inst. Most fortunately the day was very fine, the attendance good, and the exhibits equally so, hence a very successful result. For this excellent beginning outdoors much is due to the unceasing industry of Mr. H. J. Bailey (Chairman), Mr. Newcastle (Secretary), Messrs. Gibson and Alderman, and other members of the Committee. Apart from the cottagers' exhibits, which were very numerous and good, Mr. T. Gibson, gardener to J. Wormald, Esq., Morden Park, furnished a capital group of plants, including Fuchsias, Bouvardias, and Achimenes, set in foliage plants, some fine Ferns and Palms, and a box of beautiful cut Roses. Mr. Alderman, gardener to G. Hatfield, Esq., had a charming group of foliage and flowering plants and a grand collection of vegetables, including Ellam's and Veitch's Early Cabbages, large Cauliflowers, Myatt's Ashleaf, Beauty of Hebron, and other Potatoes; Snowball Cauliflower, Long Surrey and Veitch's Model Carrots, and Blood Red Beet, all exciting the highest admiration. Mr. Jones, gardener to the Rev. W. Winlaw, had a capital basket of vegetables; as also had Mr. Wickerdon, gardener to Sir R. Garth. Mrs. Widdington sent a pretty group of small plants. Mr. E. F. Page, market grower, had a good lot of Spined Cucumbers and Perfection Tomatoes; Mr. J. Lambert, Merton, a fine show of working bees and honey. The chief cottager prizetakers were Messrs. Stockbridge (who also won the R.H.S. bronze medal for garden produce), Coomber, Bason, Lemon, James, and Cush. The three former were awarded by the Surrey Surrey County Council (represented by Mr. A. Dean) certificates of merit for cottage gardens; and Mr. Clementson for a beautiful flower garden. After the distribution of the prizes by Mrs. Wormald, in the evening Mr. Dean gave an address on horticulture to a large assemblage.

— **MR. C. FOSTER AGAIN.**—On page 129 of our last issue we had the pleasure of briefly referring to this excellent gardener's success at Aberdare show, and we now learn that he competed on August 5th at the Mountain Ash show. On this occasion he secured nine prizes in all, of which seven were firsts and the remaining two seconds. This totals up to nineteen prizes and a gold medal at two exhibitions, a record worthy of the highest commendation. The estate on which Mr. C. Foster is gardener is known as Aberpergwm, and is the property of M. S. Williams, Esq.

— **CANNELLS' STAR OF HONOUR.**—At Sevenoaks show a somewhat keen competition took place for the star of honour given by Messrs. H. Cannell & Sons, Swanley. The star and handsome money prizes are given as an impetus to the successful following of horticulture and the growth of floriculture, and has in the past given the proprietors much satisfaction in having achieved the object desired. Mr. R. Edwards, The Gardens, Beachey Lees, Otford, won this splendid prize. The same firm's champion belt will be competed for at the Rodmersham (near Sittingbourne) show, on August 28th and 29th. There are already fourteen entries.

— **NYMPHÆA LAYDEKERI ROSEA.**—On page 122 Mr. Dunkin states with regard to this charming hybrid that its flowers are as large as those of our native variety, *N. alba*. The blooms of the latter commonly attain a diameter of 6 inches, and I have seen several of them as much as 8 inches across. I do not think I have ever seen *N. Laydekeri rosea* as much as 3 inches in diameter. I should feel much obliged if Mr. Dunkin would kindly state the approximate size of his blooms of this variety. I might add that it seems to be quite an established fact that all the Lilies which Monsieur Marliac has sent out previous to the present season as hardy varieties are also hardy in this country. At any rate, they have survived more than 20° of frost, to which they were exposed last winter. Without exception they are delightful flowers, showing their colours most distinctly at a great distance.—J. F. H.

— **THE APPLE AS A TIMBER TREE.**—"In some sections of this country," says "Meehans' Monthly," "the Apple tree is looked on for its product as a piece of timber as well as a fruit-producing article. For this reason the old German fruit growers in the vicinity of Philadelphia always aimed to get a straight trunk to an Apple tree, and train it up comparatively high before allowing it to form a head. Moderns have supposed that the chief object to be gained by this method of training was in order to facilitate ploughing operations, but the ultimate end in having a good trunk for timber purposes was not forgotten. In this particular region the wood was used chiefly for shoemakers' lasts—a business which, in the earlier history of Philadelphia, did much to help the trade of that famous manufacturing centre of population. The Apple regions have mostly disappeared from that vicinity, but other sections of the country seem to understand the value of Apple tree wood. It is stated that a fruit grower of Cayuga sold to a well-known firm of saw makers of Philadelphia the trunks of some of their trees, which were cut away because the trees had grown too closely together. In this case the wood was, of course, used for the handle of saws."

— **BEGONIAS AT CHISWICK.**—Although there are many of the ordinary tuberous Begonias in pots and planted out at Chiswick, yet probably no one of this beautiful family attracts more attention than does the rich scarlet double Lafayette. This may be seen in beds that margin the broad walks opposite the rockery. It is a dwarf kind, the flowers are smallish but held almost erect, and constitutes in that way most brilliant bedding material. It is there about 8 inches in height. I have seen this charming variety in quantity at Mr. B. R. Davis's place, Yeovil, where small doubles are planted out largely, and there it proved one of the most effective massing Begonias conceivable. There are also at Chiswick several good forms of the fibrous rooted section, including the dark leaved and flowered Crimson Gem, Afterglow, 9 inches, reddish pink flowers very profusely borne; Reading Snowflake, 12 inches in height, white flushed pink, very effective; elegantissima, 10 inches, reddish pink, very free; and gem of the lot for dwarfness, Fairy Queen, 6 inches in height, spreading, compact habit, flowers white, flushed pink, most profusely borne, this is a charming variety for edging. A few good bedding doubles besides Lafayette are Mauvette, intense violet crimson, 12 inches, most beautiful; Robin Adair, crimson scarlet, a little taller; Dandy, much dwarfer, rich crimson, a first rate form for edging; Belladonna, bright pink, 10 inches, a great beauty; and Grand Ville, plants stout and sturdy, 10 inches in height, flowers pale pink. Those who can secure tubers two years old and will plant 12 inches apart will find these Begonias to be perfect summer bedders.—A. D.

— **LOBELIA CARDINALIS.**—One of the prettiest combinations I have seen for a long time Mr. Gibson has in the gardens of Morden Park, Mr. J. Wormald's residence, near Wimbledon. A batch of seedling plants of this rich scarlet-flowered Lobelia, from 24 to 30 inches in height, blooming profusely and fairly close, being set into a dense carpet of *Dactylis glomerata variegata*, the whole edged with *Iresine Lindenii*. It was surprising to note how charmingly the silvery carpet lit up the rather sombre hue of the Lobelia foliage. It is very interesting to find how in the newer aspects of bedding this fine old herbaceous plant is again coming into popularity.—D.

— **ASCLEPIAS TUBEROSA**, the Butterfly-weed, may well stand as a representative plant of our hot dry midsummers. In sterile sand or the open gravel of thirsty uplands, where other plants can hardly exist, its flowers are resplendent with a vivid orange which approaches red in some individuals, and pales toward yellow in others, those which chance to become established in rich or moist ground showing usually the most red. There are places in the garden border where these brilliant flowers can be effectively used, but, after all, they never make so strong an appeal to the eye or to the imagination elsewhere as they do when glowing on some parched and lonely hillside.—("Garden and Forest.")

— **BUSH MARROWS.**—Considering the fruitful nature of these compact habited Marrows it is somewhat strange they are not more grown. The old Custard variety is of the bush nature, though not in so marked a degree as the later introduced ones. I saw on one of the allotments at Richmond recently Sutton's White Bush Marrow, having stout sturdy stems and leafage; of which the grower spoke in high terms for its productiveness. At Ashted Park Mr. Hunt has a variety of which he speaks most highly as a cropper, turning out fruits literally at every joint. These are of pale green colour, medium length and size, and admirably fitted for ordinary use. Mr. Hunt regards his variety as distinct from all others, and more productive.—TRAVELLER.

— **ELECTRICITY AS A WEED DESTROYER.**—Experiments have shown that mild currents of electricity may have a beneficial effect on the growth of plants, but, of course, a heavy charge will kill a plant just as lightning will kill a tree. Professor Dolbear, in the current number of "The Cosmopolitan," says that this quality of the electric currents has been used to destroy weeds that grow by railroad tracks and on adjacent embankments. Without explaining the apparatus particularly, it is said that a metallic strip behind the car stretching across the track a short distance above the ground, is provided with many fine wires, which hang from it like the loose teeth of a rake. Through these teeth the electricity is discharged as the car moves forward, and every weed touched by a live wire receives a deadly current which traverses the roots to their very tips and kills the plant outright. Very evidently a similar plan can be used for ridding cultivated fields of Daisies, Chicory or other plants when their stems reach above the grass about them. A two-wheeled vehicle, like a horse hay-rake, carrying a battery, could be driven across a field so as to kill every plant with which the metallic conductor should come in contact. In this way acres of valuable land could be rid of coarse weeds in a day, with the assurance that no plant fairly struck would ever start into life again.

— **THE ROYAL BOTANIC SOCIETY.**—The annual report of this Society was published on Saturday, and it was a very favourable one. There has been a great addition to the number of Fellows and members since the last anniversary meeting, eighty-eight having joined during the present year in comparison with forty-one at the date of last year's report, and not only so, but the number (eighty-eight) is also in excess of the total of any year since 1890. On Whit-Monday 4918 persons were admitted to the gardens at 6J. each; and on Bank Holiday, August 5th, 485 at a charge of 1s. The ice remained in good condition over twenty-three days last winter, and a total of 5520 paid for admission to it, producing a sum of £127 15s. In addition to this the gardens were kept open during five evenings, and the lake was illuminated; but the weather being unfavourable the total returns only amounted to £53 5s. The children's floral parade this summer was specially successful, while the evening fêtes in honour of the International Geographical and British Medical Congresses were also enjoyed by a large number of visitors. Mr. C. Brinsley Martin, who presided at the annual meeting held on Saturday, heartily congratulated the Fellows on the prosperity of the Society. He also hoped that the public popular openings would be successful in future; but they must move with caution, as many Fellows joined the Society on the understanding that it was a private concern. The public, however, was always welcome, and he hoped that it would assist the Council in preserving order in the gardens.

— **JULY WEATHER AT HODSOCK PRIORY, WORKSOP, NOTTS.**—Mean temperature of the month, 60.1°. Maximum on the 8th, 77.7°; minimum on the 5th, 44.3°. Maximum in the sun on the 25th, 126.9°; minimum on the grass on the 5th, 36.2°. Mean temperature of the air at 9 A.M. 61.9°; mean temperature of the soil at 1 foot deep, 60.1°. Total duration of sunshine 157 hours, or 31 per cent. of duration. We had three sunless days. Total rainfall, 3.79 inches; rain fell on seventeen days. Approximate averages for July. Mean temperature, 60.7°; sunshine, 160 hours; rainfall, 2.42 inches. A showery and rather unsettled month, especially during the last fortnight. Nights were mild, but there were no hot days.—J. MALLENDER.

— **TENDER AND TRUE RUNNER BEANS.**—It has not been my good fortune yet to see both climbing Tender and True (Sutton) and climbing French Bean (R. Veitch) growing side by side this season. I still very much wish to have the opportunity. I saw the former (Tender and True) at Ashted Park recently, where it had reached 5 feet in height, and was cropping abundantly. Mr. Hunt said one row of it rendered several sowings of Dwarf Canadian Wonder needless. Sutton's Epicure, which seems to be a sort of climbing Ne Plus Ultra, is also another wonderful cropper. That I saw doing finely at Coulsdon, where also Prizewinner was in fine form. Only to-day a Chessington man told me that he had beautiful pods of Al 12 inches long, and he chuckled over the way he was going to astonish his neighbours at a local show next week.—A. D.

— **CLEMATIS RECTA.**—This is the best herbaceous Clematis, and there are few white-flowered hardy plants that equal it when in bloom. It is a many-stemmed plant of compact habit with abundant dark green healthy leaves. The first year after transplanting it only grows about 3 feet high, but when it gets well established it reaches a height of 4 or 5 feet. The flowers, which are plentifully borne in dense corymbs at the ends of the stems, are white and fragrant, and last well when cut. It would seem that a plant so easily grown and with such good flowers might be of great use to florists. *C. recta* makes an effective plant in the herbaceous border, but it grows well in almost any position. There are plants in the Harvard Botanic Garden under Oak trees, where they get very little sun, and they are as healthy as those which stand in full sunshine, and their flowers last even longer. This Clematis comes from the South of Europe, and was introduced from there in 1597. It can easily be increased by dividing the plants and also by seeds, although they are slow to germinate.—("Garden and Forest.")

— **FLORA OF BRITISH SOMALILAND.**—Miss Edith Cole and Mrs. Lort Phillips and party made a journey in this country last winter and early spring, and collected and dried about 300 species of flowering plants and a few Ferns, which they have generously presented to Kew. The country traversed was from Berbera to the Golia range of hills, which rise to a height of 5000 feet. In view of the comparatively recent partial botanical investigation of the island of Socotra, and Mr. Bent's collections from Southern Arabia, together with the fact that little is known of the flora of Somaliland, some highly interesting results are expected from the working out of these ladies' collections. The Acanthaceae especially are very strongly represented. There is a new Fern, and the three Orchids include an apparently new species of *Epipactis*, a genus not previously known to inhabit tropical Africa, though we believe Mr. Scott Elliot also collected a species in the Ruwenzori mountains. Miss Cole also collected and presented to Kew plants of a species of *Eulophia*, a *Dracaena*, various bulbs, and twenty packets of seeds.—("Kew Bulletin.")

— **PHILADELPHUS ZEYHERI.**—This shrub was sent out several years ago, says the "Garden and Forest," and is quite different in appearance from the numerous Mock Oranges in ordinary cultivation. It is just passing out of bloom, being considerably later in flower than the well-known *Philadelphus coronarius*. *P. Zeyheri*, or, as it is sometimes called, *P. Falconeri*, is a vigorous rather upright shrub with arching branches, and grows to a height of 6 or 8 feet. The leaves are narrower, rather smaller, and usually more sparse than those of *P. coronarius* or *P. grandiflora*. The narrow petals do not open horizontally, so as to make a flat flower, but one rather bell-shaped in general contour, although when looked at directly in front the separate, boat-shaped, and pointed petals give it the appearance of a star. The flowers are but slightly fragrant. The branchlets, each of which bears four or five flowers, are arranged closely on the main stem, and when in flower the shrub has a distinct and pleasing appearance. Most of the Mock Oranges are desirable free-flowering shrubs, and as they hybridise easily they assume a variety of forms, which makes a satisfactory classification of them extremely difficult if not impossible.



CALVAT'S CHRYSANTHEMUMS, 1895.

THE set of new seedlings from this eminent grower number thirty-five, and will unquestionably contain many novelties of merit. Some were certificated last season by the N.C.S., and others have received awards in France. Perhaps the largest and most striking will be *Amiral Avellan*, a yellow Japanese; *C. Harman Payne*, a long petalled, dark purple Jap with white spots; *Directeur Tisserand*, a large yellow and orange Japanese, figured in the *Journal of Horticulture* last November; *Mrs. H. J. Jones*, an incurving creamy white Japanese; *M. Chénon de Leché*, a Japanese of rosy hue; *Mr. R. Ballantine*, carmine lilac Japanese; *Pres. Léon Say*, a bronzy yellow; *Professor Lachmann*, amaranth; and *Reine d'Angleterre*, a very large flower, which, like the three preceding, is a Japanese but of a dull mauve colour.

Exhibitors will do well to keep a look out for these in the coming season at our trade displays, as they have all been shown in England by the raiser prior to being distributed, and have been favourably spoken of by the few persons who have seen them.—P.

CHRYSANTHEMUMS AT THE ROYAL ACADEMY.

Artists' pictures of florists' flowers are usually disappointing when looked at from the special standpoint of the cultivator. Those of Chrysanthemums in this year's exhibition at Burlington House are no exception to the rule, for the majority of them depict poor, undersized, weedy-looking blooms that the humblest amateur of this noble autumn flower would blush to own. It is rather a curious fact that some of the best are in the portrait pictures, where they merely occupy the place of accessories. No. 203, No. 281, and No. 497 are cases in point.

Of peculiar interest is "A Flower" (No. 244) by W. Q. Orchardson, R.A. This might very appropriately have been called "The Rival Queens," for a young girl holds in one arm a pot containing a flowering plant of a white Japanese Chrysanthemum, while with the other she is reaching to her a yellow Rose to smell. "Fair Flowers of Gentle Grace," (No. 488) is rather a puzzle. A female figure clad in Greek costume is busy watering some Chrysanthemums in a brown pot which stands on a marble pedestal.

Lying on a tessellated pavement are more Chrysanthemums of every hue and colour known to the *fin de siècle* growers, and in the background is a basket containing some more. It is a pretty, delicate little picture, and may be taken to represent a scene in classic times; but surely the Chrysanthemums known in those days were not the brightly coloured flowers of Chinese and Japanese origin, but the original yellow type upon which the name was founded.

POPULAR TASTE IN CHRYSANTHEMUMS.

The way in which popular taste is likely to run may generally be pretty accurately gauged by a careful scrutiny of the American and Continental lists of novelties each year. For some little time to come we may expect the Japanese and Incurved varieties to reign almost supreme, for out of all the new seedlings distributed this spring there are scarcely any Anemones, either Japanese or Chinese, Pompons or Reflexed announced.

Even in the new Japanese, one type the most modern, the incurving Japanese with broad florets, promises to take the lead. Popular taste in floriculture is always a fickle thing, but it has to be catered for by those who have their living to get.—P.

DISQUALIFYING AT SHOWS.

NOT having great experience in judging, and for the past year or two very little in the way of exhibiting, it is quite possible that the opinions of others of riper judgment in these matters may be more acceptable than mine. A "ticklish affair," to say the least of it, is the question raised by "A. D." page 129. To my mind a difficulty arises as to where the line is to be drawn between culpable neglect of taking the necessary trouble to become properly acquainted with the requirements of a schedule, or ignoring of rules in such, and a really innocent case such as "A. D." quotes.

I am afraid that my inclination would have been to let the exhibit spoken of compete, but then exhibitors should know how many beans make five, or, I should say, twenty; and, again, the other competitors who have given themselves time to count and arrange their produce in a proper manner, according to schedule, must be considered, and their little extra trouble taken into account. It would seem rather a harsh decision for the estimable coadjutors of "A. D." to have come to; but if we allow these little things to pass unnoticed, where are they likely to end? Is it not possible that others may notice these innocent sins, who may ask some awkward questions after the awards have been made, and want to know the why and the wherefore?

Again, to my way of thinking it simplifies matters in a great measure for the judges themselves, if they adhere strictly to the provisions of the schedule, even though it is possible at times for some clauses in the

latter to be anything except easy to understand or define as to their exact meaning. However, I think if a list says twenty, one should expect the exhibit to be twenty of whatever is specified, and not more or less; and for a judge to take away or add to (what I consider is already by the schedule a disqualified exhibit) in ever so slight a degree is to tamper, and not by any means honest or fair to the other exhibitors in the same class.—J. W. K.

I QUITE agree with what "A. D." says anent the disqualifying of exhibits at shows under the conditions which he describes on page 129, when it must be obvious to the judges that the circumstance of twenty-two Beans having been staged instead of twenty was simply a mistake made in counting in perhaps the hurry and confusion of the moment at the time of staging. Whenever I have come across a case of this kind I have, with the consent of my colleague, always removed the surplus number or numbers, and judged the remaining and required number together with those staged against them. On one occasion, at Basingstoke, in making the awards in the fruit and vegetable classes my colleague and myself found in the Peach or Nectarine classes one fruit too many staged in one dish of six. We simply removed one fruit, and that not the best, and placed it on the stage close by. It would have been simply monstrous to have disqualified that exhibit, which we placed first. The same, I believe, happened in a class for twelve Onions. If there had been one fruit or one bulb short disqualification must have followed.—H. W. WARD.

HEMEROCALLIS AURANTIACUS MAJOR.

WITH the introduction to commerce of this handsome variety the popularity of Day Lilies will receive a great impetus. Hitherto the common sorts, such as *H. flava* and *H. fulva*, have been grown in many gardens and the better kinds in a few, but this, for which we have to thank Messrs. Wallace & Sons, Colchester, will most assuredly soon be accorded a place of honour in all gardens, whether large or small, and it cannot be other than an ornament. A reference to the woodcut (fig. 23) will convey to our readers an idea of the size of the flowers, which measure upwards of 6 inches across, and are of remarkable substance, so much so in fact that, when cut and placed in water, the blooms remain in good condition for considerably longer than the other and better known sorts. The colour is a very rich orange yellow, and when a plant was exhibited at the Drill Hall, Westminster, at a recent meeting of the Royal Horticultural Society, it attracted an extraordinary amount of attention. The Floral Committee rightly accorded a first-class certificate to this acquisition to our hardy flowers.

VICTORIA PARK.

To some readers the east of London may not seem the place to see bedding, but once within the precincts of this noble park any unfavourable impressions given by the surroundings are immediately dispersed by the brightness and diversity of the display of flowers, the rich green of the numerous forest trees, and the air of neat cleanliness that everywhere prevails. In the fresh clear air of the country there would be nothing extraordinary about this; but here the conditions differ materially—turn which way you will, the dingy smoke from a thousand chimneys fills the air, and the crowded streets of mighty London stretch far away for miles on every side. A strange place, one would naturally think, for a gardener to exercise his skill, or to find any of the unresisting beauty of Nature; but so kind is the latter in her dealings, that she willingly lends her charms in forming a quiet resting-place for thousands whose only landscape lies in the miles of dreary streets all round.

The position of Victoria Park of course forbids it boasting a Rotten Row or Vanity Fair, but in spite of this it has long stretches of green turf, avenues lined with handsome trees, quiet shady nooks, a large lake of water, sweeping carriage drives, public recreation grounds, and last, but not least, a display of flowers unexcelled in London. It is impossible in only a casual stroll round to grasp fully the magnitude of the bedding department at Victoria. And why? Because there are flower beds everywhere; turn down one walk and a rockery furnished with Cacti and succulants meets the eye, and where least expected, there is to be found quite a compact little garden where flowering and sub-tropical plants abound, and a little further on the intricate and artistic design of a carpet bed presents itself. In order to miss nothing on the occasion of our visit, and to save confusion, the services of the indefatigable superintendent, Mr. Moorman, were enlisted, and in a tone somewhat approaching regret, his first words were, "You should have seen them before the rain came!" We were, however, satisfied with the display as we saw it, well knowing that any damage suffered by the flowers had been more than counterbalanced by transformation of brown sun-burnt grass into a carpet of emerald hue.

What it must mean to annually fill that multitude of beds with plants we could only surmise, and were not surprised to hear that upwards of 200,000 are propagated each year for the purpose. Yet so efficiently is this giant task accomplished that there seems nothing wanting. After seeing a brilliant display at one point one would almost expect to find another more sparsely furnished, but such is not the case, as one portion vies with another in beauty, and, what is even more

pleasing, erroneous blending of colours is a thing unknown, and it would task the powers of a more severe critic than the writer to find anything out of character. "It is impossible," said Mr. Moorman, "to provide flowers for the public during every month of the year, but I endeavour to keep up the display through as many as possible." Truly a good object for a park superintendent to aim at, and in this Mr. Moorman's efforts are attended with success, as there is always something worth seeing at Victoria.

It would be futile to endeavour to enumerate or describe even a small per-centage of the many flower beds, and my advice is, "Go and see them." In the main drive through the park the effect is charming. On either side are round beds, each furnished differently, so as to give variety. There is one made gay with the tall spikes of the blue

raising a large stock; in this he is quite justified, as the effect caused by them is very charming.

Variety appears to be the main object in view, and to attain this almost every plant suitable for bedding is called into requisition. Several oblong beds are gay with Begonias, intermixed in one case with Dracænas and in another with Ficus elastica, surrounded by a band of Alternantheras. Beds of Castor Oil plants on a groundwork of large-flowered Musk are extremely effective. Celosias and Begonias on a carpet of the golden Creeping Jenny cannot fail to attract attention, and long beds of Fuchsias, Petunias, and Heliotropes, mixed with Begonias as a border, are rendered more pleasing by having as a background a fine group of Palms, Ficus elastica, and Aralias.

Sub-tropical beds are in themselves a feature, and large collections



FIG. 23.—HEMEROCALLIS AURANTIACUS MAJOR.

Campanula pyramidalis surrounded by Coleus Verschaffelti, and in the next a pleasing mixture of Phlox Drummondii and variegated Maize, another planted with a mixture of Henry Jacoby Pelargonium and variegated Maize edged with the dwarf Fuchsia Golden Treasure, while further on may be seen a mass of white Viola Champion intermixed with the feathering spikes of Celosia pyramidalis surrounded by Coleus Verschaffelti. Dwarf French Marigolds as a groundwork, above which towers Campanula pyramidalis, are very effective in several beds, while in others tall Fuchsias, white Marguerites, and Heliotrope Swanley form a pleasing mixture. In a large expanse devoted solely to flower beds a pleasing effect is formed in the scrolls by an outside band of Pelargonium Robert Fish, followed by Iresines, blue Violas, and Vesuvius Pelargoniums. Other large round beds are centred with Pelargonium Pink Christine edged with blue Lobelia. Phlox Drummondii and Carnations also form a pleasing mixture. Mr. Moorman has great faith in Violas for summer bedding, and is gradually

of Eucalyptus, Solanums, Palms, and such plants cannot fail to attract attention. Wigandias are also used extensively, and mixed with Perilla nankinensis the effect is very pleasing, as also are beds of Abutilon Thompsoni, Champion Viola, and Fuchsias. Cannas are extensively used, and surrounded by bands of the creeping golden Abutilon they form an excellent contrast. A bright feature is formed by graceful collections of Fuchsias, Marguerites, and Verbenas edged with Alternantheras.

Dotted about in different positions are beds of succulents, composed of large Echeveria metallica, Agaves, Sempervivums, and Cactus, with a groundwork of Lysimachia, Antennaria, and Herniaria; tall Eucalyptus and yellow Marguerites surrounded by Funkias make a change quite different to any of the surroundings.

Many scroll beds are laid out in carpet style, showing beyond doubt that taste has been used in their formation; and though this style has recently undergone severe criticism, yet it is quite in character at

Victoria Park, and the effect of the various patterns calls forth much admiration.

Very different in style but equally or more pleasing in effect are the banks and borders, now gay with numerous tall spikes of *Gladioli breuchleyensis*, edged with the blue *Viola purpurea*. These form a pleasant change, and break any monotony that might exist through the stereotyped plan of bedding, while the sweet scent of *Mignonette* floats in the air.

Long might we have lingered admiring this or comparing that, but time flies fast, and with reluctance we were obliged to bid adieu to Victoria Park and its energetic Superintendent, thoroughly satisfied with what we had seen, and envying to some extent those who have the privilege of paying frequent visits to this bright display of flowers. —WANDERER.

MODERN GRAPE GROWING.

EFFECTS OF IMPERFECT FERTILISATION.

(Continued from page 104.)

AS some of the causes of imperfect and non-setting can be traced further back than is generally supposed, so also some of the results are correspondingly far reaching. The aim should be to get at least three seeds to each berry. The best berries generally contain four seeds, sometimes we find five, and even the maximum number of six; but although the berries containing them are comparatively large, they are not often of so good a shape as those having but four. One seed is not sufficient, the berry containing it invariably being small. It may be taken as a rule that the greater the number of seeds of any particular variety the larger will be the berries, hence the importance of having not only a set, but a good set.

Those berries containing the greater number of seeds, too, in a bunch start swelling the quickest, and consequently, like the cuckoo in the wagtail's nest, they get more than their rightful share of the good things provided, and indeed some few berries occasionally, especially with Muscats, will start swelling very rapidly before the bulk of the others have become fertilised. When such is the case with a few berries only I cut them off as soon as their selfish character can be detected, and make a new examination of the border to try and find out if there has been any check that could have been prevented.

The berries of some varieties, notably Alicante, will swell to a large size, $2\frac{1}{2}$ to 3 inches in circumference, without containing a single seed, and will even ripen, though they are liable to crack, when the second swelling of the fertilised berries commences, and if they do not crack they spoil the appearance of the bunch by their smaller size and round shape. These unfertilised berries can be detected by the practised eye at a very early stage, and should be cut out, and when there is any doubt about it the thinning should be done very gradually; but as I often see Alicante mentioned as an example of a free-setting variety, possibly this failing may not prevail in all localities.

I think the defect is due to an insufficiency of something in the border, possibly soluble phosphates, and should be followed by good feeding during the summer in order to prevent its recurrence, limiting, however, the supply of nitrogenous material.

Muscats and some others, especially if overcropped, are liable to have many berries containing only one seed. These, if they can be spared, should be cut out as soon as detected, for not only will the berries be comparatively small, but they are subject to one variety of what is called shanking—*i.e.*, in the race for life ending in the "survival of the fittest" they cannot immediately get what they require, and the berry stem, not being made use of, dries up. This form of shanking, which in its early stages shows a dark speck and then a ring round the berry stem, is totally distinct from that which is caused by too much nitrogenous manure or too moist an atmosphere before the tissues become hardened and results in the loss of a wing of the bunch or perhaps the whole of it at once, the stems in the latter case becoming rather limp at first and afterwards drying up.

These two varieties of shanking can be seen soon after the second swelling commences, but there is yet another which to me is more mysterious. The varieties of Grapes I have seen affected by it most are Alicante and Mrs. Pince, and the first-named is the worse. The berries will seem to have finished off very well and become perfectly coloured and sweet when we suddenly discover that good sized branchlets in the bunch have their stems quite dried up, although the berries are still plump, and remain so for a considerable time. I do not remember seeing this happen when the Vines were grown in a retentive soil, possibly it does not, and the only thing I can guess at is that with a non-retentive soil the feeding has not been continued long enough. But this is only guess work; I cannot satisfy myself on the point, and merely mention it here to point out that there are three distinct maladies called shanking.

I do not say that the first variety of shanking mentioned is caused by imperfect fertilisation, but that there being a predisposition to shank those berries which are only partially fertilised suffer at a critical stage because they cannot compete on equal terms with their more fortunate fellows, and consequently their vitality becomes less and less till they ultimately succumb, whereas could they have pulled through the critical stage they might have gone on fairly well. There is no doubt this variety of shanking is the result in the first place of starvation, either from a scarcity of good foliage, good roots, good feeding, a short supply of water at some particular time, or overcropping.—WM. TAYLOR.

(To be continued.)

ROYAL HORTICULTURAL SOCIETY.

AUGUST 13TH.

THE exhibition at the Drill Hall on the above date was very interesting in all respects. Each Committee had a fair amount of work to do, though, as usual, the major portion of the exhibits fell to the Floral, hardy flowers being largely shown. Fruit and vegetables were staged in splendid quality, though the latter were only seen in very small numbers. Orchids were as a rule of a very high order of merit, several being decidedly above the average of merit.

FRUIT COMMITTEE.—Present: P. Crowley, Esq. (in the chair); with the Rev. W. Wilks, and Messrs. T. F. Rivers, G. Bunyard, T. J. Saltmarsh, J. Cheal, A. Dean, J. Willard, J. A. Laing, J. Hudson, G. Wythes, H. Balderson, G. H. Sage, G. Reynolds, G. Norman, R. Fife, and A. H. Pearson.

Messrs. G. Bunyard & Son, Maidstone, sent a very handsome collection of Apples, comprising thirty-six varieties. Lord Suffield, Gold Medal, Red Juneating, Cardinal, White Transparent (award of merit), Cox's Pomona, Professor, Sugar Loaf, Worcester Pearmain, Stirling Castle, Lady Sudeley, Mr. Gladstone, Domino, Golden Spire, and the Queen were some of the best. Red and yellow Mirabelle Plums were also shown from Maidstone (silver Knightian medal).

Messrs. T. Rivers & Sons, Sawbridgeworth, staged a very interesting exhibit, comprising Apples, Plums, Cherries, and Pears. Of the Apples Early Julien, Cardinal, Early Harvest, Early Rivers, Keswick Codlin, Ecklinville Seedling, Red Astrachan, Stirling Castle, and Duchess of Oldenburg were seen. The Pears were Précoce de Trénoux, Bêurre Giffard, St. Swithins, Beacon, and Blanchet Claude. Cherries, Emperor François, Monstreuse de Mezel, and Bigarreau Noir de Gaben; and Plums, Mallard, Grand Duke, Early Transparent, Monarch, Golden Transparent, Oullins Golden, and The Czar (silver Knightian medal).

Messrs. J. Veitch & Sons staged Red Alpine Strawberries, Morello Cherries; Plums Early Prolific, Sultan, Early Golden Drop, De Montfort, Early Orleans, Frogmore Orleans, St. Etienne, The Czar, July Green Gage, Peach, Early Transparent Gage, Early Green Gage, Gisborne's, Red Magnum Bonum, Mamelonne, Sturt, and Old Orleans; Pears Jargonelle, Beurré Giffard, Fondante de Behazel, and Andrie Desporte; with Apples Benoni, Irish Peach, Early Harvest, Early Russian, Napoleon, Paradise Pippin, White Astrachan, Summer Thorle, Oslin, Devonshire Quarrenden, Duchess of Oldenburg, Early Strawberry, Early Julian, Red Astrachan, Peter the Great, and Beauty of Bath (silver Knightian medal). Mr. J. Hudson, Gunnersbury House Gardens, showed Alpine Strawberries in variety.

Mr. Empson, gardener to Mrs. Wingfield, Amptill, Beds, sent Grapes Muscat of Alexandria, Madresfield Court, Black Hamburg, Alicante, a new seedling called Mrs. Wingfield; Apples Beauty of Amptill, Red Quarrenden, Yorkshire Beauty, and Worcester Pearmain; and Plums in variety. Mr. R. Maher, gardener to A. Waterhouse, Esq., Yattendon Court, Newbury, staged seedling Grape Black Diamond, but no award was made (silver Banksian medal).

Messrs. Vilmorin, Andrieux & Co., Paris, sent Dwarf Bean Extra Dwarf Early that received an award of merit, as also did others from the same source, and from Messrs. Henderson & Co., New York, and which were noted in our issue of August 1st, page 111. Mr. G. Wythes, Syon House, Brentford, sent three Melons, of which Middlesex Hero received an award of merit. Mr. J. Hudson sent Melons Sutton's Scarlet and Scarlet Hero of Lockinge. Plums in fine variety and condition came from the Chiswick Gardens, and included Bittern, Sultan, Curlew, Golden Emperor, and others. Magnificent examples of Lettuce Giant White Cos were sent by Messrs. J. Veitch & Sons.

Mr. T. Taylor, gardener to Miss Henderson, Weybridge, sent Peach Princess of Wales; and Mr. M. Webster, gardener to E. J. Preston, Esq., Beckenham, Raspberry growths in full bearing. Apple Laxton's No. 1 came from Messrs. Laxton Bros., Bedford, but they were passed.

FLORAL COMMITTEE.—Present: W. Marshall, Esq. (in the chair); with the Rev. H. H. D'Ombain, and Messrs. J. Fraser, J. Laing, C. T. Druery, H. B. May, H. Herbst, R. Dean, G. Stevens, J. H. Fitt, R. B. Lowe, C. J. Satter, W. Bain, C. Blick, H. J. Jones, J. D. Pawle, C. E. Shea, J. Walker, J. T. Bennett-Poë, and H. Turner.

Mr. P. McArthur, London Nursery, Maida Vale, London, arranged a small group of *Lilium lancifolium* and *auratum*, with hardy Bamboos, producing a pleasing effect (bronze Banksian medal). A very handsome exhibit of Ferns was contributed by Mr. H. B. May, Dyson's Lane Nurseries, Upper Edmonton. All the plants were in splendid condition, evidently having been well grown and managed. A few of the most conspicuous were *Adiantum farleyense*, *Lathomi*, *cuneatum variegatum*, *bipinnatum*, *Hemsleyanum*, *elegantissimum*, and *Veichi*; *Asplenium lucidum*, *Shepherdii*, and *Baptisti*; *Anemia fraxinifolia*, *Pteris Victoræ*, *Nothochlæna sinuata*, and many others (silver-gilt Flora medal).

From Messrs. Kelway & Sons, Langport, came *Dahlia serratipetala*, Duke of York, *Rubus phoenicolasius*, *Gaillardias*, and *Gladioli* in great variety. Prominent amongst the latter were Don Jose, Orme, Mr. Fowler, Bonavia, C. T. Ritchie, Colonel Welby, Duke of Devonshire, G. J. Goscher, Sir W. W. Ridley, Robert Morrow, Lord George Hamilton, and Earl Cadogan (silver-gilt Banksian medal).

Messrs. G. Bunyard & Co., Maidstone, received an award of merit for *Sorbus aucuparia fructu-luteo*. Mr. Witty, Nunhead Cemetery, showed *Fuchsia Pride of South London*, a variety with variegated foliage.

Messrs. R. Wallace & Co., Colchester, arranged a charming exhibit,

comprising *Liliums longiflorum* Wilsoni, *tigrinum splendens*, Henryi, Lowi, Batemaniae, lancifolium, and auratum in variety; *Gladioli* John Laing, J. H. Krelage, E. V. Hallock, and President Carnot; *Montbretias* Pottsi, aurea, elegans, and aurea; *Hemerocallis aurantiacus* major, and *Tigridias grandiflora* lilacea, *G. aurea* and *grandiflora* immaculata (silver Banksian medal). Mr. H. Brownhill, Sale, arranged a number of varieties of *Chrysanthemum frutescens*, including Sunshine, elegans, Duke of York, Princess May, and Chieftain. These were very charming, and attracted a great amount of attention owing to their evident usefulness for decorative purposes in a cut state.

Cactus Dahlias were splendidly shown by Mr. S. Mortimer, Rowledge, Farnham. The blooms were of good form and very finely coloured. May Pictor, Duke of Clarence, Miss Violet Morgan, Keynerith, Lady Penzance, Matchless, Baron Schröder, St. Catherine, Bertha Mawley, Delicata, Mrs. Barnes, Countess of Radnor, Apollo, and Bertha Mawley were represented, besides others (bronze Banksian medal). Mr. W. Robinson, East Grinstead, exhibited superb blooms of *Nymphæa marliacea* albida (bronze Banksian medal).

Hardy flowers from Mr. T. S. Ware, Hale Farm Nurseries, Tottenham, were conspicuous. Unfortunately there was an apparent lack of space, for the general effect was much marred by the close placing of the bunches. *Liliums*, *Phloxes*, *Enocheras*, *Veronicas*, *Polemoniums*, *Heuchera sanguinea*, and *Statice* were noticeable. Cactus Dahlia Mrs. A. Beck received an award of merit, and will be found described below (silver Banksian medal). Messrs. J. Cheal & Sons, Crawley, showed Cactus Dahlias in superb condition, including several new varieties, such as Mrs. Gordon Sloane, Arthur Cheal (for which an award of merit was recommended), Mrs. Wilson Noble, and Mrs. Broughton Sterling. Of the old varieties Mrs. Turner, Lady Penzance, Mary Hillier, Viscountess Folkestone, Matchless, Juarezi and Baron Schröder were some of the best.

Some grand Show, Fancy, and Cactus Dahlias came from Mr. J. Walker, Thame, Oxon. The flowers were, as a rule, of great substance and well coloured. Most of the leading varieties in the respective sections at present in flower were represented (silver Banksian medal). *Brunsvigia Josephinae* was staged by Mr. R. B. Lowe, gardener to Earl Brownlow, Great Berkhamstead; and pots of Sweet Pea Cupid were sent by Mr. Burpee of Philadelphia. Mr. P. McArthur sent *Arisæma fimbriatum*, *Eucharis Gortoni*, and *Anætochili* from Ceylon. From Messrs. B. S. Williams & Sons, Upper Holloway, came plants of *Ixora Duffi*.

Some magnificent spikes of *Gladioli* and *Montbretias* were exhibited by Mr. W. Bain, gardener to Sir Trevor Lawrence, Bart., Dorking, who also staged *Anthuriums* in superb condition, one of which, named *Mariæ*, receiving a first-class certificate (silver Flora medal). Messrs. J. Laing & Sons, Forest Hill, showed an exhibit composed of *Crotons*, *Streptocarpus*, *Gloxinias*, and *Antirrhiniums*. Of the *Crotons*, *Weismanni*, Mrs. Dorman, Mr. Bause, Countess, Gordoni, Memphis, Challenger, Golden Ring, Stewart, and Nestor were conspicuous. All these plants were admirably grown and well clothed with brightly coloured foliage. *Dracæna Sanderiana* and *D. rubra superba* also came from the same source (silver Banksian medal).

Messrs. Barr & Son, Covent Garden, arranged a somewhat extensive exhibit of hardy flowers, including perennial *Phloxes*, *Chelone barbata* coccinea, *Veronicas*, *Linaria dalmatica*, *Trollius europæus*, *Gladioli*, *Hyacinthus candicans*, *Pentstemons*, *Montbretias*, *Liliums*, *Tritomas*, *Gaillardias*, and several others (bronze Banksian medal). Messrs. J. Veitch & Sons sent some hybrid *Begonias* in splendid condition. Messrs. T. Cripps & Sons, Tunbridge Wells, sent *Daphne laureola* atro-purpurea and *Asparagus Sprengeli*. Mr. H. Burt, gardener to F. Reckett, Esq., Caen Wood Towers, Highgate, exhibited *Lilium auratum* Burti, a handsome variety after the style of *rubro-vittatum*, but not having such a broad strip of colour down each segment, and other varieties.

ORCHID COMMITTEE—Present: F. W. Burbidge, Esq. (in the chair); with Dr. Masters and Messrs. J. O'Brien, W. Cobb, J. Douglas, T. W. Bond, E. Hill, J. Gabriel, C. Pilcher, W. H. White, H. Ballantine, H. M. Pollett, De Barri Crawshaw, and T. B. Haywood.

Messrs. H. Low & Co., Upper Clapton, arranged a small group of Orchids, chiefly consisting of *Cattleyas* and *Cypripediums*. Mr. J. Davis, gardener to J. Gurney Fowler, Esq., staged some grand Orchids, of which *Cattleya Fowleri* and *Vanda cœrulea*, Fowler's variety, received first-class certificates. A silver Banksian medal was accorded the exhibit.

Cypripediums were apparently the only Orchids from Messrs. B. S. Williams & Sons. *Morganæ*, *Orphanum*, *Selligerum*, *G. H. Rogers*, and *tonsum* were noticed. Spikes of Orchid flowers were staged by Messrs. T. Stafford, S. G. Lutwyche, G. Roberts, and E. H. Woodall, the latter receiving a first-class certificate for *Vanda cœrulea*. Mr. Ballantine, gardener to Baron Schröder, The Dell, Egham, exhibited a few cut Orchids, in which quality made up for quantity. *Cypripedium Massaium*, *Vanda insignis*, *V. Roxburghi*, and others were seen (silver Banksian medal).

Dendrobium Phalænopsis hololeuca, which received a first-class certificate, was staged by — Holmes, Esq., Bath. T. Statter, Esq., Stand Hall, Manchester, showed a spike of *Lælia crispa superba* and *Cypripedium Massaium superbum* (first-class certificate). Messrs. Heath & Son, Cheltenham, staged *Cypripedium pendulum* and *Phalænopsis*; C. Ingram, Esq., Godalming, *Cypripedium alba*, a hybrid, and others. Mr. W. H. White, grower to Sir Trevor Lawrence, Bart., sent *Calanthe natalensis*, *Saccolabium cœleste*, *Lælia monophylla*, *Vanda Hookeriana*, *Maxillaria fucata*, *Cattleya speciosissima*, and several others (silver Banksian medal).

Cattleya Eros, staged by Messrs. J. Veitch & Sons, received a first-class certificate, and is described below. Mr. C. J. Salter, gardener to T. B. Haywood, Esq., Reigate, staged *Odontoglossum Harryana*, and was accorded an award of merit (silver Flora medal).

Messrs. F. Sander & Co.'s exhibit of Orchids was very bright and beautiful, and comprised *Cattleya Fowleri*, *Odontoglossum bictonense* album, *Cattleya aurea*, *C. Leopoldi* Sander's var., *C. Gaskelliana*, *Cypripedium Ida Brandt*, *Odontoglossum Wattianum*, *Calanthe Sanderiana*, *Lælia elegans* var. *prasiata*, *Masdevallia Veitchi grandiflora*, and *Cypripedium ænanthum superbum* (silver Banksian medal).

CERTIFICATES AND AWARDS OF MERIT.

Anthurium Mariæ (W. Bain).—This is a magnificent form, with a large white spathe flushed faintly with rose (first-class certificate).

Apple Early White Transparent (G. Bunyard & Son).—This is an extremely handsome Apple of a flattish, conical shape, with prominent ribs towards eye, which is of medium size, slightly open, and set in a shallow, much-furrowed basin. The stalk is long, and set in a deep, greenish cavity. The colour is pale yellowish white with small green spots (award of merit).

Cattleya Eros (J. Veitch & Sons).—The sepals and petals of this hybrid are delicate rosy purple, the lip being crimson shaded purple. It is the result of a cross between *C. Walkeriana* and *Mossia* (first-class certificate).

Cattleya Fowleri (J. Davis).—This is a hybrid, the result of a cross between *C. Leopoldi* and *C. Hardyana*. The sepals and petals are deep purplish crimson, and the lip has a velvety appearance of the same shade (first-class certificate).

Cattleya Leopoldi, Sander's variety (F. Sander & Co.).—This is a very handsome variety of the type (award of merit).

Cherry Géant d'Hedelfingen (T. Rivers & Sons).—This is a handsome black-fruited variety of splendid flavour (first-class certificate).

Chrysanthemum Chieftain (H. Brownhill).—A yellow flowered variety of the *frutescens* type. The form is excellent (award of merit).

Chrysanthemum elegans (H. Brownhill).—The white petals of this variety are rather narrow but very charming (award of merit).

Chrysanthemum Princess May (H. Brownhill).—This is a white variety with a yellow ring round the eye (award of merit).

Chrysanthemum Sunshine (H. Brownhill).—A very deep yellow coloured variety of great excellence (award of merit).

Cypripedium Massaium superbum (T. Statter).—This is a singularly handsome form of the type (first-class certificate).

Dahlia Arthur Cheal (J. Cheal & Sons).—This is a Cactus variety with very deep crimson flowers (award of merit).

Dahlia Mrs. A. Beck (T. S. Ware).—This Cactus-flowered variety has orange-coloured blooms (award of merit).

Dendrobium Phalænopsis hololeuca (Holmes).—This chaste Orchid is pure white in colour, the form being shown in the woodcut, fig. 21, page 149 (award of merit).

Gladiolus Don Jose (Kelway & Sons).—This splendid variety has rich purple flowers of medium size (award of merit).

Gladiolus Duke of Devonshire (Kelway & Son).—A bright orange-scarlet coloured variety with a white throat (award of merit).

Gladiolus Earl Cadogan (Kelway & Sons).—This is a large flowered rose coloured variety of great beauty (award of merit).

Gladiolus Mrs. Beecher (W. Bain).—This is very handsome, and has large crimson flowers with white markings on the lower portion of the flower (award of merit).

Lælia monophylla (W. H. White).—This is a small flowered *Lælia* with an orange coloured bloom (award of merit).

Lælio-Cattleya Elstead Gem (C. Ingram).—This bigeneric hybrid has sepals and petals of a yellowish buff colour and a lip of deep purple (award of merit).

Melon Middlesex Hero (G. Wythes).—This variety is of medium size but of very good flavour. The flesh is green, very firm, and juicy (award of merit).

Montbretia Soleil Couchant (W. Bain).—This is a large flowered floriferous variety with orange coloured blooms (award of merit).

Odontoglossum Harryana (C. J. Salter).—The sepals and petals of this Orchid are brown occasionally marked with yellow. The outer portion of the lip is white and the inner maroon with white veins. The throat is pure yellow (first-class certificate).

Odontoglossum Wattianum (F. Sander & Co.).—The ground colour of the sepals and petals of this Orchid is yellow, the brown spots and mottlings being very heavy. The lip has a white margin, pure in the front, splashed with purple towards the throat. There is a purple blotch in the middle of this organ. The illustration, fig. 22, page 149, depicts this handsome Orchid (first-class certificate).

Sorbus aucuparia fructu-luteo (G. Bunyard Sons).—The varietal name of this Mountain Ash conveys the colour of the fruit (award of merit).

Strawberry Rouge Ameliore (J. Hudson).—The fruits of this Alpine variety are large, and of good shape. The flavour is very good (award of merit).

Tigridia grandiflora aurea (R. Wallace & Co.).—This is a handsome variety, with yellowish flowers flushed with rose (award of merit).

Tigridia grandiflora immaculata (R. Wallace & Co.).—This is a pure white form of the type (award of merit).

Vanda cœrulea, Fowler's variety (J. Davis).—This is an exceptionally beautiful variety, with very richly coloured flowers (first-class certificate).



TAKING STOCK.

Now that the great Rose shows are over, and the queens of our gardens are resting on their laurels, is the time to take stock of their past achievements, note what varieties have done well, and are deserving of permanent places in the beds which are reserved for their exclusive use.

It must be upwards of twenty years since I first specially cultivated Roses, owing my first instructions in the art to the fascinating pages of Dean Hole's popular "Book about Roses" in 1872; and about this time, or rather later, I was much attracted by a series of letters in a local paper, chiefly on the Rose, from the able hand of one who is now on the staff of the *Journal of Horticulture*, and who has given us the benefit of an extensive experience in several directions in works whose value practically can scarcely be over-estimated. I select two, "Profitable Fruit Growing" (prize essay), and another "Garden Flowers and Plants," with fifty illustrations, by J. Wright, F.R.H.S. The letters on the Rose I carefully preserved, and I use them with pleasure and advantage yet. But I am wandering from my point.

Nearly five years ago we migrated from more northerly regions, leaving the favourites of years behind. I would not risk their lives by moving them, and besides, it is much better to start with strong new plants, which I did, counting now my Roses only in dozens in the very small and at first most unpromising garden which they occupy.

My Rose trees were planted in November, 1891. About three dozen sufficed to fill the four small beds I was able to allot to them, all H.P., and all of them varieties I had already grown and tested (of Teas I do not now speak), so that my town experience of nearly four years is I think a fair period from which to speak of their suitability or otherwise for town cultivation. I subjoin separately a complete list of those I have tried, but name here only those that successfully triumphed over adverse conditions of vicinity of trees, close air, and other drawbacks, smoke excepted. We are on high ground, with only one line of houses between us and the fields, so "blacks" seldom if ever trouble us.

Of light Roses, then, Boule de Neige (two), Souvenir de Malmaison (two), and Merveille de Lyon have done grandly, especially the last. Mrs. John Laing, Madame Gabriel Luizet, and Ulrich Brunner left nothing to be desired. Very fair, too, have been Captain Christy and Madame la Baronne de Rothschild. La France, Queen of Queens, and some others failed, and from Royal Standard no good bloom could be had. Fisher Holmes, Abel Carrière, La Rosière, and Dr. Hogg did well. A. K. Williams, Lord Dufferin, and Sultan of Zanzibar were uncertain, so was Charles Lefebvre; the white and light Roses did the best.

The soil, heavy and very full of clay, was diligently lightened and carefully manured with short stable litter, supplemented with a good chemical dressing occasionally. Such is the history of these H.P. dwarfs on the Manetti. I ought to add that they had ample soakings of water at the roots now and again, and syringings of quassia chips steeped in boiling water and applied cold repeatedly, it being difficult to keep aphides down. I hardly know whether it is *en regle* to notice books, but one more contribution to Rose literature I must mention—"The Book of the Rose," by the Rev. A. Foster-Melliar, M.A., which will be hailed by all cultivators of the Rose as at once most practical and exhaustive, a very treasury of experience and information.—A. M. B.

OLLA PODRIDA.

In giving this name to some short notices on various subjects connected with horticulture I do not at all mean to imply that the papers will partake of the savoury character of this favourite Spanish dish: the only resemblance to it is that it will be made up of small scraps of various ingredients. I had thought of heading it hotch-potch, but the idea that term conveys to most people's minds is that of a muddle, and that is the last thing I should wish them to be; but occasionally matters come under one's notice of which a brief account is all that is required—in fact, in these days of hurry-scurry the people are easily satisfied, and do not complain if the account is short; some of them, indeed, perhaps may, from one motive or another, prefer that they should be so—reminding me of the publican of this parish at whose house the Benefit Club used to be held. The Club used to attend church, and once when I had obtained the services of a friend to preach to them he came up to him when he was entering the church and said "he hoped he would not keep them long, as the boys wanted to get home," home being his public house. But without any reminder of this kind from either Editor or readers I intend that the notices should be brief.

CLEMATIS MONTANA.

I have often wondered why this rapidly growing plant is not more frequently used. I planted one some four or five years ago, and my difficulty now is to keep it within bounds. It is not, in the true sense of the word, a climber, because it has nothing by which to lay hold. I tried last year to let it hang down in long festoons without cutting it, but came to the conclusion that I preferred treating it as I had done the

year before—namely, nailing it close in. It very nearly covers now the front of my house, and when it is covered with its beautiful white flowers in May it is a most pleasing object, and being so easily grown I think it ought to be more in favour with those who wish to cover up houses and outbuildings. It has one drawback—the perfume is not very pleasant; in fact, to some disagreeable.

ZEPHYRANTHES CARINATA.

A few years ago my friend Mr. J. F. Strange of Aldermaster, near Reading, well known in Rose-growing circles, gave me a few blooms of this under the name of the Bombay Lily. It has nothing to do with Bombay, being, in fact, a native of N. America, but it is another curious instance of the wrong localisation of English names. Why, for instance, should *Vallota purpurea* be called a Scarboro' Lily, or *Nerine sarniensis* go by the name of the Guernsey Lily? This pertains to other things as well as flowers, poultry for example. You might search Spain through before you would find a Spanish fowl such as we know them, while Cochin never produced the birds called Cochin China. But to return to the Zephyranthes. My plants of it have been in flower for the last two or three months, and as they are continually sending up a succession of blooms, I expect they will remain a good while longer a thoroughly soft and pleasing delicate rosy white colour, reminding one somewhat of a fully expanded Crocus. The old species *candida* is well known in our gardens, but I have rarely, if ever, seen *carinata*. It increases rapidly, and requires very little care or attention.

SEEDLING CARNATIONS AND PICOTEEES.

That enthusiastic lover of these beautiful flowers, Mr. Martin R. Smith, is, I think, likely to revolutionise the culture of this long-established favourite. He has for the past two or three years been distributing to the members of the National Carnation and Picotee Society packets of his carefully hybridised seed, and this gratuitous act of kindness, while it has entailed upon him a vast amount of trouble, has, at the same time, given great pleasure to a number of lovers of their gardens. Two years ago I received a packet of his seed. There were 120 seeds, and every one of them produced a good sturdy and vigorous plant. They were planted out in a bed last autumn; they had to withstand the severe frost and long drought of this year; and yet they have produced an immense quantity of beautiful and fragrant blooms. All classes seem to be there represented, and in some instances it is difficult to class at all. There was a pure white, some pale yellow, some brilliant red, some deep edged Picotees, and some light edged; while selfs of various colours were to be found amongst them. Probably the class that is most deficient is that of Carnations, and the old bizarre and flaked varieties. I, as an old florist, should be very sorry to see this long-cherished favourite put on one side, but I rather think this will be the result of Mr. Smith's zealous labours and liberality; what those labours are may be inferred from the fact that he will this year give to the members of the National Carnation and Picotee Society about 250 packets of seed. The floriferous character of these seedlings is another point worth noticing, the flower stems being so numerous that it is difficult to get layers of them.

RIPENED WOOD.

If there be one point more than another that is put forward by those who advocate fruit growing, it is the absolute necessity of having a dry autumn for the ripening of the wood which is to produce fruit next year. But how stands the case now? We had an exceptionally wet autumn in 1894, and growers looked with some degree of dismay upon their trees so full of sappy growth, which we were also told would suffer tremendously if we had a severe winter. Well, we did have, as everybody knows, a very severe winter; when our Apple trees came through it they were a perfect picture of beauty, so full were they of blossom. Yes, we were told then, "It may be so, but you will see that the young fruit will drop, and there will not be vigour enough in the trees to swell them." We had succeeding to our hard winter a long period of drought; this it was thought would conduce to the diminution of the crop, but it has not turned out so. I never saw, in this neighbourhood at any rate, a more abundant crop of large and sound fruit. Pears one did not expect after such an enormous crop as that of last year, and consequently there is only a sprinkling of these; and I should very much like to know how this contradiction of universally received theories is to be explained? Of course I shall be told I am a duffer, or else I should not ask such questions. I suppose I must submit to the accusation, but none the less I should like to know what the explanation is.

JUDGING AT THE CRYSTAL PALACE ROSE SHOW.

It might be as well sometimes before complaining on such matters to inquire what are the real facts of the case; thus a writer in a contemporary falls foul of the Judges, not the judging. He says that they were late in beginning their work, and that there were too many of them. As a matter of fact they were not more than ten minutes or a quarter of an hour late, and considering that the greater portion of them were exhibitors I do not think there can be much blame attached to them; and, moreover, it is a most difficult thing in a large open space like the Crystal Palace to collect people, and when it is considered that more than sixty classes, containing some 5000 to 6000 flowers, have to be adjudicated upon in a short space of three-quarters of an hour, it is impossible that this could be done unless there was a numerous staff of Judges, to whom the N.R.S. is deeply indebted for giving their services so cheerfully as they do. Why not give them more time? it may be said. Just simply for this reason, that the N.R.S. does not, and cannot,

run alone, and consequently has to conform to the wishes of the Crystal Palace authorities; and they having with much inconvenience to the frequenters of the Palace given an hour to a private view to its members, it is incumbent on the Society to do its very best to make matters run smoothly in this respect.—D., Deal.

MIGNONETTE FOR SPRING.

THE present month is the best season for making a sowing of Mignonette in pots for spring flowering. It is well known by most persons who have attempted to grow this modest but sweet-scented plant that it is very impatient of being transplanted, and therefore it is advisable to sow at once in the pots in which it is intended to bloom the plants.

The most convenient sizes are 4½, 5, and 6-inch pots. These should be thoroughly clean inside and out. When dry place in crocks for drainage, first fixing a fair sized piece nearly covering the bottom, with the concave side downwards. Over this put some smaller, and make level with others of still less dimensions to fill up the interstices. Cover this with a substantial layer of partly decayed turf or flaky cow manure, pressing it down firm and level. The drainage is thus complete, and as much depends on this portion of the cultural details, the time spent in carrying it out well is not thrown away. A slight sprinkling of soot may also be added before filling in the soil, as it prevents the ascent of worms into the compost during the autumn while the pots stand in cold frames.

The compost must be rich, so that it will carry the plants through every stage of growth successfully, without becoming sour and unsuitable if otherwise properly managed. I have found the following to give good results—two parts loam partly decayed and turfy, half a part each of manure and sweet leaf soil, a little wood ashes and soot, with a good handful of pounded lime rubbish, one-fifth of sand, and a handful of Standen's manure to each peck of soil. The compost thus prepared should not be too moist; but it must by no means be dry, for this reason, that considerable compression is necessary in order that as much rooting material as possible may be packed in a small space. Firmness of the soil insures a stocky growth.

I have found that the simplest way of filling the pots with the required quantity of compost consists in heaping the soil well above the rim; then with a few jars of the bottom edge of the pot on the potting bench the soil is shaken down level with the rim. This is not sufficient, as the compost must be rammed down as hard as possible with a blunt stick. Make it quite level, it then being ready for sowing the seed.

Sow liberally, but not thickly. Undue crowding must be avoided in the first instance because it causes weakly growth; but it is advisable to have a surplus of seedlings in order to select a convenient number distributed over the surface in an even manner when the final thinning is completed. Cover the seeds lightly with fine soil, just hiding them from light being sufficient, and press the soil level with the smooth bottom of a small pot. The best position for the pots after sowing the seed is a cool frame, standing them on a moist base of ashes. Cover the surface with paper, and shade the whole from the sun until the plants appear. Light sprinklings of water may be applied whenever the surface soil dries, but avoid saturation.

Directly the seedlings make an appearance air ought to be gradually admitted. Coddling the seedlings causes them to lengthen and weaken rapidly. Once they exhibit this tendency it is difficult to correct, as their long-jointed appearance militates against a sturdy, upright development and the plants need support sooner than they should.

Thinning out the seedlings must be performed at intervals, leaving each time the small plants clear of each other. Thus no risk is run of making gaps which may be difficult to fill, and the seedlings seem to grow all the better when not too far apart at first. So long as the thinning is done in time the plants will not suffer. Air given judiciously strengthens them, and while the stems remain sturdy at the base there is little fear of a weak growth beginning. On many occasions full exposure to air will have a beneficial effect. It is better to have sturdy, small, almost dwarfed plants, than tall elongated pots of seedlings. The latter will continue a weak growth, but the former with light, air, and cool treatment move slowly but surely. The pots ought never to be saturated with rain, and to this end keep the lights over them in doubtful weather. Allow refreshing dews to reach the plants whenever possible.

When the weather in the autumn becomes damp and cold transfer the pots to a shelf in the greenhouse close to the glass, where they will maintain their sturdy character. After the turn of the year a gradual development will take place, and the plants must be staked. Lateral shoots may be allowed to extend and each will flower, but the centre stem gives the finest spike. With judicious watering and feeding the plants continue to bloom for two or three months, commencing early in March. All the seed pods should be removed before they exhaust the plants. As the roots at this time are numerous and active the plants must not suffer for even a short time for want of water. Sutton's Pot Mignonette is the best I have grown in the manner indicated in these notes. Miles' Spiral and Machet are also good pot varieties.

Clay's Fertiliser sprinkled on the surface of the soil in the pots when the plants commence to flower, at the rate of a teaspoonful to a 5-inch pot and watered in, affords nutriment which the plants appreciate. Once a week is sufficient; weak soot water may also be given.—E. D. S.

GENISTA CAPITATA.

THIS is an attractive hardy little plant of shrubby habit that flowers early in the season, and concerning its usefulness there can be no question. A variety of *Genista umbellata* has been named *capitata*, distinguished from the species by the silky hair clothing the branches



FIG. 24.—GENISTA CAPITATA.

and leaves, and said to be a native of Mogador. The leaves are trifoliate, the bright yellow flower in compact terminal heads (see fig. 24), and are produced freely. The species is a native of Barbary, being found on dry hills. A *Genista* quite distinct from the above has appeared in gardens under the name of *G. umbellata*, which has been assigned a place among the varieties of *G. lusitanica*, a spiny shrub, native of Portugal.

RAISING AND PREPARING VINES FOR PLANTING.

THE discussion which has been going on in the pages of the Journal on the condition of young Vines for planting cannot but prove profitable in more senses than one. Interesting it certainly has been. As an "on-looker" it has brought to my mind events which have occurred, and which have brought both successes and failures in the method of planting such an apparently simple plant as the Vine. The Vines, as described by "Grower" (page 78) and further referred to by Mr. John Thomson (page 111), are certainly the ones to secure, as then we are sure of success, all other details being equal.

I will give a case in point. It is now eight years since I had occasion to plant several young Vines. They were such as described by "Grower," and planted similarly—i.e., the pots being crammed with hard wire-like roots, which were disentangled at the time of planting. At the end of the first season these Vines were favourably noticed in the Journal, and the following year were allowed to carry several bunches of good Grapes.

A few years afterwards I had occasion to plant another set, and which had to be purchased. On turning them out of their pots the roots were in anything but a satisfactory condition, the greater portion also having decayed on account of their previous soft and ill-ripened state. However, what roots there were were disentangled and laid out, and treated similarly in every respect to the previous ones, which had

done so well. The growth made was puny and not nearly as good as young Vines ought to have been at the end of the first season; in fact, the end of the third season these Vines were only the size of the first set at the end of the first season. This was a lesson to me not to follow this practice again, as it would have been much wiser to have thrown them away and secured a more satisfactory set of plants. Time would certainly have been gained, which in these go-ahead times counts for much.

Vines that are well rooted, these also being hard and wire-like, will, on being spread out, throw out thousands of small rootlets, which supply the plants with the elements needed for a satisfactory growth. What is the result of the others, or badly ripened set? Why, they wait until a few quill-like roots push from the collar, and which are not the kind needed to build up short-jointed and well matured growth.

It is quite evident that in some trade establishments which make it a speciality to prepare young Vines for sale that ordinary care is not taken. They should remember that with many a young man entering on his first responsible charge and planting young Vines, how these succeed will make or mar a reputation. They also may have their own reputation at stake as successful and reliable traders. The fact is, many are grown huddled together, the consequence being that they are not carefully watered or either receive sufficient direct light. The puny foliage, by being deprived of that life-giving element, are unable to elaborate the sap, and which must take place if the young Vines are to be provided with an abundance of roots—such, for instance, as shown lately by the illustration (page 43) of a young Vine as grown by Mr. D. Thomson. I do not think it is so much bottom heat that is the cause of such unsatisfactory Vines, as this is not provided to such an extent as gardeners often suppose, but the causes above stated. In my younger days I have had the growing of thousands of young Vines for sale; but these were always grown rationally, not more than two rows, and these angled, along each side of a span-roofed structure.

I think the majority of successful growers will agree that it is more a matter of management than anyone's "special manure" that will lead to young Vines reaching in the earliest possible manner either of months or years, to an early fruiting stage. We all know that the elements needed for this successful growth must be present in the soil, and any supposed to be deficient must have it applied in either the form of special manures or separately to meet local requirements.

Whether young Vines will succeed well in either artificially made borders, so often termed "costly" borders, or in the natural staple of the garden, entirely depends on the local state of the soil in the matter of drainage, its mechanical condition, and fertility. It is quite evident that there are thousands of Vines in Britain languishing in prepared borders, whilst they would be far more happy rambling in the open garden. Not that the prepared border may have been wrong in the first place, but the state it has been afterwards brought to by mismanagement, either by too much water or the lack of it, poisoned by unnatural manures, or the want of special elements needed for the Vines' successful growth, or heavy mulchings of rank manure applied at unseasonable times; in fact, one might go on repeating errors of culture.

On the other hand, where Vines succeed so well in the natural soil, most likely the whole place is one huge border; as the roots travel they cannot help but pick up food for their sustenance. This is especially so in the vicinity of the sea. Market growers can select places to suit them, whilst gardeners have to take it as it comes, and are in the position of the Israelites of old, often "expected to make bricks without straw." No wonder then they prepare borders.—A. YOUNG.

I HAVE been greatly interested in the articles which have appeared in the *Journal of Horticulture* during the last few weeks on this subject. If the discussion under the title of "Express Grape Growing" had served no better a purpose than that of the reproduction of Mr. David Thomson's letter, page 43—it has served a good end. Such a letter, coming from the pen of so gifted and experienced a gardener, ought not to be allowed to pass unnoticed. Mr. Thomson is not the man to sit on the style and disparage the work of others, who have had the courage to venture out of the beaten track, and whose labours have been crowned with success. He writes from practical experience, and has tried and proved both the old and newer methods of preparing Vines for planting.

This is a subject of considerable importance to all interested in the cultivation of the Vine, and I think one that might have been discussed with unbiassed minds, to the advantage of all concerned. Even if we differ in our views and methods of procedure, we ought at least to treat our opponents with courtesy, and give credit to whom credit is due. No amount of argument or incredulity can possibly upset accomplished and established facts.

Let us again see what Mr. D. Thomson says on this subject. "Having very recently superintended the planting of some Vines prepared by two different methods, I am led to send you (the *Journal of Horticulture*) a few words on this subject. Probably there is not a system or method in the whole round of horticultural practice so obstinately stereotyped as that of preparing young Vines for planting as practised by the trade and the majority of private growers, nor is there anything in which there is more room for a change that would be advantageous in all respects. As long as I can remember, and probably before that time, the practice has been to shift Vines intended for 'planters' into 10-inch pots, and sometimes into larger sizes, growing and trying to ripen them to the length of 7 feet or more than that.

Such pots are much larger than necessary to produce the best possible description of planting Vines."

Again, Mr. Thomson states, "Am I wrong in saying that all this is irrational practice and not in keeping with this age of advanced horticulture? The method that my own experience and observation lead me to recommend as a departure from this stereotyped one is not to shift the plants into pots larger than 6, or at the very utmost 7-inch sizes." Again, Mr. Thomson says, "After they have established themselves in the pots feed them at the surface with some approved manure, now so easily obtainable. These conditions, in conjunction with efficiently drained pots, will not be productive of long and strong fibreless roots, but, instead, a pot full of roots of a very different sort;" and again he goes on to say, "I am not more thoroughly persuaded of anything after a lengthened experience than that such Vines as I am recommending are much superior for planting to those reared in the old fashion. In recommending this departure from the old stereotyped practice of preparing Vines in large pots with rich soil and useless lengths of growth for planting, I am doing so because I am thoroughly convinced of its being more convenient, less laborious, and productive of far finer Vines for the purpose they are intended."

"I send you with this (letter) a sample of a Vine washed out of a 6-inch pot, and leave you to judge of the correctness of what I am recommending from the sample which, as compared to a number of Vines I saw turned out of 11-inch pots last week, has six times as many rootlets. There is no greater mistake nor delusion than the big pot and long root system for planting Vines. What we should seek for are a multitude of roots and concentrated growth."

This is a sweeping condemnation of the system so highly approved of by Mr. John Thomson in his letter on page 111. I apologise if such is necessary for again reproducing so much of Mr. D. Thomson's letter, but it is too important a document to pass by in silence.—WM. INNES, Derby.

HORTICULTURAL SHOWS.

LEICESTER.—JULY 6TH.

THE tenth annual show was held at the Abbey Park on the above date. The weather was very showery, but the people flocked in thousands to this beautiful resort, for nowhere in Great Britain is there a more beautiful and better kept park than this one. The Park was opened thirteen years ago by the Prince and Princess of Wales, and it is gratifying to see what progress the trees planted by Royalty have made. Mr. John Besons, the Superintendent, is to be congratulated on the many practical improvements that have been made. The bedding is grand this season, and gives the public a rare treat in the various styles.

The show under his management is growing into one of the largest in Great Britain, six enormous tents being now required for the exhibits, and to him and his able assistants great credit is due for the admirable arrangements. Plants, cut flowers, fruits, and vegetables were well shown, the latter particularly so. The various exhibits by the cottagers and amateurs reflect the highest credit upon those who took part in the exhibits.

A tent devoted to groups is one of the great features. There were seven entries arranged down the centre of one of the tents, and presented a very imposing sight. Mr. C. J. Mee secured the highest position, Messrs. H. Rogers and H. Blakeney following as named. Stove and greenhouse plants, Ferns, and others are better shown every year. Amongst the most successful competitors were Messrs. W. S. Bolton, J. Wright, H. Rogers, C. J. Mee, W. Whit, and G. Brown. Cut flowers are always well shown, especially Roses and hardy herbaceous. Pinks, Picotees, and bouquets we have seen better, but the epergnes and baskets of cut flowers were about as usual—well done. In the class for a collection of eight dishes of fruit good examples were exhibited, the competition being keen, the principal prizes being well contested for by Messrs. J. H. Goodacre, W. Messenger, and J. Read. Vegetables were also staged in splendid form, and the competition was very keen, Messrs. J. Read, Scotchbrook, Bradshaw, H. Rogers, Faulkner, J. Green, Macvinish, and A. Martin were noticed as being prizetakers.

Amateurs and cottagers showed most creditably. Amongst the miscellaneous exhibitors noticed were Mr. T. S. Ware of Tottenham with a grand group of double and single Begonias; Messrs. John Peed and Son, a beautiful collection of Caladiums, which were greatly admired; Mr. B. R. Davis, Yeovil, Begonia flowers; and Mr. John Forbes, Hawick, cut flowers.

We are informed that nearly 20,000 people braved the risk of a drenching and paid for admission, being about 8000 less than last year. This Society under such able management is sure to be appreciated by exhibitors and the public, and we wish it the success it so richly deserves. Everything passed off most satisfactorily, which speaks volumes to the management of this gigantic and popular fête.

ACOCK'S GREEN.—AUGUST 7TH.

THE fifth annual exhibition of the Acock's Green, Olton, and District Horticultural Society was held at Acock's Green under favourable climatic conditions, and was, as usual, attended by a large contingent of visitors from Birmingham. The advance of years has brought a growing popularity for the show, which has increased both as regards the quantity and quality of the exhibits, and this year the Society may congratulate itself on a continuation of the improvement. The enter-

prise of the Committee in offering increased valuable prizes was more than repaid by the increased number of exhibitors and of exhibits, which totalled about 250 more than in the previous year. The quality, too, showed an improvement generally in every class, excepting, however, in the specimen and of stove and greenhouse plants, which were comparatively small in size and in numbers, a circumstance chiefly owing to the fact that the class was comparatively small—only six plants required to form a collection—and the prizes correspondingly low.

The class for a "group of plants arranged for effect," space not to exceed 18 feet by 9 feet, half-circle shape, brought forth considerable competition. The first prize was awarded to Mr. A. Cryer, gardener to J. A. Kenrick, Esq., Edgbaston, for an attractive display, in which *Ixoras*, *Francoas*, *Dracenas*, and Japanese *Liliums* in variety were particularly noticeable. A certain monotony, however, in the arrangement of the taller plants tended somewhat to mar the effect of the whole. The second honours fell to Mr. Macdonald, gardener to G. H. Kenrick, Esq., also of Edgbaston, for a most striking arrangement, and but a comparative weakness at the back of the group, also a lack of brilliant plants in flower, the decision of the Judges probably would have been reversed.

For six exotic Ferns Mr. Scarf and Mr. Macdonald were respectively first and second with very nearly equally fine specimens of *Cibotium spectabile*, *Gymnogramma chrysophylla*, *Nephrolepis davallioides*, *Alsophila Mooreana*, and a healthy *Adiantum cuneatum*. The second collection contained a fine plant of *Davallia polyantha*, *Cibotium spectabile*, *Dicksonia antarctica*, and very fine plants of *Davallia fijiensis*, *Nephrolepis davallioides*, and a neat and healthy *Lomaria gibba*. For three Palms, Mr. Macdonald was an easy first with grand specimens of *Kentia Fosteriana*, *K. Belmoreana*, and *Phoenix rupicola*. Mr. G. E. Wright, with almost equally fine plants of *Kentia Fosteriana*, *Kentia Belmoreana*, was second, Mr. A. Cryer securing third prize with much smaller plants. Tuberous *Begonias*, which are always a notable feature at the Society's shows, made a grand display in pots. For single varieties of six, Mr. J. T. Grice was awarded first with fine specimens, also a like award for equally fine plants of double flowered varieties. Mr. A. Cryer second with very good specimens, all well bloomed.

Dahlias were well represented, especially the Cactus varieties, the first prize being awarded to Messrs. Perkins & Son, Coventry, with a choice assortment of the newer varieties, their seedling, named *Masterpiece*, with its perfect shaped rich dark crimson purple petals, being especially attractive. Messrs. Kimberley & Son, Coventry, proved a close second with a rich display. In the case of double *Dahlias* their positions were reversed. A certificate of merit was bestowed on Messrs. Pope & Son for a new Pompon named *Miss Ida Pope*, a bright rich scarlet, with well defined twisted petals. For twenty-four *Roses* Messrs. Perkins & Son obtained the first prize with clean and well coloured blooms; Messrs. Kimberley & Son and Mr. W. F. Gunn followed with fair exhibits.

The prizes for *Carnations* and *Picotees* were claimed by Mr. W. F. Gunn and Mr. R. Ryland. Hybrid bouquets were not a very strong feature in point of numbers. Messrs. W. F. Gunn, George Newell, and Kimberley & Son were the respective winners. Hardy herbaceous flowers were exceedingly well staged by Messrs. W. B. Child, Thos. Freeman, and W. F. Gunn, the prizes being awarded in their respective order.

For six dishes of fruit the first prize was awarded to Mr. G. Walker with very good Grapes and Peaches, second Messrs. Kimberley & Son, and third Mr. G. E. Wright. For two bunches of black Grapes Mr. E. Perks was awarded the first prize with fairly good fruit; and Mr. Cryer secured first prize for two bunches of Muscats, not fully ripe; and Mr. G. E. Wright the second prize. Special prizes were awarded to Messrs. J. Smith, A. Cryer, and Mr. Macdonald for collections of vegetables. A certificate of merit and a bronze medal were awarded to Messrs. Thomson & Sons, Birmingham for a collection of plants; to Messrs. Pope & Sons, King's Norton, a certificate and the Society's silver medal for a most elegant device and a "shower" bouquet of Cactus *Dahlias*. Similar honours were also awarded to Mr. W. F. Gunn, Olton, for hardy herbaceous flowers. To Messrs. Kimberley & Sons and Messrs. Hewitt & Co., Solihull, for large collections. Mr. W. B. Child, Acock's Green, obtained a certificate of merit and the Society's silver medal for a fine collection of hardy herbaceous flowers, while a certificate of merit was awarded to Mr. G. Andrews and to Mr. Mosley for floral designs, and a certificate and special prize to Mr. J. T. Grice, Olton.

The show altogether proved to be a great success, and reflected much credit upon the management of the executive Committee, and the energetic Honorary Secretaries, Messrs. A. Sydenham and H. Kinder.

TAUNTON.—AUGUST 9TH.

FOR the first time during the past quarter of a century the Taunton Committee had to face the possibility of a deficit owing to unfavourable weather. Luckily the rain held off till late in the afternoon, and by that time the usual large attendance of visitors had passed into Vivary Park, where the shows are held. At few other places are so many people attracted to a horticultural exhibition and hear good music only; but then the Society enjoys the well-earned reputation of being sufficiently liberal and enterprising to keep pace with the times. W. H. Fowler, Esq., Mayor of Taunton, is a well-known enthusiast on flower culture, and takes an active interest in the proceedings of the Society, and the Honorary Secretaries, Messrs. Hammett and Taylor, are very capable, as well as courteous to all who have occasion to transact business with them.

As usual Mr. J. Cypher, Cheltenham, was well to the front with stove and greenhouse plants, his collection comprising grand specimens of *Erica Austiniana*, *E. Thompsoni*, *E. obovata purpurea*, *Bougainvillea Sanderiana*, *Statice profusa*, *Allamanda grandiflora*, and *Stephanotis floribunda*. Mr. W. Rowland, gardener to W. Brock, Esq., Exeter, took the second prize, his best being *Bougainvillea glabra* and *Lapageria rosea*. Mr. Finch, gardener to J. Marriott, Esq., Coventry, was third. With six flowering plants Mr. Cypher was again first, Mr. Rowland taking the second prize, and Mr. W. Peel, gardener to Miss Todd, the third. There was also good competition in the class for eight fine-foliaged plants. Mr. J. Cypher was first, Mr. W. Rowland second, and Mr. W. Peel third. Only two competed in the open class for groups of miscellaneous plants occupying a space of 100 square feet, and both were highly creditable exhibits. Mr. Rowland's first prize arrangements had a groundwork of Maidenhair Fern, water being also introduced with good effect; a wealth of *Humea elegans*, Bamboos, elegant *Crotons*, *Campanulas*, *Liliums*, and Grasses tastefully grouped giving the whole a very attractive appearance. Mr. W. Peel was a good second.

Tuberous *Begonias* were shown splendidly by local growers, such a fine collection of grandly flowered double and single varieties never before being seen in the West of England. Mr. W. Thomas, gardener to Wilfred Marshall, Esq., was first; Mr. W. Bond, gardener to P. V. A. Reid, Esq., second; and Mr. G. Hawkins, gardener to W. H. Fowler, Esq., third. With Zonal *Pelargoniums* Mr. H. Mockridge was first, and Mr. H. Godding second; while the principal prizewinners with *Fuchsias* in the various classes provided for them were Messrs. H. Godding, S. Tottle, and W. Peel. Mr. W. Rowland was first in the open class for exotic Ferns, and Mr. Peel occupied a similar position in the class confined to amateurs. A fine plant of *Adiantum fragrantissimum* gained Mr. T. Essex, gardener to C. E. J. Esdaile, Esq., the first prize for a single specimen. In the amateurs' tent the local growers named again showed *Begonias*, *Fuchsias*, *Pelargoniums*, *Achimenes*, *Cockscombs*, *Petunias*, and such like remarkably well. Mr. Rowland had the best collection of stove and greenhouse plants. Mr. H. Godding, Mr. W. Peel, Mr. T. Essex, and others also distinguishing themselves in that department.

The first prize for a small group went to Mr. W. Rowland, Mr. T. Essex following closely with an arrangement in which well flowered *Clerodendron fallax*, *Bougainvilleas*, and *Gloxinias*, with brightly coloured, elegant *Crotons* and neat *Caladiums* figured largely. Only a comparatively few *Orchids* were shown. In the open class Mr. J. Cypher was first with *Cattleya Gaskelliana*, *Oncidium macrauthum*, *Cypripedium grande*, and *Calanthe veratrifolia* in excellent condition. Mr. A. H. Murrell, gardener to D. H. Milton, Esq., Clifton, was second. Mr. W. Thomas was first in the amateurs' class.

Cut flowers are always a great feature at these shows, and in this instance they were as numerous and good as ever. With thirty-six varieties of *Roses* Messrs. Harkness & Sons, Bedale, were easily first, their stands comprising grand blooms of Alfred Colomb, Mrs. J. Laing, A. K. Williams, Comte de Raimbaud, Duke of Edinburgh, Barthelemy Joubert, Comtesse de Nadaillac, Gustave Piganeau, Marie Baumann, Dr. Andry, Etienne Levet, Earl of Dufferin, Marie Rady, Duke of Wellington, and Mons. E. Y. Teas. Messrs. Townsend & Son, Worcester, were placed second, and Messrs. Keynes, Williams & Co., Salisbury, third. Similar positions were held by these competitors in the other open classes for *Roses*, the exhibits being very praiseworthy in each instance. Messrs. Harkness & Sons were also first for twelve *Dahlias*, Messrs. Keynes, Williams & Co. following with smaller but more perfect blooms; the third prize going to Messrs. Townsend & Son. For Fancy *Dahlias* Messrs. Keynes, Williams & Co. were first; Mr. G. Humphries, Chippenham, a good second, and Mr. W. Smith, Kingswood, third. Mr. A. A. Waters, Bath, was first for single *Dahlias*, and Messrs. Townsend and Son for decorative and Cactus varieties; the second prize in this instance going to Mr. R. West, gardener to Captain Wigram, Salisbury. Poms were well shown by Messrs. Keynes, Williams & Co., Mr. G. Humphries, and Mr. J. Arding, gardener to W. Fligg, Esq., Bishops Lydiard, who took the prizes in the order named.

Asters were largely shown, and with these Messrs. W. J. Jones, Bath; C. H. Vickery, Bath; A. A. Walters, and Townsend & Son were the principal prizewinners. There was a fine display of *Gladioli*, and with twenty-four varieties of these Mr. F. H. Fox, Wellington, was first, and Mr. G. Hawkins second. Messrs. T. Hobbs, Bristol, and W. Smith, Kingswood, were most successful with *Hollyhocks*; and fine collections of *Carnations* were shown by Captain O. Von Keitzing, Mr. W. J. Godfrey, Exmouth, and Mr. W. Smith. With *Begonias* Mr. J. B. Blackmore, Bath, was most successful; Mr. E. Price, Wellington, and Mr. Reid also taking prizes. Choice cut flowers were very beautiful, as also were the collections of herbaceous flowers. With the former Mr. W. Marshall was first, and Mr. Shelton, gardener to W. K. Wait, Esq., Clifton, second; while the prizewinners with the latter were Messrs. Harkness & Sons and Mr. A. A. Walters, Bath.

Amateurs also made a fine display in the division set apart for them. For twenty-four and twelve blooms of *Roses* Mr. T. Hobbs was first and Dr. Budd, Bath, second, the first prize for twelve Teas going to Mr. A. Hill Gray, Bath, who had fine blooms of *Maréchal Niel*, *Madame Bravy*, *Innocente Pirola*, *Madame Charles*, *Francisca Kruger*, *Catherine Mermet*, *The Bride*, and *Marie Van Houtte*. Mr. Hawkins was second. Mr. W. H. Fowler's *Gladioli* were in this instance preferred to those shown by Mr. F. H. Fox, and Captain Von Keitzing scored once again with *Carnations*, the second prize going to Mr. T. Every, Bath. The last named had the best German Asters, Mr. J. Lloyd following closely.

With French varieties the Rev. D. J. Pring was first and Mr. Every second. Other successful exhibitors of cut flowers in various other classes were Messrs. W. Thomas, W. Fligg, S. Tottle, W. Smith, T. Turner, H. Mockridge, V. Hickley, and Mrs. Macalister. The last named had a first for a very pretty dinner-table arrangement, and Mr. J. Cuff, Taunton, was most successful with hand bouquets and sprays.

One large tent was wholly devoted to fruit and vegetables shown by professional gardeners, and although there was a slight falling off in the number of entries, the reputation for general excellence was well maintained. Only three competed with a collection of eight varieties of fruit, and the Judges were not long in deciding that Mr. J. Lloyd, gardener to Vincent Stuckey, Esq., Hill House, Langport, should have the first prize, the second prize going to Mr. H. W. Ward, gardener to Earl Radnor, Longford Castle, Salisbury, and the third to Mr. Crossman, gardener to J. Brutton, Esq., Yeovil. Mr. Lloyd's collection consisted of Madresfield Court and Muscat of Alexandria Grapes, the former a little deficient in colour and the latter good; a good seedling Melon, and excellent dishes of Bellegarde Peach, Pine Apple Nectarine, Moorpark Apricot, Jargonelle Pear, and Bigarreau Reverchon Cherry. Mr. Ward also showed very creditably, his best dishes being Madresfield Court Grape, Hero of Lockinge Melon, and Brunswick Fig.

With four dishes there were six competitors. Mr. Crossman was well first with good Black Hamburg Grapes, a very fine Windsor Castle Melon, Dymond Peach, and Pineapple Nectarine. The second prize went to Mr. Lloyd, and the third to Mr. Ward. The last-named had a first for Pine Apples, and was first for three good bunches of Muscat of Alexandria Grape, the second prize in this instance going to Mr. J. Lloyd, and the third to Mr. Crossman. With any other white variety, Mr. J. Webber, gardener to G. F. Luttrell, Esq., was first with well grown Buckland Sweetwater, Mr. Crossman following with the same variety, the third prize going to Mr. J. Attwell, gardener to J. B. Blain, Esq., Clifton. The Black Hamburg class was the best filled, and some really good exhibits failed to take a place. Mr. Crossman was first for perfectly finished clusters, Mr. J. Attwell taking second place, and Mr. J. Webber the third. In the any other black class, Mr. Ward led with large well finished bunches of Madresfield Court, followed by Mr. W. Eaves, gardener to E. C. Trevelyan, Esq., and Mr. J. Lloyd, who also staged Madresfield Court. Melons were fine in appearance, but not remarkably good otherwise. Mr. Lloyd was first with a seedling, Mr. Ward second, and Mr. J. Stuckey, gardener to W. R. J. Poole, Esq., third.

A handsome dish of Dymond gained Mr. Crossman a first prize in the class for one dish of Peaches; Mr. A. Kentish, gardener to Major A. Wise, taking the second prize. Mr. Crossman was again first in the Nectarine class, showing well coloured Pineapple; Mr. W. H. Bruford, gardener to the Right Hon. S. Ponsonby Fane, following with pretty fruit of Lord Napier. The Moorpark Apricots, which gained the first prize for Mr. J. Griffin, were very fine; and Mr. R. Huxtable also showed good fruit of this variety. Plums were not very numerous. Mr. Besley had a first with well ripened Green Gages, and Mr. Crossman for perfect house-grown fruit of Kirke's. Other successful exhibitors of hardy fruit were Messrs. Ward, W. Eaves, G. Penny, H. R. Carver, Fewtrell (gardener to C. C. Tudway, Esq.), and W. E. Cousins.

Vegetables were very fine, these giving but little evidence of the drought earlier in the summer. Mr. T. Wilkins, gardener to Lady Ivor Guest, Blandford, proved invincible. He was first for eight varieties, the second prize going to Mr. T. Harrison, gardener to Major Aldworth; and the third to Mr. Webber; several other good collections also being shown. Mr. Wilkins took the first of the prizes offered by Sutton and Sons for a collection of vegetables, and Mr. T. Harrison the second; and the first named also succeeded in winning the first of the prizes offered respectively by Messrs. Webb & Sons, and by Jarman & Co., Chard, for collections of vegetables. Cottagers made a grand display of flowers, fruit, and vegetables.

Fewer non-competitive exhibits than usual were on view. Messrs. R. Veitch & Son, Exeter, arranged a group of fine-foliaged plants, flowering Cannas, Lilliums, alpine plants, cut flowering shrubs, Carnations, Dahlias, and a display of a good strain of *Nemesia strumosa*. There were also very good samples of Veitch's Climbing Beans. Messrs. Jarman & Co., Chard, occupied one end of a tent with a good bank of Palms, stove plants in variety, Lilliums, and cut flowers in great variety. Mr. W. J. Godfrey, Exmouth, staged a grand collection of cut Carnations, noteworthy among which were Miss Mary Godfrey, a lovely white variety; Reginald Godfrey, salmon-pink; and Duchess of Fife. He also had a fine display of Sweet Peas in bunches, the best of which were Ovid, Meteor, Countess of Radnor, and Lord Beaconsfield.

TRADE CATALOGUES RECEIVED.

- F. Cooper, 30, Manners Street, Wellington.—*General Catalogue*.
 Dickson, Brown & Tait, Corporation Street, Manchester.—*Flowering Bulbs*.
 E. P. Dixon & Sons, Hull.—*Choice Bulb List*.
 W. Fromow & Sons, Chiswick.—*Bulb Catalogue*.
 E. H. Krelage & Son, Haarlem, Holland.—*Bulb List*.
 W. Paul & Son, Waltham Cross.—*Catalogue of Bulbs and Winter Flowers*.
 J. R. Pearson & Sons, Chilwell, Notts.—*Bulb Catalogue*.
 R. Neal, Trinity Road, Wandsworth Common.—*Cape and Dutch Bulbs*.
 Vilmorin, Andrieux & Cie., 4, Quai de la Megisserie, Paris.—*Flower Roots*.



HARDY FRUIT GARDEN.

Summer Pruning and Thinning.—Pyramid, bush, cordon, and espalier trees may yet be summer pruned where this has not been carried out previously, shortening back the current year's shoots to the fourth leaf. Weak, crowded, or ill-placed shoots are better cut out entirely, because if only shortened they may further choke the trees with weakly spray, which never become fruitful. The removal of these acts beneficially in admitting light to the remaining shoots and spurs, strengthening and developing fruit buds.

Branch Thinning.—Fruitless wall trees will invariably be found to have the branches too thickly placed, which prevents the proper maturation of the growths, consequently in time destroying the balance of power between root and branch. This is followed by too vigorous wood production. The branches need more room when the spurs are also closely placed and are long, because if so the latter on walls shade those below them to an undue extent. These, however, should in due time be regulated and shortened also. The branches of espaliers ought always to be a foot apart, a similar distance being afforded the branches of pyramids and bushes. Where there are no crops hanging on the trees this is a good season to remove branches that can be dispensed with, and to regulate the growth in fan-trained trees, so as to fully expose all the wood retained.

Attend also to standard trees, regulating the branches so as to prevent the trees having an unshapely crowded appearance if possible. Those crossing one another and growing in wrong directions might be advantageously cut out, dead wood also, and weakly spray being cleanly removed. Light and air penetrating the interior of all trees better insures the ripening of the wood, thus producing fruitfulness, rather than rank luxuriant growth.

Thinning Gooseberry Bushes.—Gooseberries, as a rule, make abundance of new wood in one season, and where the branches are not managed on the summer pruning or pinching principle, but allowed a free style of growth, great advantage accrues from a general reduction of wood which crowds the bush. The lower parts of trees must be freely thinned, shoots laying on or descending to the ground obstructing circulation of air and light, which ripen the growths. The removal of these also renders it easier to cultivate and clean the ground immediately around and under the bushes.

Black Currant Pruning.—The chief pruning of these may be carried out in the summer, as the thinning out of old bearing wood and the disposal of new growths constitute the most important details of management.

Training Young Fruit Trees on Walls.—Due attention ought to be given to laying in young branches at the proper distances apart, continuing to secure them in the desired direction as they advance. The wood soon becomes firm at this season, and may assume undesirable curvatures if neglected, making it difficult to train in. Avoid disposing the main branches thickly, or room cannot be found for secondary growths and young shoots. The strongest shoots are best laid in early, especially if they have any inclination to be too vigorous, while weaker growths may be allowed more freedom during the period of active growth, which will benefit them. Current shoots of Morello Cherries may be trained a few inches apart over the available space. Plums and Sweet Cherries should have main stems distributed fan shape at equal distances on both sides of the main stem, training in young wood between without crowding, shortening foreright shoots and others for which there is no room to four leaves. The open central part easily fills up.

Pears and Apples on walls are mostly trained horizontally, but they are amenable to fan training on high walls. Trees in both forms can be procured, the management after planting consisting in continuing the shape. Espaliers, or horizontally trained trees, have usually two pairs of side branches and a leader. At the winter pruning the leader must be shortened to a point just above where the next pair of branches should originate. In forming a young tree when the leader grows strongly in summer it may be stopped, and another pair of side branches secured as well as a fresh leader, but the stopping must be done at midsummer. Summer prune the side shoots as in older trees, but the leaders of the extending branches leave unpruned until space is filled.

Strawberry Beds.—Where it is not necessary to retain runners for producing young stock they ought to be cut away closely to the old plants, also the old fruiting stalks. Old exhausted beds may be destroyed, either paring off the plants and burning them, or trenching in the whole along with a liberal quantity of manure.

Treatment of Rooting Runners.—Runners rooting between the rows and intended for forming fresh beds must not be crowded. If they establish themselves under favourable conditions they rapidly improve in strength and size, making them, if lifted carefully with good balls of soil, ready for planting in their permanent quarters at any time. Strong plants thus well rooted and forming bold crowns, even if planted late, are not unlikely to give good crops the next season, especially if their removal is effected without the plants feeling the disturbance.

Continue preparing the soil for and planting new beds, and if there

is no prospect of being able to plant all that are required, owing to want of room, establish a plot of runners on a fertile piece of ground, placing them 6 inches apart in rows the same distance asunder. A stock of plants is thus insured for spring planting or to fill up vacancies.

FRUIT FORCING.

Peaches and Nectarines.—*Earliest Forced Houses.*—Trees started in December and early January must not lack water at the roots. When this occurs during the formation and perfecting of the buds they become "deaf," and fall instead of expanding into blossom when started. Affording a slight shade to trees under fixed roofs where the panes of glass are large has the advantage of preserving the foliage in good condition, thus preventing premature maturity of the foliage and the over-development of the buds, which is one of the causes of their dropping. Supply a top-dressing of phosphatic and potassic manure to weakly trees, and water as may be necessary to keep the soil in a moist condition. Needless waterings only saturate the soil, sour it, and destroy the roots.

Where the lights have been removed artificial watering may not be required, but attention must be given to this matter by timely examination. Rain is accompanied by a lower temperature, and no harm results provided the borders are properly drained, indeed the ammonia and nitric acid brought down by rain have a most beneficial effect on the trees. Allow some laterals that are green to remain, as such unripe growths act as outlets for any excess of sap, a safeguard against starting the buds and promoting the activity of the roots. Early forced trees do not, as a rule, make strong growths, and there is often a preponderance of blossom over wood buds, hence in pruning it is not desirable to cut back next year's bearing wood unless the shoots are of great length. Very little pruning will be needed providing disbudding has been properly attended to, and no more wood been trained in than is absolutely necessary to replace that bearing in the current year, and to renew worn-out growths.

Trees enfeebled by long subjection to early forcing will be benefited by cutting out some of the old wood, especially the long branches, but this must be done judiciously, always having regard to a crop. Some trees are the exact opposite, making too vigorous, long-jointed growths, and those should be restrained. This is not effected by stopping, though it is useful in causing a diversion of the sap from the strong to the weaker parts of the trees, thereby assisting in an equal distribution of the nutriment, consequently tending to maturity of the wood and buds. Any trees which grow too vigorously must be lifted and their roots laid in firm material near the surface. Those showing symptoms of weakness may have the old soil carefully removed from amongst the roots, supplying turfy loam, with an 8-inch potful of two parts wood ashes and one part bonemeal, mixed, to each barrowload of loam. Give a good watering both to the lifted and soil-renovated trees. These operations require to be performed as soon as the leaves have matured, but before they fall from the trees.

Second Early Houses.—The trees having had the bearing wood cut out and kept free from insects will now have the wood sufficiently ripened to admit of the removal of the roof lights where these are moveable. This exposure has a beneficial effect on the trees, the air hardening the growths, and the dews and rains cleansing the foliage, while growth is arrested on the one hand, and steady maturity of the other secured. In the case of fixed roofs and the panes of glass large and clear it is an excellent plan to coat the glass with a thin wash of whitening and skim milk, applying with a brush. Admit air to the fullest extent, and see that the trees are kept free from insects and not neglected for water at the roots.

Trees Cleared of their Crops.—Cut away the shoots that have borne fruit unless required for extension, and where the growths are too crowded they should be thinned. This will allow air and light to harden the wood by increasing elaboration, and more food will be stored in the buds and adjacent stems for the benefit of the blossoms and fruit in the coming season. It will also permit of the foliage being kept clean and healthy through freer access of water by the syringe or engine, also, if necessary, the more efficient application of an insecticide for cleansing the trees of red spider, brown aphid, and scale. These matters are very important, as it is essential that the foliage be kept clean and healthy to the last. Water must be given as is necessary at the roots, but avoid needless waterings, especially when the trees are vigorous and lifting is intended. Admit air to the fullest extent, especially at night.

Houses with Fruit Ripening.—A free circulation of air will enhance the quality of the fruit, and water need only be given to prevent the foliage becoming limp. Secure air moisture by an occasional damping of the house for the benefit of the foliage, also fruit, which in an arid atmosphere is liable to become mealy, whilst it ripens prematurely if the trees suffer by want of water. Ants are often troublesome. They take to treacle greedily. Bits of sponge held tightly in the fingers, then dipped in the syrup and there relaxed, will absorb some, and a gentle squeeze on withdrawing will leave enough in the sponge to entice the ants. These laid in saucers in their haunts will rid any place of the active creatures by immersing the sponges occasionally with the ants in them in boiling water. Cleanse the sponges each time, and repeat the dipping. Partially picked bones, such as come from table, are admirable baits for ants, the bones quite dry and fresh being laid in their haunts, and when they are covered with the pests immerse them in boiling water. The bones freed from the surplus moisture are available for a considerable time, as the immersion in boiling water destroys the fungoid and animal germs inducing putrefaction.

Late Houses.—Trees which have the wood thin have a better chance to ripen, and the foliage to elaborate the sap, than those with the summer growths laid in so closely as to impede air and light. On the assimilation of the food depends its storing in the buds and wood for the support of the blossom and embryo fruit in the coming season. Gross growths tend to impoverish the weaker, appropriate an undue amount of sap, and tend to gumming and unprofitableness. They must be stopped or removed. An even spread of moderately strong, short-jointed wood is desirable. Ventilate the house early in the morning, allowing a good heat by day, and closing so as to secure 85° or more, for sun heat after evaporation has been going on for some time will not do any harm, if care be taken to admit a little air before nightfall, and the temperature to gradually cool down, thereby securing rest. The night and early ventilation tends to the solidification of the growth and its ripening. Syringe to keep down red spider.

Cucumbers.—Encourage the autumn fruiter to make a strong but healthy growth, affording abundance of water at the roots, but not too much, with a moist genial condition of the atmosphere by syringing at closing time, and damping available surfaces occasionally. Add fresh soil from time to time as the roots protrude from the sides of the ridges or hillocks. Sufficient fire heat must be employed to maintain the temperature at 70° to 75° by day, and prevent it falling below 65° by night. Old plants should have the exhausted growths cut away and others thinned where likely to be crowded, so as to admit light and air, securing a sturdy, solidified growth and a succession of bearing wood. The syringe should be regularly employed about 3 P.M., and if mildew appears dust with flowers of sulphur in the evening, maintaining a somewhat drier atmosphere by judicious ventilation. Black aphides are sometimes trouble. They are best exterminated by vapourisation with nicotine, or by fumigation, which must be done carefully with good tobacco paper. The operation is most efficacious when performed in the evening, and repeated early the following morning. The foliage should be dry, the smoke delivered cool, and free ventilation afforded afterwards.

Melons.—The latest plants should be placed out at once. Train with a leading shoot until it reaches two-thirds across the trellis, then pinch out its point, rubbing off the laterals up to the trellis, and then every alternate one on opposite sides of the primary growth. Maintain a temperature of 60° to 65° at night, 70° to 75° by day, 80° to 85° from sun heat, closing early so as to increase to 90° or 95°. Do not stop the laterals unless they fail to show fruit at the second or third joint. Weakly plants should have the first show of fruit removed, stopping the laterals at the second or third joint. Early ventilation with plenty of light will secure sturdy, thoroughly solidified growth. When Melons are ripening no water should be given at the roots, and air should be freely admitted. A little ventilation constantly will prevent the deposition of moisture on the fruit and insure its ripening without cracking, but in dull weather it will be necessary to have gentle warmth in the pipes to secure the requisite temperature. Plants showing fruit should also have a rather warm and dry atmosphere, ventilating freely so as to have the pollen and pistil in the right condition for fertilisation. This should be attended to daily as the flowers become fully expanded. Stop the shoots at the time of fertilisation one joint beyond the fruit. Afford every encouragement to plants swelling their fruit, watering and affording liquid manure at the roots as necessary. Keep the laterals well in hand, and let the principal leaves have full exposure to light and air. Maintain moisture by damping available surfaces when they dry, syringing and closing early in the afternoon.

Late plants in pits and frames are swelling the fruit freely. Earth-up the roots where necessary, but late plants on manure beds do not require a large amount of soil. Generally they grow too much, which can only be prevented by a firm condition of the soil and timely attention in ventilation. Keeping the growths thin is also necessary to secure sturdy stems and firm-textured foliage, the laterals not being allowed to interfere with the principal leaves. If the weather be cold or dull afford good linings and admit a little air, as nothing is so fatal to quality in Melons as a close atmosphere. Sprinkling should only be practised on fine afternoons. If black aphid attack the plants, fumigate moderately on two or three consecutive evenings. Examine the plants frequently for canker, promptly applying quicklime to the affected parts. Gradually withhold water at the roots and moisture from the atmosphere when plants are ripening their fruits, and if a little extra heat be afforded by linings of sweet material, so as to admit of a free circulation of air, the quality of the fruit will be enhanced, and this will often prevent cracking.



APIARIAN NOTES.

PLEASURABLE BEE-KEEPING.

THIS is the title of a book by Mr. C. A. White, first-class certificated expert of the British Bee-keepers' Association (Edward Arnold, 37, Bedford Street, Strand, W.C.). The book comprises 180 pages, well written in simple language such as can be understood by the most inexperienced in bee management. It is not the

fault of the author if, after a perusal of its pages, the expert as well as the novice does not close the book with the feeling that something has been learned that had not come to mind before.

There are doubtless many people who are anxious to keep bees, but on perusing a catalogue obtained from a dealer in bee appliances do not know what to select from the numerous articles recommended for the purpose, and in many instances, I fear, unless they consult some bee-keeping friend, will give the matter up in despair. To such as these I can strongly recommend this book, as it fully explains what is really necessary, their prices, and where they may be obtained. A slight error occurs at page 9, in which it is stated, "In 1874 the late Mr. C. N. Abbot started the first bee journal," whereas, if I am not mistaken, the *Journal of Horticulture* had been taking the lead in bee-keeping for several years previous to that date, articles giving advice on bee management, and queries answered on the subject, which have been continued to the present time. Honour to whom honour is due.

It is up to date in the modern system of moveable frame hives. The instructions given are reliable, as they are on the same lines that I have practised and found successful for several years past. At page 100:—"Bar Frame Hive.—The cost of any hive, as of other articles, depends very materially on the demand for it. Now by the increased demand for this hive it is made by machinery instead of by hand, and the cost has been greatly reduced. Those who can use tools will find the hive simple in construction, and therefore easily copied. The floor board costing 1s. 4d.; brood chamber, 2s.; two supers, with bars, window, and door, 2s. 2d. each, and roof, 1s. 9d., will cost about 9s. 6d.; paint, 6d.; foundation, 2s. 6d., and swarm, 10s. 6d.; total, 23s."

The skep system is not despised, but is explained at page 99. "On this system the outfit per stock will be as follows, at the lowest estimate:—Brood chamber, 1s. 6d.; two supers, 1s. 3d.; swarm, 10s. 6d.; total cost, 17s. The cost of a swarm will depend upon whether it can be purchased from a neighbour, or a dealer some distance away. In the former case a good ordinary swarm may be obtained for the price named; but if supplied by a dealer who guarantees a young queen and a certain weight of bees the price will be about 3s. 6d. per lb. It is then good policy to procure a 4 lb. swarm. The extra cost and carriage will require adding to the estimate above."

Races of bees are fully described, their date of introduction, and their good and bad qualities, the latter, according to the author, predominating. The Ligurian is recommended in preference to the other varieties; but I cannot agree with the writer that they are to be preferred to our native bee, although some bee-keepers imagine it is impossible to find a true stock of the native black or brown bee. Be that as it may, it will be the bee of the future for this country. The notes on queen rearing and marketing honey are instructive, and this book should be read by all who are interested in bee-keeping.—AN ENGLISH BEE-KEEPER.



* * All correspondence should be directed either to "THE EDITOR" or to "THE PUBLISHER." Letters addressed to Dr. Hogg or members of the staff often remain unopened unavoidably. We request that no one will write privately to any of our correspondents, as doing so subjects them to unjustifiable trouble and expense.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Bee subjects, and should never send more than two or three questions at once. All articles intended for insertion should be written on one side of the paper only. We cannot reply to questions through the post, and we do not undertake to return rejected communications.

Dwarf French Bean From Exhibition (Crua).—The pod is a fine specimen of Canadian Wonder, 8 inches in length, but far too old for edible purposes. At an exhibition its proper place is the class for Dwarf Kidney or French Beans.

Vine Leaf Yellow Blotched (A Constant Reader).—The leaf is neither affected by disease nor by insects, at least we cannot discover any; but the yellow blotches may possibly push outgrowths later, which we do not anticipate, as there does not appear any mycelial hyphae. The yellowness appears a sort of scorching, possibly due to the sun acting powerfully on the leaves whilst wet.

Nicotiana affinis (W. G.).—This deliciously night-scented flowered plant is a half-hardy annual herb, a splendid conservatory plant, hairy all over, except the inside of the corolla. It is sometimes continued by cuttings which spring from the collar, and these are still further perpetuated by the same process; all the same the plant is an annual, and so classed by Mr. Nicholson of Kew, and other botanists.

Heuchera sanguinea Raising from Seed (Somerset).—Plants from seed sown now would be small and somewhat difficult to winter, as the cold weather will be here before they become established, but if you could give the plants protection some of the strongest would afford flowers next season. It is better to sow this and other perennials in the spring, then the seedlings have a chance to become established and sturdy, so as to be capable of producing abundance of bloom the following year.

Lapageria Leaves Discoloured (T. F. W.).—The leaves have had most of the colouring matter (chlorophyll) abstracted by thrips, of which we found some eggs, which under ordinary circumstances would have hatched in a few days. There were no insects, however, they being too lively for that, and the syringing with tobacco water and softsoap would destroy the insects but not the eggs, which are protected by a gummy exudation from the parent when deposited. The treatment should therefore be repeated at intervals of a few days so as to extirpate the pests. You could not have anything better than the tobacco water and softsoap solution in mixture, only use it at intervals of not less frequency than once a week. The leaves affected must fall, as their tissues have been destroyed by the thrips, the remedy being applied too late and ineffectively.

Gros Guillaume Vine Leaf Discoloured (J. D.).—There is a few spots on the leaves, which are caused by a fungus common in European vineyards, which has found its way to this country. This fungus is known as *Gloeosporium anapelophagum*, but it does not make much headway in the British Isles. You may dress the Vine in winter or after pruning with a 10 per cent. solution of sulphate of iron, applying with a brush, removing all leaves carefully as they become mature, and burning them. The mouldy fungus on the leaves is *Aspergillus glaucus*, but this is not parasitic under ordinary conditions, nor in your case, as it is found on dead tissue. The general discolouration is due to the leaves being formed under conditions unfavourable to a firm and solidified texture, this variety being of a particularly succulent nature in its growths, and requires to have the foliage formed under plenty of sunlight and a free amount of air, otherwise they cannot bear the sun, but become more or less discoloured under its influence and mature early.

Melon Leaves Diseased (Anxious).—The Melon leaves are infested with the leaf spot fungus (*Phoma lagenicola*) which produces yellow patches on the affected parts, these ultimately becoming brown, then white, and falling out. In that way the whole leaf, and sometimes the whole of those of a plant collapse, and the fruit does not attain maturity in consequence. After trying several specifics, we have not found anything better than a petroleum emulsion, which contains about 128 parts of petroleum in the diluted preparation for use. If you wish to try it dissolve half pound of softsoap in half gallon of soft water by boiling over a fire; when boiling remove from the fire, and add 1 gill (quarter pint) of petroleum, and stir well so as to form an amalgam or emulsion, and when thoroughly amalgamated dilute to 8 gallons with hot water, mixing thoroughly, and when cool enough, as it is when the hand can be borne in it a minute, apply in the late afternoon with a spraying apparatus or fine rose syringe, wetting every part of the plants and house. Care must be taken to keep the mixture thoroughly mixed, not using it stronger than advised. The Coleus appears injured by the bisulphate of calcium solution, which is not safe to apply to soft and hairy leaved plants, being often as bad or worse than the disease.

Vicomtesse Hericart de Thury Strawberries Spotted and Brown in the Leaves (B. G. B. H.).—We do not observe that the plants are going off, indeed they are quite healthy at the roots, and, barring the spots on the leaves, in good condition. The spots are caused by the spot fungus (*Septoria fragariae*), which lives at the expense of the leaf tissue, causing a white spot at the point of attack and around that a discoloured blotch, which extends through the growth of the mycelial hyphae within the tissue and greatly weakens the plant, sometimes causing the premature decay or maturity of attacked leaves, which are usually the older. The cause of these fungal invasions is not known, but no cultural treatment whatever will avoid them, and it resolves itself into a question of parasite and of host. Some varieties are more subject to it than others, which is conjectured to indicate constitutional weakness. Every parasite has its food plant, and attacks one plant whilst its neighbour does not suffer from the malady. This gives countenance to the predisposition doctrine, but the facts are destroy the spores and there is no disease. The cause, therefore, is the fungus, and to prevent its attacks the plants should be dusted with fostite or one of the advertised fungicide powder preparations, or be sprayed with half strength Bordeaux mixture. The disease comes from the old plants to the runners, hence the latter should be treated as the leaves form, so that any spores falling thereon may be destroyed when germinating, and so prevent the germinal tubes from piercing and entering the Strawberry leaf, where it is difficult to reach, but generally enough copper is absorbed to destroy the hyphae therein, or arrest its spreading. This treatment we advise so as to prevent the spread of the disease, which, as a rule, is not very malignant, seldom doing more than weaken the plants.

Peaches Decaying (B. G. T.).—The decay is caused by a fungus, *Glaeosporium laticolor*. It is by no means rare, but is rather too common, and becomes more so because means are not taken to prevent its spread, the affected fruits being left about and thrown anywhere but into the only safe place—a fire that will consume them speedily. The disease affects Apricots, Peaches, Nectarines, Figs, and even Grapes. It usually attacks the finest fruits in consequence of their cuticles being extremely thin owing to their distension by the high swelling. The only preventive is free ventilation in all the stages of growth, with available mineral elements in the soil, so that the epidermal tissues will be strengthened and hardened and made fungus proof, along with a free circulation of warm, rather dry air during the ripening process. The disease is most prevalent in heavy soils and damp locations, but it will prevail anywhere and everywhere where the conditions favouring its development are present along with the spores.

Peaches Mildewed and Apples Cracked (A. B.).—The cause of the white patch on the Royal George Peaches is mildew (*Oidium leucoconium*), and the remedy for it is to dust the trees with flowers of sulphur, and rub the affected parts gently with the finger after moistening it and dipping it in a saucer containing flowers of sulphur. This will destroy the fungus, but the fruit will have a brown mark or marks, and will probably crack when ripening, owing to the destruction of the epidermal cells, and that part not swelling equally with the sound portion of the fruit. The Apples are cracked by the skin having been destroyed, and that part not swelling equally with the rest of the fruit. The cause of the skin hardening when the cracking occurs is the scab fungus (*Fusicladium dendriticum*), which can only be avoided by early treatment, for which see reply to "E. M." (page 142) of our last week's correspondents' columns. The fruit will crack even worse than it is now unless measures are taken to prevent the spread of the fungus, and under any circumstances the fruit will not be fit for table, but some may be useful for cooking purposes.

Cure and Preventive for Rust in Malmaison Carnations (H. C.).—The surest cure is to destroy the affected plants, and the best preventive is to select cuttings or take layers from perfectly clean stock. Next to those means sponge or spray the affected plants carefully with permanganate of potash, diluted with an equal amount of clear soft water, wetting every part, repeating every ten days; and after doing this twice spray the plants at fortnightly or three weeks' intervals two or three times. This will generally clear the house and plants of the parasites; and as a preventive measure spray at intervals of a month or six weeks. There is yet the best of all cultural precautions—(1) growing the plants thinly, and nearly touching the glass; (2) keeping the plants in a well-ventilated atmosphere, and not syringing them; and (3) affording a gritty and firm soil. A little salt occasionally is also a valuable precautionary measure, giving each plant a small pinch—a quarter to half a small teaspoonful to a 6-inch pot, sprinkling on the surface, and washing in. It must not be given too often, nor in too large an amount. About once in six weeks during growth suffices, and twice or treble that time in the rest or dead season.

Vine Leaves Blotched and Discoloured (W. H. C.).—No. 1 leaves have been, and possibly are, infested with the Vine mite (*Phytotus*), but we failed to find specimen. The only precaution we have found necessary is to collect the leaves as they become mature and burn them, dressing the Vines with a 10 per cent. solution of sulphate of iron, or 1 lb. to a gallon of water, when they are at rest, using a brush. The leaves of No. 2 are scorched a little, but not of material account, and is rather common to Muscats. No. 3 shows slight marks of red spider infestation, but we did not find any. The leaf of Foster's Seedling is large, deep green in colour, and of firm, thick, leathery texture. The yellow leaf with a few green blotches is not diseased, but maturing. Similar remarks apply to the other leaf, which is assuming the purple tint characteristic of ripening. This is early, but it depends on circumstances, the Vines appearing to not have much water, but there is a great lack of chlorophyll in Vine leaves this year, and they are maturing the foliage earlier than usual. We cannot state whether the substances on the roots are malignant or otherwise from description, but there is little wrong with the Vines beyond what is stated.

Names of Plants.—We only undertake to name species of plants, not varieties that have originated from seeders and termed florists' flowers. Flowering specimens are necessary of flowering plants, and Fern fronds should bear spores. Specimens should arrive in a fresh state in firm boxes. Slightly damp moss, soft green grass, or leaves form the best packing, dry wool the worst. Not more than six specimens can be named at once, and the numbers should be visible without untying the ligatures, it being often difficult to separate them when the paper is damp. (R. F. S.).—1, *Scabiosa atropurpurea*; 2, *Veronica spicata*. (S. E.).—1, *Adiantum amabile*; 2, *Gymnogramma chrysophylla*; 3, *Pteris umbrosa*. (Sunbeam).—*Gypsophila elegans*. (C. G.).—1, *Masdevallia Harryana*; 2, *Odontoglossum crispum*; 3, *Campanula Trachelium*. (W. A.).—1, *Euphorbia helioscopia*; 2, *Lilium lancifolium rubrum*; 3, *Spiraea callosa*; 4, *S. Menziesii*. (H. T.).—1, *Begonia metallica*; 2, *Fuchsia procumbens*; 3, *Diplacus glutinosus*. (R. C. C.).—1, *Crinum amabile*; 2, *Kaulfussia amelloides*; 3, *Clethra alnifolia*; 4, *Chrysanthemum segetum*; 5, *Ophiopogon variegatum*. (J. T. S.).—The plant is, we believe, an *Abutilon*; but the *Abutilons* and *Sidas* often are very much alike and botanically synonymous. The orange colour suggests its being an *Abutilon*. There is *A. aurantiacum*, comes from Brazil, and *A. floribundum*, both orange coloured. If you could send another specimen we could ascertain more nearly. We should also like to know whether you have really succeeded in crossing it with *Sparmannia*, as you say

you have. (J. W. S.).—*Calycanthus occidentalis*. (Ross-shire).—1, *Spiraea bella*; 2, *Sedum*, specimen insufficient; 3, *Sedum pulchellum*; 4, *Galeopsis Tetrahit*. The Pear is unripe, and cannot therefore be named. Plums can only be named with the addition of specimens of the young growths.

COVENT GARDEN MARKET.—AUGUST 14TH.

TRADE very quiet, with irregular supplies, owing to the unsettled weather.

FRUIT.

	s. d.	s. d.		s. d.	s. d.
Apples, per bushel	2	0 to 5	0	Filberts, per 100 lbs.	45 0 to 0 0
" Nova Scotia, per barrel	0	0	0	Grapes, per lb.	0 6 1 6
" Tasmanian, per case	0	0	0	Lemons, case	10 0 15 0
Oobs, per 100 lbs.	0	0	0	Peaches, per dozen	2 0 6 0
				Plums, per half sieve	1 6 3 6
				St. Michael Pines, each	2 0 6 0

VEGETABLES.

	s. d.	s. d.		s. d.	s. d.
Beans, Kidney, per lb.	0	3 to 0	0	Mustard and Cress, punnet	0 2 to 0 0
Beet, Red, dozen	1	0	0	Onions, bushel	3 6 4 0
Carrots, bunch	0	3	0 4	Parsley, dozen bunches	2 0 3 0
Cauliflowers, dozen	3	0	6 0	Parsnips, dozen	1 0 0 6
Celery, bundle	1	0	1 3	Potatoes, per cwt.	2 0 4 0
Coleworts, dozen bunches	2	0	4 0	Salsafy, bundle	1 0 1 6
Cucumbers, dozen	0	9	1 6	Seakale, per basket	0 0 0 0
Eradive, dozen	1	3	1 6	Scorzouera, bundle	1 6 0 0
Herbs, bunch	0	3	0 0	Shallots, per lb.	0 3 0 0
Leeks, bunch	0	2	0 0	Spinach, bushel	1 0 1 6
Lettuce, dozen	0	9	1 6	Tomatoes, per lb.	0 3 0 4
Mushrooms, punnet	0	9	1 0	Turnips, bunch	0 3 0 6

AVERAGE WHOLESALE PRICES.—CUT FLOWERS.—Orchid Blooms in variety.

	s. d.	s. d.		s. d.	s. d.
Arum Lilies, 12 blooms	3	0 to 4	0	Orchids, dozen blooms	1 6 to 12 0
Asparagus Fern, per bunch	2	0	4 0	Pansies, various, dozen	1 0 2 0
Asters (English) doz. bchs.	3	0	6 0	bunches	2 0 4 0
Asters (French), dozen bunches	8	0	12 0	Pas, Sweet, doz. bunches	4 0 9 0
Bouvardias, bunch	0	6	1 0	Pelargoniums, 12 bunches	0 6 1 0
Carnations, 12 blooms	1	0	3 0	Primula (double), doz. spys.	1 0 2 0
" dozen bunches	4	0	8 0	Roses (indoor), dozen	1 0 2 0
Cornflower	1	0	2 0	" Tea, white, dozen	3 0 6 0
Eucharis, dozen	1	6	2 6	" Yellow, dozen (Niels)	1 0 2 0
Gaillardias, doz. bunches	2	0	3 0	" Safrano (English), dozen	1 0 2 0
Gardenias, dozen	3	0	4 0	" Yellow, dozen blooms	0 6 0 9
Geranium, scarlet, doz. bunches	4	0	6 0	" Red, dozen blooms	1 0 1 6
Lilium lancifolium, twelve blooms	1	0	2 6	" various, doz. bunches	3 0 6 0
" longiflorum, 12 blooms	2	0	3 0	Smilax, per bunch	2 0 4 0
Marguerites, 12 bunches	1	6	3 0	Stephanotis, dozen sprays	1 6 2 0
Maidenhair Fern, dozen bunches	4	0	6 0	Sunflowers (small) dozen bunches	2 0 3 0
				Sweet Sultan, doz. bchs.	2 0 3 0
				Tuberoses, 12 blooms	0 4 0 6

PLANTS IN POTS.

	s. d.	s. d.		s. d.	s. d.
Arbor Vitæ (golden) dozen	6	0 to 12	0	Geraniums, Ivy, per dozen	3 0 to 6 0
Aspidistra, dozen	18	0	36 0	Heliotrope, per dozen	4 0 6 0
Aspidistra, specimen plant	5	0	10 6	Hydrangeas, per dozen	12 0 42 0
Calceolaria, per doz.	3	0	4 0	Lilium lancifolium, 12 pots	12 0 18 0
Coleus, per doz.	2	6	4 0	Lobelia, per dozen	3 0 4 0
Dracena, various, dozen	12	0	30 0	Lycopodiums, dozen	3 0 4 0
Dracena viridis, dozen	9	0	18 0	Marguerite Daisy, dozen	6 0 9 0
Euonymus, var., dozen	6	0	18 0	" Yellow	9 0 18 0
Evergreens, in var., dozen	6	0	24 0	Myrtles, dozen	6 0 9 0
Ferns, in variety, dozen	4	0	18 0	Palms, in var., each	1 0 15 0
Ferns (small), per hundred	4	0	6 0	" (specimens)	21 0 63 0
Ficus elastica, each	1	0	7 0	Pelargoniums, per dozen	8 0 12 0
Foliage plants, var. each	2	0	10 0	" scarlets, doz.	3 0 6 0
Fuchsias, per dozen	4	0	6 0	Rhodanthe, per dozen	4 0 6 0



AUTUMN WORK.

THE flight of time, always difficult to realise, is never more so than in the balmy days of autumn—those perfect days which we so often enjoy in our temperate climate, "when winds blow soft and fair," and life in the open air is more enjoyable than at any other period of the year. But instead of bringing ease and sweet contentment to farmers such fine weather acts as an incentive to exertion—every day, every hour of it, being regarded as a golden opportunity, a boon most precious to be turned to full account for autumn tillage, the sowing of the later autumn forage crops, and of winter corn.

Often have we thought the term of winter corn misleading. Why not term it autumn corn, and resolve to get in the seed before winter is on us? Well do we know by dearly bought

experience the extra labour so frequently involved in sowing such crops, and the uncertainty about having a full or strong plant. It was many years ago, while watching some Wheat sowing at a heavy land farm in November, that we resolved to avoid such unsatisfactory practice in future. Drilling so late in the year is often more than twice as heavy as it is in September; harrowing is still more unsatisfactory, so many turns being necessary before the seeds are covered that they are literally trampled in by the horses.

It is such heavy work, and having to wait so long before sowing is possible when the weather becomes broken and unsettled, that should act as an incentive now to push on ploughs, cultivators, harrows, horse-hoes—every available implement for getting the land clean. To sow each autumn crop early rather than late, to aim at getting all tillage done, all winter corn sown by the end of September. This may not be accomplished, but the effort will assuredly cause the work to be so well advanced by that time as to render completion possible before autumn is much in evidence. Then, with corn and green crops a full strong plant, all uncramped land clean and thrown up in ridges, the pressure will be over; we can rest contented even if we should have another ten weeks' frost and snow, feeling assured that the well tilled soil will have its particles so softened, so thoroughly divided by exposure, as to afford a seed bed fine and workable as a bed of coal ashes, and ready for cropping early next spring.

Of other crops to sow now Giant Italian Rye Grass comes first where an early crop of it is desired. On farms where it is much grown there are successional sowings in September and October. To have it at its best, which means a first growth 4 or 5 feet high, and a strong second growth ready in six or seven weeks after the first mowing, the soil must be rich in fertility, and fertility must be well sustained. If a full dressing of chemical manure had to be drilled in with the seed now, we should not hesitate to give a dressing of nitrate of soda immediately after mowing the first crop. Big crops mean big feeding; they also mean big profits. Rye would be the next crop, and it is worthy of all care, no green crop being more so, coming into use as it does first in spring for sheep folding, for cattle and horse fodder. Then in September come the Wheat, Winter Oats, and Tares. If there is a large area to sow with Wheat we begin very early in the month, so as to have the whole of the winter corn in before October.

The common custom of sowing Wheat during the last three months of the year, probably arose from the fact that much land in a heavy crude condition could not be got ready earlier. The risk of waiting so long on exceptionally heavy land involved a possibility of not being able to sow the Wheat at all, such soil if ploughed when sodden by rain remaining unworkable for a long time. The remedy, which must have been worth while when the price of Wheat was so high, was drainage and mechanical division. Though we dare not recommend reclaiming soil for Wheat under present prices, we are bound to insist that what Wheat is grown now must have the best soil. To sow Wheat on poor land never could have been right, to do so under the present condition of agriculture is positively suicidal.

With autumn tillage and the sowing of autumn crops the farmers' year begins; it ends with the ingathering of the summer crops of next year. Much of the success of the year before us depends on how autumn work is done, what crops are sown, how the land is prepared for sowing now and in spring. We hope it is realised that modern farming is very much more than a mere waiting for weather fluctuations or extremes, that the soil we cultivate is a medium for conveying food to plants, that its condition is a matter of primary importance, on which the success or failure of our work very much depends. If we would have the soil do its work for us in

the best way, we must see to it that our treatment of it is correct, well timed, and thorough.

WORK ON THE HOME FARM.

Where Wheat is grown specially for flour for the household thorough harvesting before placing it in ricks is essential, in case it should be required for threshing soon. The ordinary farmer often carts his Wheat in a soft condition, and waits six or eight months before threshing; but the home farmer has ever to think of supplying household requirements, and must lay his plans accordingly. We do not forget the superior dryness of foreign Wheat; it is only in an emergency that the home farmer must even think of that where home-grown Wheat is insisted on.

In connection with corn for home use, we are reminded of a prejudice in hunting and training stables for old Oats. This fancy is easily met by keeping an abundant supply the year round—one year under another. This involves an extra amount of storage space and a rat-proof granary. We have found Winter Oats much liked by trainers, and we do not wonder. When well grown this is a large heavy Oat, highly nutritious, and a very different thing from the thin, light, imported Oat.

Lucerne has again proved invaluable for a supply of green fodder throughout the drought. We have also had a capital supply of fodder from the layers of mixed seeds. One piece on cool, rich soil in a valley which had a heavy first crop mown about the middle of June had a second crop of almost equal bulk ready by the end of July. This was rather exceptional, but the superiority of the crop on well cultivated layers over very much on pastures has been especially remarkable this year.

East Anglian farmers are wont to complain that they have been unsuccessful in trying to lay down land to permanent pasture. Without inquiry as to the cause of failure we may point to the cultivation of temporary pasture as being much more profitable than permanent pasture, and with their admirable system of growing such green crops as Clover, Sainfoin, Trifolium, then grand crops of Mangolds and Swedes, they should be able, with modified corn crops, to do better than struggle for bare subsistence. We fear Barley in that district is grown much more for the benefit of the maltster than the farmer; it ought to answer, and there is a decided local advantage in the sowing of Clover and other seed which the dry climate renders so possible.

OUR LETTER BOX.

Thistles (Anxious).—To destroy Thistles they must be pulled up by the roots. On arable land this is done by repeated hoeing among root crops, or by thorough autumn tillage, ploughing, harrowing, deep stirring with cultivator or horse hoe, so as not only to sever the roots well beneath the surface, but to bring the loosened plants on the surface, to be killed by exposure, or, better still, collected and burnt. On pasture the practice of mowing Thistles once or twice during summer may weaken growth, but we always regard it as a waste of time and money. Root them up once for all, and there is an end of them; we have had them pulled up by hands protected with stout leathern gloves when the land is softened by heavy rain, also dug up with Dock spuds. The plan may be tedious, but it is certainly thorough. Never suffer a Thistle to run to seed; turn everyone to the rooting up of them at odd times, and by the exercise of a little perseverance you will get rid of them.

METEOROLOGICAL OBSERVATIONS.

CAMDEN SQUARE, LONDON.

Lat. 51° 32' 40" N.; Long. 0° 8' 0" W.; Altitude 111 feet.

DATE.		9 A.M.					IN THE DAY.				Rain.
1895. August.	Barometer at 32°, and Sea Level.	Hygrometer.		Direc- tion of Wind.	Temp. of soil at 1 foot.	Shade Tem- perature.		Radiation Temperature			
		Dry.	Wet.			Max.	Min.	In Sun.	On Grass.		
	Inchs.	deg.	deg.		deg.	deg.	deg.	deg.	deg.	Inchs.	
Sunday ..	4	29.357	58.8	53.0	W.	60.0	68.1	52.2	118.7	50.8	0.204
Monday ..	5	29.535	60.6	55.0	N.W.	59.3	67.8	47.4	106.2	44.7	0.045
Tuesday ..	6	29.4.8	59.7	55.9	W.	59.1	67.4	56.9	109.6	55.2	0.129
Wednesday	7	29.799	62.2	56.3	W.	59.0	70.7	50.9	116.4	48.1	0.087
Thursday..	8	29.881	60.9	55.9	W.	59.0	72.9	48.9	119.6	45.1	0.162
Friday ..	9	29.741	64.3	61.2	S.W.	59.7	73.1	56.1	123.3	55.0	0.010
Saturday ..	10	29.814	63.8	60.0	S.	60.6	74.2	58.0	108.9	54.9	0.670
		29.656	61.5	56.8		59.5	70.5	52.9	114.7	50.5	1.307

REMARKS.

- 4th.—Sunny morning; showers in afternoon, and heavy rain with thunder and lightning at 6 P.M.
 5th.—Sunny early, fair morning; cloudy afternoon, showers at 4.30 P.M. and in night.
 6th.—Stormy and showery throughout; sunny at times in afternoon, but thunder and heavy rain from 2.30 P.M. to 3.30 P.M.
 7th.—Generally fine and sunny, but heavy rain at 10.15 A.M. and 11.20 A.M.
 8th.—Fine and pleasant, but not much bright sunshine; rain from 7 P.M. to midnight.
 9th.—Overcast and drizzly early; frequent sunshine after 10.30 A.M.
 10th.—Generally overcast in morning and sunny in afternoon; frequent vivid lightning from 9 P.M. to 10.30 P.M., and very heavy rain from 9.45 P.M. to 10 P.M.

Another week of nearly average (and steady) temperature and of excessive rain, more or less having fallen every day.—G. J. SYMONS.

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THE SAME NAME.

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(With CULTURAL DIRECTIONS),

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application to themselves direct at OVERVEEN,
near HAARLEM, HOLLAND, or to their General
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and keeping over 100 cows from
which I obtain a large quantity of
pure virgin spawn, I am in a posi-
tion to offer the best obtainable at
3s. per bushel.Special Prices for Large Quantities
and the Trade.

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Also COMPETITOR No. 1, and best of Laxton's and Allan's
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Journal of Horticulture.

THURSDAY, AUGUST 22, 1895.

LESSONS BY THE WAY.

A FEW DAYS IN KENT.

KENT is a beautiful county and fruitful. Judging it by what may be termed railway glances as we speed along between its many hills and look down on its pleasant dales, the soil would appear fertile, and, generally speaking, its management good. Possibly the county may have been seen at its best at the beginning of the present month, when the pastures were of the brightest emerald green after the refreshing rains, and with flocks and herds in them looking sleek and happy; when the Hop gardens, dark and dense in the mass, were studded with myriads of pale nodding tassels, stretching across to meet each other from pole to pole; when the fields of grain on the "heights" or plateaux near the rugged coast were still uncut and mostly bountifully filled; and when in the lower levels, or unlevels inland, Damsons were purpling in profusion, and the larger fruits glistening in bolder beauty and characteristic tints, on innumerable trees.

Whatever may be the case in districts out of sight there were few outward and visible signs of a decaying country or a moribund industry within the line of vision. No, "agriculture," as represented in its various phases, and by the cultivation of varied crops, does not seem to be dying in those fertile slopes of Kent where men do their duty to "old Mother Earth;" but, on the contrary, the ancient art appears very much alive, and as if far more likely to improve than to degenerate in the future. There are evidently men of enterprise, means, and skill, who seem determined to "live" in one way or another "on the land," and what is also encouraging, a great desire for information bearing on the art of soil cultivation. This is also being provided in diverse ways and to an important extent through the agency of a new centre of light—the South-Eastern Agricultural College at Wye. With science and practice going hand in hand spreading knowledge among an inquiring people there is no just cause to despair of the future, but every reason to look forward with confidence, not in Kent only, but in other counties in which a similar spirit prevails and the best means are forthcoming of a sound educational character specially appropriate to localities and the needs of the times. Let us look a little more

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No. 791.—VOL. XXXI., THIRD SERIES.

closely, if cursorily, into some of the land lessons by the way as met with in South-Eastern England.

No persons interested in the improvement of the land, or increasing its value by fruit production for commercial purposes, would think of a visit to Kent without calling on Mr. George Bunyard; nor would many, if any, of the still greater number of men who are more particularly interested in fruit as grown for home use in gardens. Any such omission would be a great mistake. It is not possible in these keen competitive days for persons who are engaged in any particular calling to learn too much in connection with it; and it is impossible for any person, no matter how much he thinks he may know, and does know, about fruit, to spend a few hours in the Allington Nurseries, under the guidance of the head, who made them what they are, or of his intelligent and experienced foreman, without being impressed with the magnitude and importance of the fruit-growing industry, and at the same time picking up hints that make him, to a more or less extent, a wiser man. Some few, very few, may only learn a little, but that little will be a gain, and as a fact those persons who really know the most are the most anxious to know more, as they have learned the value of grains of knowledge; while the overwhelming majority of Mr. Bunyard's visitors must—if they have eyes to see, ears to hear, and minds to comprehend—return much, very much, wiser than they came.

There are lessons to be learned on fruit-growing under glass and in the open air; in the former case in the production and management of Apricots, Peaches, Nectarines, Apples, Pears, and Figs; in the latter on every kind of hardy fruit grown in this country; on varieties—many trees of a few kinds—of fruits to be grown on a large scale for commercial purposes; on selections of a great number of varieties that render gardens so interesting and afford their owners so much satisfaction in their homes; and on fruits and their production for purposes of exhibition. There are lessons on forms of trees adaptable for all conceivable positions—standards of varied heights on free stocks for orchards and plantations; with "amateur" trees on the Paradise, the stems roped with fruit and the compact heads similarly laden; neat pyramids, and free productive informal bushes from one-year-old to full bearing, well-furnished and developed specimens; cordons, single and double; "toasting forks," with three, four, or five fruitful tines; wall and fence trees of all kinds devoted to the purpose; fan and horizontally trained trees of various sizes—in a word, all kinds, sizes, and forms of trees are represented, some—the new and rare—in dozens, but the majority in hundreds and thousands, and the most popular forms in varieties of established reputation, in tens of thousands. This is a simple fact which all who can and care to do so may verify by going to see, and probably being astonished.

But they would be more astonished if they could have seen Allington a few years ago before it fell into the hands of the improver—a large portion little more than a scrubby waste; while the arable land "taken in" field by field has been quadrupled in value by the change in cultivation. Nor is this value confined to the increased worth of the land to its proprietor, and the well won property of the leaseholder, but it feeds and clothes at least twenty families in the place of every one that it sustained before through the labour employed upon it. Thus is exemplified the linking together of class with class in what may be termed mutual co-operative effort on equitable lines, all sharing in the benefits accruing, and all equally satisfied and contented. When just landlords, competent tenants, good masters, and good men work heartily and in unity there is no telling what may be done in improving the condition of all. The difficulty would seem to be in bringing all of the best stamp, with adequate means and right dispositions together, but the tone and tendency of public feeling is in the right direction, and as one good example influences another we may still have faith in the future of England, though all may not live to share in the longed-for prosperity.

It will begin to be seen that these "lessons by the way" are, as was intended, of a free and easy character, and that the call on Mr. Bunyard was not for the purpose of compiling a list of fruits and describing them less accurately than they are described in his catalogue. Perhaps two or three may be mentioned as the pen happens to fish them out of the inkpot. There is nowhere else to dip for them, as the catalogue supply had for the time run out, and when the promised copy comes it will be too late as a refresher. That is of no consequence. As a matter of fact, when a person knows what particular varieties of fruits he wants he has only to order them, and they will be sent whether those varieties are good, bad, or indifferent; when he does not know them an excellent plan is to make his object very clear, stating the number of trees required, or the area to be planted, and throw the responsibility of choice on a vendor of high repute. Such vendor will know very well that his reputation is stamped on what he sends, and his goods will either spread his fame, or the reverse, and bring fresh orders and customers, or send them elsewhere. It is not easy to make some persons believe in this doctrine, but it is sound all the same. Choose wisely the "man" for character and position, and the selection of fruits will be right, though probably the best plan of all is to go and see both him and the trees.

It is no easy matter to determine which particular section of the great fruit tree emporium at Allington merits the greatest admiration. This must be regarded as a matter of taste and personal proclivities. The fruit farmer or grower of produce for sale would hover between three breaks of two-year-old bush trees—Apples, Pears, Plums, and Cherries—and a remarkable expanse of thrifty standards, each tree a model in its way, rendering picking a superfluity. In each of the three breaks named are 40,000 trees, a sight not to be forgotten whether examined in the block of many acres, or individually by passing amongst the trees for noting the individual character and the magnificent fruits many of them were bearing; serried ranks of Grenadiers and sturdy Bismarcks; glowing Gascoynes and pale globular Potts', striped Sudeley's and golden Jubilee's; Newton Wonders, Worcester's, King's, Cox's, Ingestres, Pomonas, Spires, Gold Medals, not forgetting the bold Grosvenors and certainly not the Transparents. The names are jotted down in much the same manner as spoken in nursery parlance in passing down in the general review. A catalogue reference will fill in all deficiencies in nomenclature. Several fruits of these varieties, with others, have since been exhibited, and the Apple last named honoured with an award of merit by the Royal Horticultural Society. With the large, clean, beautiful straw-coloured fruits, and their wax-like surfaces glistening among the dark green leaves, the trees were pictures of beauty, and it is certain that if a thousand bushels of such fruits were offered at a Covent Garden sale they would "go" as fast as the bids could be taken. It is one of the most tempting of all the early Codlins, and as grown on healthy young trees in good soil the fruits are large enough for anybody (fig. 25, page 173). As with the Apples so with the Plums and Cherries, varieties possessing the greatest utilitarian value are grown in the greatest numbers. Fruits of sterling worth force their way to the front, and a Plum that has forced its way most quickly is Rivers' Monarch.

This is not a great Pear year, still many trees were bearing crops of handsome fruits. Amongst these Rivers' Beacon and Conference showed conspicuously. Among the newer French Pears Jules Guyot is increasing in favour yearly, and bids fair to supplant the good old Williams' Bon Chrétien, while the demand for such moderns as Marguerite Marrillet, Beurré Mortillet, Triomphe de Vienne, Beurré Baltet Père, Beurré Jean Van Geert, and Fondante de Thirriott is steadily increasing. The Pears, however, must be left for a momentary glance at the glass structures.

The noble orchard house, as it may be called, was a treat to see, with its two rows of upright trellises covered from ground to roof with healthy, fruitful Peaches and Nectarines, for furnishing large

spaces at once, also Apples and Pears in pots bearing magnificent fruits. Three other 100-foot long houses are filled with Peaches and Nectarines in pots in leading established varieties and newer kinds on trial. Of proved—indeed, commanding merit—Early Rivers Nectarine was bearing large and richly coloured fruits of splendid quality. Then there are Figs, with a house to themselves, sturdy little bushes in 7-inch pots, the branches clustered with fruits that will ripen in succession for a very long time. A house filled with Figs in pots is a delight, and it is somewhat of a wonder that such culture is not represented more generally in private gardens.

Mr. Bunyard has also learned to grow Apricots under glass, and can show a conclusive example of success. A span-roofed house, unheated, large open bush trees on each side of the central path, branches studded with fruits—a perfect crop which, if sold, would almost pay for the structure. This is the outcome of a study of the conditions under which Apricots flourish in their natural habitat. One of these is “no rain” during the resting season, and therefore the house is kept dry as a bone in winter, as if it were the home of Cacti, the necessary moisture being afforded on the return of spring and onwards, also with the requisite ventilation. The crop in this house, which is not more than 20 feet long, light and lofty, would meet the demands of a nobleman’s establishment. Thus are lessons learned by the way, and certainly many are obtainable in this establishment close to Barming Station, and within two miles of Maidstone.

Reverting for a moment to hardy fruits, as grown for supplying the markets, the old questions are raised and advanced as if they were new. Will the extension of planting pay? Will not the markets be overstocked? There seems to be no cessation in importations of indispensable food fruits. The markets have been too long overstocked with “stuff” that the purchasing public would not and will not look at twice, but never with the best brands at popular prices. The planters, with judgment, stand to win in the future; the non-planters, who rely on more or less exhausted trees and kinds of fruit not in demand, as surely stand to lose.

And now as a last lesson for the present, What is to be said about the following, and no doubt accurate, record of a fruit sale in a Kentish newspaper?—“Messrs. W. R. Tompsett & Son held their annual fruit sale at Paddock Wood, on the 31st ult. It comprised over 600 acres of Apples, Pears, Plums, Damsons, and Nuts, and was important not only in point of acreage, but also because it included (as was generally acknowledged at the sale) some of the very pick of the plantations of Kent, and probably of the country. The attendance was larger than at the preceding sale, the London markets being especially well represented, one firm purchasing to the extent of over £3000, while another well-known firm from Norfolk paid close upon £1500 to the auctioneers. Almost all of the eighty-two lots were sold, while the auctioneers have since succeeded in disposing of most of the few that were not sold at the time, bringing the total realised up to about £8000. Fifty pounds an acre was made, while several large plantations realised £40. One 27 acre piece, only nine years old, made £700. This fact is worthy of the consideration of landed proprietors who have unremunerative property, the annual outlay on fruit and orchard land, when the trees are grown up, being comparatively very small. Such results in a period of agricultural depression must be welcome to the owners, and the auctioneers may be congratulated on such a successful sale.” Certainly.—INSPECTOR.

GROWING CELERY.

THERE is, perhaps, no vegetable to which a larger breadth of ground is devoted than Celery. A good crop of Potatoes may be more profitable to the poor man, and during the summer months Peas occupy more space in the gardens of the opulent; but as the autumn advances Celery begins to show itself, and we are all alike friendly to its successful cultivation; and as the time has now arrived when it ought to be planted in good quantity

for winter use a few general remarks on that subject may not be out of place, and Celery especially likes the ground prepared for it some time before planting.

I may here observe that the old-fashioned mode of planting or growing Celery, by digging a deep trench and adding raw manure, to be dug up with the subsoil to be planted on immediately, was certainly bad in principle as well as in practice, more especially in such soils as had not previously been trenched pretty deeply, and that recently; for it must be borne in mind that all soils require a certain amount of exposure to the open air before they are in a condition fit to receive the various crops they are to be sown or planted with, otherwise for a time the progress they make in growth is very slow. Hence the impropriety of planting Celery in a medium so much at variance with its well-being. In fact, the digging of deep trenches for Celery ought to be abandoned in all cases where there is not a deep and good soil to work on; neither ought manure in a raw state to be used for this crop, for its action is expected to be immediate; consequently the mixture in which its roots are to ramify ought to be at once good and suitable for them; and where necessity or the taste of the cultivator insists on Celery being planted at the bottom of a deep ditch, let that ditch be made at least 10 inches or a foot deeper than is wanted, and that space filled up with the good surface soil mixed with fine well-decomposed manure and on this plant your Celery in single rows about 8 inches apart, or still wider if very large heads are wanted; but if moderate-sized heads will do, and a greater number be requisite, then plant a little closer. The result will be in most cases more satisfactory; for although large Celery is certainly noble-looking, there is a rule in many private families of reducing it to a certain size, by which means very large Celery is no better than medium-sized.

The time of planting Celery varies much with the latitude of the place, local advantages or disadvantages, as well as the season, more especially that part of it in prospect, of which we have but little foreknowledge. However, generally, July may be set down as a good month for planting the main crop, and the earlier the better for late places, and *vice versa*; only as some favoured situations have the disadvantage of suffering from drought in September, and consequently a cessation of growth takes place, there is, perhaps, as much certainty in obtaining good Celery in a cold and late situation as in a dry and early one, as it is a known fact that Lancashire and other moist counties produce the best Celery, not even excepting the vale of the Thames, both above and below London, where very excellent Celery is certainly obtained; but it is as much the result of the liberal use of manure as anything inherent in the soil or situation.

One thing is certain—that the mode of managing it about London cannot well be improved on; and as the natural habitat of the plant is in wet ditches and similar marshy places, it follows that the plant cannot reasonably be expected to thrive in a dry medium; therefore, where circumstances render it necessary to plant it in such places, let it be liberally watered at the fitting time, and this watering must be repeated at all times when wanted; not regular daily dribbling, but a sound good watering once or twice a week, and the hardened surface of the soil disturbed next day, if it had not previously been covered over with short manure or other substance that would not cake and harden at the top; and as we often have very dry weather in August and September, it would be better at the setting-in of such dry periods to cover the ground by the side of each plant with leaf mould, short manure, or something that will allow the water to pass freely through, and at the same time arresting its evaporation, or the hardening of the ground underneath. Liquid manure may be occasionally given.

In planting out Celery for good, it is prudent to have all the plants in one row as nearly alike in size as possible, as there is a danger of choking up a small one where large ones have to be earthed up at each side of it. Another plantation may be made of smaller plants.

Where the ground consists of a very shallow soil, and a large quantity of Celery is wanted, and size not a particular object, it might be prudent to plant one or more broad beds, say 6 feet wide, and as long as desirable. In this the plants are to be placed in rows across, each plant occupying about a foot square, which might be done by allowing about 16 inches between the rows and 9 inches from plant to plant. This description of plantation might be on the ground surface, and earth or other material might be brought to blanch them, if sufficient cannot be had around them. The advantage of this plan is, that a greater number of plants can be grown on the same spot of ground than by any other; and though it would be wrong to say they are individually as large as those planted in single rows, yet they are often of a useful size for ordinary purposes.

While on this head, I may observe, that where Celery trenches

are prepared in the early part of summer, the tops of the ridges might be planted with a summer crop of some kind or other—Lettuces, Cauliflowers, or early Potatoes are all suitable—taking care, however, that they must not remain to the detriment of the Celery crop.—R. J.

VARIEGATED PLANTS.

CONTINUING my remarks on this subject from page 148, I come to that useful genus *Pandanus* (Screw Pine). *P. Veitchi* is a well-known species, which is highly ornamental, and very largely grown for decorative purposes. Large plants, with their long pendulous leaves, having green centres bordered with bands of white, have a bold striking appearance; but unless such plants are grown in very light positions, their leaves have a tendency to lose the beauty of their variegation. Young plants in small pots seldom exhibit this tendency, and usually show the most beautiful markings in their leaves.

Well-grown plants in pots ranging from 4 to 6 inches in diameter are therefore the most sought after. Suckers, with leaves entirely white, may often be obtained. If these are rooted in small pots, they often retain this character for several years. *P. javanicus variegatus* was at one time largely grown, but since the introduction of *Veitchi* the older species has been rather neglected. Both are, however, thoroughly worthy of being grown, as each possesses some advantage over the other. Propagation is easily effected, either by suckers or offsets. The former if allowed to attain a suitable size before being detached from the parent plant, may easily be removed by a dexterous twist with the hand. The offsets ought to be severed from the base with a sharp knife. These should be inserted in small pots, and either plunged in bottom heat or stood on the hot-water pipes in forcing or propagating houses.

The soil ought to be kept rather dry till roots are formed. When rooted the young plants succeed admirably if placed on shelves near the glass, or in some other light position in houses where stove heat is maintained, the driest and warmest positions being selected for them, and but little syringing indulged in. A mixture of two parts light fibrous loam, one of peat, with a liberal addition of charcoal and sharp sand, forms a compost in which the plants will grow well, and retain the full variegation of their leaves.

Panicum variegatum, the well known striped Grass, ought to be grown in quantity, as it is so useful for a variety of purposes. For associating with other materials in forming edgings for groups of plants, or for draping the sides of bowls, pedestals, and other plant stands, this *Panicum* is indispensable. Cuttings inserted in sandy soil, placed in small pots, root freely at any season provided they are kept close, and in winter given a slight bottom heat. August is a capital time to insert a good batch of cuttings, which will form cheerful looking plants for use during the winter months. If five or six cuttings are inserted in a 3-inch pot they quickly grow into a dense mass, and then begin to trail over the sides of the pot.

I bring my list of stove plants to a close with the *Tradescantias*. These require treatment similar to that indicated as necessary for *Panicum variegatum*, but they will also succeed in a greenhouse temperature during the summer months. For this reason they are frequently employed for covering borders underneath the side stages of cool as well as warm structures. The pots in which cuttings are inserted should be 4 and 5-inch ones, as the *Tradescantias* are vigorous growers. *Discolor*, *d. lineata*, and *zebrina* are three of the best varieties to grow.

Turning to greenhouse plants, I come to that showy class the *Abutilons*. These I think may truly be described as the most brilliantly coloured among greenhouse variegated plants. When grown under the influence of plenty of light they rival in brightness the most highly coloured *Crotons*, yet their cultural requirements are extremely simple, and they also grow very quickly. The stronger varieties are the most effective if confined to a single stem, they then look bold and striking if dotted about among a groundwork of Ferns and other dwarf plants.

The dwarf kinds, on the other hand, should be allowed to branch freely, or they may be pruned into handsome pyramids. August and September (as well as the early spring) are good months to put in cuttings of young wood. These, if placed in light soil and kept close, will root quickly. Should the weather be dull or wet it is necessary to have them in a position where a little fire heat can be given, otherwise they will lose some of their bottom leaves, which of course greatly detracts from their appearance. Two courses may be adopted with plants grown from cuttings inserted in September. They may either be grown in a warm greenhouse and employed for decorative purposes in a young state

during the winter and early spring months, or kept cool throughout the winter, potted on in spring, and grown into fine plants for flower garden or greenhouse embellishment during the summer. Equal parts loam, leaf soil, and peat, with a fair amount of sharp sand added, is a compost in which they will succeed well.

Some of the best varieties are *Darwini tessellatum*; *Sellowianum marmoratum*, large and striking, one of the best; *Thompsoni*, and *vexillarium igneum*. *Aspidistra lurida variegata* is a plant which few gardeners have too large a stock of, as it grows so slowly. Its lasting qualities as a room plant are too well known to need recapitulating, for in thousands of British houses healthy plants which have spent the greater part of their lives in the windows of dwelling rooms may be met with. It seems to me that market growers have scarcely taken the advantage they might have done of the large demand which has so long existed for *Aspidistras*. The plants are usually treated entirely as greenhouse ones, but I find that during the summer months the amount of growth may be considerably increased if a departure from the "beaten track" is taken in regard to their management. This consists in closing the houses in which they are growing early in the afternoon, giving at the same time copious syringings when the weather is bright. Those who have not tried this plan with *Aspidistras* will, I am sure, be satisfied with the result if they now do so. A small amount of pot room should always be aimed at, and a somewhat open soil formed of almost any sweet materials will suit the plants. Large plants if shaken out will supply numbers of suckers; these, if potted into small pots, will in time make useful little specimens.

—PLANTSMAN.

(To be continued.)

TUBEROUS-ROOTED BEGONIAS.

THERE can be no doubt that these rank amongst the best summer-flowering plants at present in cultivation. If grown cool, as they ought to be, they are quite exempt from the attacks of such insect pests as are common to many plants during the summer months. This itself is no small consideration, especially in establishments where there is not sufficient accommodation to allow of one house being set aside for one class of plants.

As decorative plants these *Begonias* are, from their rich and varied colour, all that can be desired, lasting in bloom from early summer till far into the autumn, when another strong point comes in in their favour, that of being easily accommodated during the winter. After they have been carefully ripened they may either be allowed to remain in their pots or shaken out and placed in boxes with dry soil or cocoa-nut fibre refuse—by the latter means they can be put in less bulk—then store in some dry out-of-the-way place where frost cannot reach them. Allow them to remain there until they show signs of starting again in the spring, when they should be potted at once and placed in a cool situation close to the glass to keep the growth sturdy. If a batch is wanted early the plants may be encouraged into quicker growth by being placed in gentle heat, but to render them really serviceable they should be grown cool all through.

If wanted for exhibition purposes named varieties are certainly most reliable. Many people object to them as exhibition plants, believing them to be "bad travellers." I grant that double varieties are, and mainly because of the weight of their blooms; but I find that singles, with a little care taken in tying and packing, will travel in perfect safety for any reasonable distance.

For ordinary decorative purposes seeds procured from any reliable firm will, with a little selection, produce all that could be desired; in fact, I have this season flowered two-year-old seedlings, several of which are superior to many of the popular named varieties, both single and double. They are of such easy cultivation that anyone having command of a cold pit or frame need have no difficulty in growing them. A mixture of fibry loam, with a large per-centage of leaf mould and sand with a little well decayed manure, suits them well.

With liberal shifts and plenty of drainage, taking care to keep the necks of the plants well up in potting and making the soil moderately firm (they do not like hard potting), fine specimens may be grown. Care should be taken in watering not to wet the foliage. They do not like being exposed to the full rays of a hot sun, but shading should be reduced as much as possible by ventilating freely. When the plants have made all the growth they are likely to do for the season water should be gradually withheld, so as to give them the chance of drying off naturally. They have a tendency to damp off if kept too wet, and especially in the autumn, and careful watering is the only sure preventive.

—A. J.



LÆLIO-CATTLEYA ELEGANS.

THIS superb Orchid was long known as, and still continues to be called, *Lælia elegans*, but there can be little doubt that it originated as a hybrid between *Lælia purpurata* and *Cattleya guttata* Leopoldi, while the Schilleriana groups of sub-varieties are supposed to have sprung from *L. purpurata* and *C. intermedia*. It has therefore been placed in the new genus established by Mr. Rolfe for these bi-generic hybrids—viz., *Lælio-Cattleya*. The whole of the varieties are beautiful free-blooming Orchids, and should be represented in all collections. The original *L. elegans* was, according to an old gardening periodical, discovered by a Belgian collector in the employ of M. Verschaffelt, and first flowered in this orchidist's garden in 1848. It is a native of St. Catherine's Island in Brazil.

If ordinary precautions are taken with it and the plants kept to a proper routine of growth, there will be found no special difficulty in its culture. The plants should be grown in a good light position in the Cattleya house, and a free circulation of air kept up about them all the year round. They may be reared in pots of medium size, the compost consisting of the fibry portions of peat used with an equal proportion of good fresh sphagnum moss. In potting keep the base of the pseudo-bulbs a little above the rim, and, while keeping the compost as loose as possible by intermixing a little crocks or charcoal, see that the growths are fixed firmly, or the roots cannot get hold of the compost.

Care is necessary in watering that the bottom of the pseudo-bulbs are not wetted more than is avoidable, this being especially the case with newly imported or semi-established plants. The growth usually attains a height of about 18 or 20 inches, and from between the pair of apical leaves the flower spikes proceed. From three to six flowers are usually produced on each, the individual blossoms varying from 4 to 6 inches in width across the petals.

In the typical form the ground colour is rosy pink, the side lobes of the lip being white, the central one deep purple. This usually flowers in July or August, and it is noticeable that the deeper coloured varieties, as mentioned below, are usually the latest to flower. A form of this Orchid, *L. e. alba*, is pure white, with the exception of the lip, which is tinged with rose, and has a bright purple blotch on the middle lobe. *L. e. blenheimensis*, *L. e. marlboroughensis*, and *L. e. Duchess*, all originated in the Duke of Marlborough's collection at Blenheim Palace. *L. e. Emilie* is similar to the variety *alba*, but not so good a grower. *L. e. Mossiæ* has very rich deep coloured flowers, darker in ground colour than the majority, with spots on the sepals and petals.

L. e. Schilleriana is a rare and beautiful form with nearly pure white blossoms; but as mentioned above, this and its many sub-varieties are grouped as distinct from *L. elegans*. *L. e. Turneri* is a magnificent form, one of the most beautiful Orchids in cultivation, and which no collection should lack. This was named after the late Mr. J. A. Turner of Manchester, and has sepals and petals bright purple, with veins of a deeper hue. The lip has the usual purple blotch in front and the side lobes are rosy white.

This does not nearly exhaust the list of varieties of this Orchid; in fact, quite twice as many might have been named of the *elegans* section alone, but as many of them are nearly or quite unique, and consequently very expensive, perhaps enough has been mentioned. They come in at a very useful time, and help to carry on a good display until the end of September, being also frequently seen at exhibitions. It is, in short, one of the most generally useful Orchids in existence, and deserving of very extended culture.

MILTONIA ROEZLI ALBA.

This beautiful variety is now in flower, and a splendid thing it is when well done. Unfortunately it is not by any means the usual thing to see it so grown, and the principal reasons are, it is grown too cool and not kept clean. The Cattleya house is the place for it, and here it will thrive, but if kept with the cool section of Odontoglots it only ekes out a miserable existence. Thrips are its most inveterate enemy, and in order to keep these insects in check very frequent syringings and spongings are necessary. The plants should be potted in good peat and sphagnum, and the drainage needs special attention.

A good deal of moisture is required at all times, but especially when growing freely. The plants never seem entirely at rest, and

it is best to let them have their own way; attempting to dry them off, and so induce them to rest, being sure to end in failure. It not infrequently flowers twice in the year, and the bloom spikes are produced from the base of the pseudo-bulbs. The flowers are 3 inches across, wholly pure white, excepting a small blotch of pale yellow on the lip. The typical *O. Roezli* was introduced from New Grenada by M. Roezl, after whom it is named, in 1873, the present variety being first flowered, I believe, by Mr. Bull.—H. R. R.

ROMAN HYACINTHS.

WHITE flowers are always appreciated, and never more so than during the dullest months of the year—December and January. Flowers are usually in large request throughout the period mentioned, both in a cut state and on the plants, which are to be employed for decoration. Roman Hyacinths are especially valuable for both purposes, and as they are so easily managed, and last

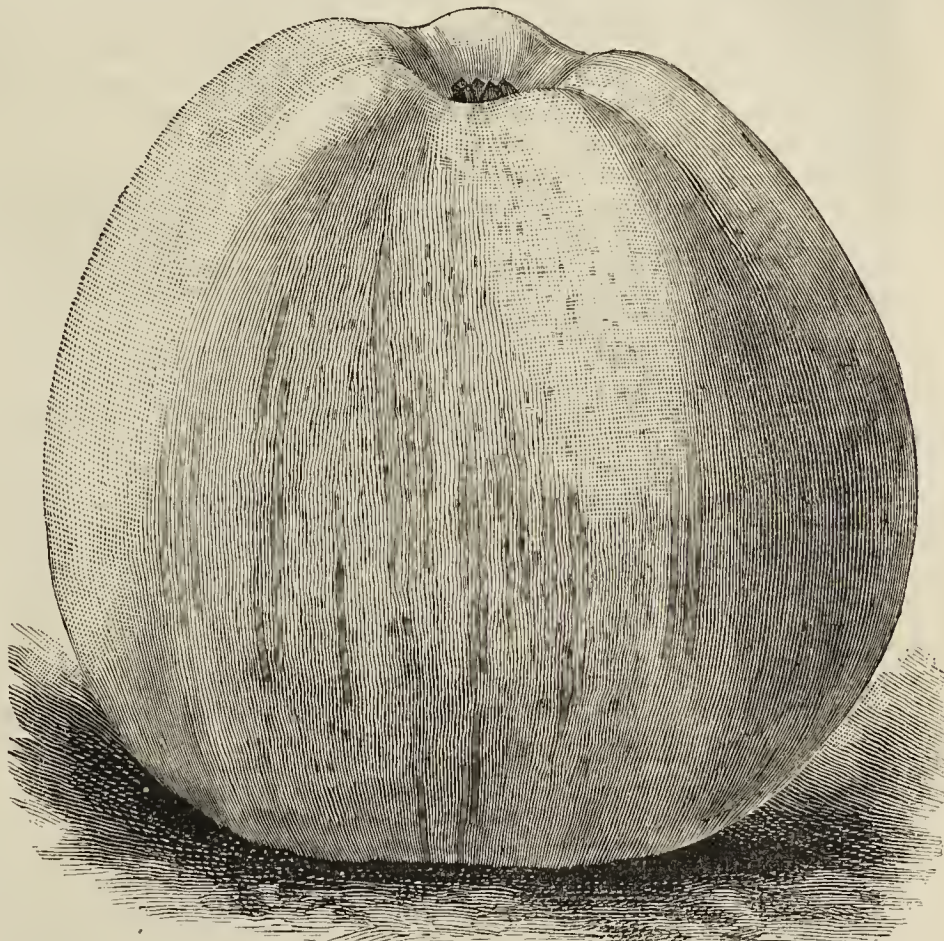


FIG. 25.—APPLE EARLY WHITE TRANSPARENT. (See page 170.)

well for a considerable period when the flowers are fully expanded, a quantity should be grown by all lovers of winter flowers.

Considering the popularity of white flowers in midwinter, the bulbs are comparatively cheap. Bulbs potted now would produce flowers as early as November, with a little gentle forcing after the pots had become filled with roots; or flowers may be retarded to later dates, though it is advisable to pot a few successional bulbs. Five-inch pots are the most useful sizes if plants are wanted for decoration, as they are handy, and have not the clumsy appearance of large pots. Simply for cutting the blooms, the bulbs may be grown in 6 and 7-inch pots, and in boxes holding about two dozen bulbs. Some start all the bulbs in boxes, and transfer them to pots as they come into flower, selecting those bulbs having flower spikes advancing simultaneously. The bulbs bear this treatment with impunity. It insures uniformity, and is to be recommended on that account, especially for early bulbs, which cannot always be depended on to develop equally when forced.

The compost employed for potting should be fairly light and porous. I find four parts of fibrous loam, two parts of sweet leaf soil, and one part sand and decayed manure, with a little charcoal, make an admirable mixture. The loam may be pulled to pieces with the hand, but the leaf soil and manure should be passed through a quarter-inch sieve. These materials are best prepared in a moist state, especially the loam, which falls so much to dust if dry. The condition of the compost regarding moisture is important when potting. It ought to be neither dry nor wet. When used moist no water is needed by the bulbs until growth commences.

The number of bulbs for a pot depends on their size. Not more than four may be placed in a 5-inch pot of the larger bulbs,

while five medium sized can usually be packed in the same size. Drain the pots effectively with clean crocks, and cover with fibrous pieces of turf slightly sprinkled with soot, this assisting to exclude worms. Fill the pots about half full of soil, pressing it down firmly but not hard. The size of the bulbs must be some guide as to the requisite depth allowed. It is only necessary when the potting is completed for the tips to be visible. Press the soil level about them, leaving it half an inch below the rim.

Boxes may be drained by placing a layer of the rougher parts of the compost on the bottom, then place in the bulbs closely together, and fill in with soil between and over, just level with the tips of the bulbs.

Potting or boxing being completed, the next most important detail is the placing of the receptacles closely together on a hard surface either outdoors or in a frame, covering them completely over with clean, fine ashes, or cocoa-nut fibre refuse, to the depth of 6 inches. The bulbs will here make roots without danger of first making top growth. This is necessary to their successful forcing and flowering. It simplifies the management and is altogether more satisfactory than any other method. The time necessary for the bulbs to stay under the plunging material is six to eight weeks. When an inch of top growth has been made sufficient indication is given that roots are freely formed, and the plants may be taken out.

The growths will be blanched, so the first thing necessary is to gradually expose them to the full light. A cold frame is the best place to stand the pots or boxes, shading with a sheet of paper inside or inverted pots. Exposure to air and light eventually dries the soil. When this happens give each pot a good watering, always keeping the soil moist afterwards.

Forcing may commence after a few weeks' frame treatment, proceeding gently, a temperature of 50°, rising gradually to 55° or 60°, usually being ample. If further acceleration of the blooms is needed a gentle bottom heat at the later stages of growth will bring them on quickly. As soon as the flowers are well advanced give cooler treatment, which will avoid undue lengthening or weakening of the stems. Forcing may commence about a fortnight before the plants or blooms are wanted. The weather prevailing at the time influences the growth to some extent; therefore, if extremely cold, more forcing heat must be given to counteract it. On favourable occasions in the winter the plants develop well into bloom with only warm greenhouse treatment, being accorded abundance of light with judicious watering at the roots, a little weak stimulant being also given.—E. D. S.

RIPENED WOOD.

"D., Deal" (page 160), presumes to put to the readers of the *Journal of Horticulture*, and specially, of course, to its practical students, a query that baffles his usually keen intellect. How is it, he asks, that after such a wet autumn as was found last year, producing very sappy growth on fruit trees, that we see this season such a magnificent crop of fruit? Where, then, is the ripened wood theory?

Well, in the first place, the sappy growth suggestion is altogether wrong. There was no sappy growth last year, indeed it was a matter for common observation that in spite of the considerable rain of last summer and autumn wood growth was neither abnormal nor sappy.

Why was that? It was because the exceeding and prolonged drought of 1893 had so absorbed moisture, that so far as trees and bushes were concerned only about an equilibrium of moisture in the soil was restored by the abundant 1894 rains. Thus, in spite of the intense frost of the following winter, no harm whatever was done to any trees or bushes ordinarily hardy and deciduous. It was only semi-tender things, such as Figs, or evergreens such as some Pinuses or Bays, or immature annual growths, such as Raspberry canes, that did suffer. When we regard the intensity of frost Apple trees, for instance, have to endure in Canada, it seems absurd to look for any particular harm being done to them in Britain, even when frosts are unusually severe.

But then it seems to have escaped "D., Deal's," attention that with very few exceptions fruit—Apples, for instance, of which we have such a splendid crop—is chiefly produced on wood two years old. Of course I am referring to naturally grown trees. Therefore the wood which is producing the grand crop of to-day was practically made and ripened during the hot dry summer and autumn of 1893. Thus a simple solution of this profound problem of "D.'s" is furnished. It is not only needful, if we would be thoroughly enlightened, that we should see a hedge, but that we should look over it to see what is beyond before hastening too rapidly to conclusions.—ANOTHER D.

MAY I inquire how the ripe wood men have felt this summer? Very small, I should imagine, when they beheld the prodigious crops of every kind of fruit already gathered or to be gathered, and then recollected their own gloomy forebodings of twelve months ago.—THE SCEPTIC.

IN answer to "D., Deal," it seems to me that the simple fact of a very light crop of Apples last year accounts for the present general

good display. Last year I was almost alone in this neighbourhood in having a heavy crop, with the result, as I expected after such a sunless autumn, that I had scarcely any bloom this spring. Good culture could not atone for the double strain, but a light crop would probably have made up for the absence of autumn sun, and *vice versa*. However, I need not complain. It is a good thing to be "out of the beaten track," for one can then sell in a dear market and buy in a cheap one.—W. R. RAILLEM.



CHRYSANTHEMUMS AT HEYWOOD.

THE customary notes on Chrysanthemums respecting their present state and the future prospects will now be a prominent topic among growers generally, and particularly to those who grow them for exhibition purposes, and these notes from now onward will be anticipated in the Chrysanthemum columns of the *Journal* week by week by many readers. The West of England can boast of some very good growers, and at least two good old-established societies where Chrysanthemum growers are well represented—namely, at Devizes and Bristol. For many years a good show has been held at Bath, but for want of more substantial patronage this has been allowed to lapse, which is very much to be regretted.

At each of these fixtures the Heywood Chrysanthemums have figured successfully, and Mr. Robinson, Lord Justice Lopes' gardener, is now looked on as one of the foremost men in his district for the excellence of his productions. About 400 plants are grown for large blooms, and some fifty or more for very early and late cutting as bush plants, and this number being found to fill the available space devoted to them without crowding, no attempt is made to grow more. For this reason a rather severe analysis has to be made each winter of the sorts grown, so as to discard a sufficient number for admitting new introductions, of which Lord Justice Lopes is a good patron.

It has been my privilege for the past three years to make an inspection of Mr. Robinson's plants during the growing and flowering periods, and the prospect this year, to me, seems very encouraging, the vigour of the many new and old varieties being alike excellent; the bottom leaves, considering the tropical weather experienced in the early part of the summer, remains fresh, but coloured, as would be naturally expected.

Among the newer kinds I noticed the following as doing exceptionally well:—Mrs. C. E. Shea, Mrs. W. J. Godfrey, Duchess of York, Miss Dulcie Schroeter, La Neige, Mons. Gruyer, Madame Carnot, President Armande, Philadelphia, Mrs. W. H. Lees, Pallanza, Hairy Wonder, Frank Wells, Commandant Blussett, Mutual Friend, H. L. Sunderbrack, Thos. Davidson, Mrs. E. S. Trafford, Madame Ricord, Madame Chas. Capitant, Mons. Chas. Molin, Souvenir de Toulon, Mons. Panckouke, and Madame J. de Beylie in the Japanese section. Some of the older ones, such as Edwin Molyneux, Sunflower, W. H. Lincoln, Mdle. Thérèse Rey, Vivian Morel, Chas. Davis, J. S. Dibben, Robert Owen, and Duke of York are in fine condition.

Incurved varieties are grown largely and well, Mr. Robinson's blooms being always characterised by symmetry and freshness rather than large coarse petals, thus showing that the buds are well timed by spring or summer stopping as required by individual varieties, and a selection of the best buds at the present time. The Queens and Princesses are all in the best form; the last named has been stopped this season to reduce their height at the flowering time, and of the Queens, Mr. Robinson considers the 25th of this month quite soon enough to "take" the buds. The newer sorts—J. Agate, Chas. H. Curtis, Owen's Crimson, Globe d'Or, and Mrs. R. C. Kingston—have been added to the collection. Anemones and reflexed are each represented in most of the best kinds. The first named are always an interesting feature from a conservatory or exhibition point of view, and only the very best sorts are allowed a place. Owen's Perfection, Descartes, Surprise, and Caledonia are this year's additions to the already choice assortment of Anemones.

The plants are always singularly free from mildew, which to some extent, I think, is attributable to the presence of lime in the water used freely for syringing in bright weather. Pots 9 inches in diameter are mostly employed, but where larger than these are used they are occupied by plants in duplicate. Pots beyond this size are not considered favourable to moderate growth, followed by thorough maturity in leaf and stem; and smaller ones are not used at all. The plants during summer form an imposing avenue, being situate on either side of the path, extending the whole length of the garden. Boards are used for standing the pots on, to prevent the ingress of worms and the roots from trespassing beyond their proper limits. A neat wire trellis supports them, and with bamboo stakes, frequent attention to tying and disbudding, their summer quarters forms a strictly neat and interesting promenade. They undoubtedly reflect much credit on their grower, who personally attends to their daily requirements, and unless some unforeseen accident intervene Mr. Robinson will render a good account of himself in due course.—W. S.

A DAY AT GLEWSTON COURT.

To anyone interested in horticulture, perhaps no time can be more pleasantly and profitably spent than in visiting, admiring, and, perchance, criticising the handiwork of a brother of the craft. On such occasions opinions are exchanged, and many useful lessons, the result of long experience and careful study, learnt. To gardeners the reminiscences of time so spent are pleasant, as in every garden, no matter how insignificant, there is sure to be something worthy of an afterthought, and generally some "wrinkle" to be picked up that may be carried into practical and beneficial effect.

It was in response to an oft-repeated invitation that steps were recently directed to Glewston Court, an establishment which, though boasting no traditional history nor possessing any of those points which make many gardens famous, has in a few years, from being a place almost unknown, become so noted as to be an household word to all interested in the cultivation of hardy fruit. This is not by any means the first time that interesting facts connected with Glewston have appeared in the columns of the *Journal of Horticulture*, and many readers will doubtless have recollections of them, but as a refresher to the memories of such and for the benefit of other readers it may be interesting to know that only twelve years ago this spot was chosen by the thoroughly practical and enthusiastic proprietor (Mr. Charles Lee Campbell) to devote his capital and energies in what was then, and is now, occupying the attention of a large number of people—viz., fruit growing for profit.

Soon after commencement he was fortunate in procuring the services of Mr. S. T. Wright, who, as a grower and successful exhibitor of fruit, has won for himself a high position on the category of English gardeners. Becoming connected with the concern when still in its infancy, there is no wonder that such a combination of efforts has been crowned with success, and a display of fruit may now be seen at Glewston, the excellence of which it would be difficult to excel, if equal. "Try and come about the middle of August, and we then hope to have something to show you," were the words uttered by Mr. Wright some time ago; and after that, though we expected to find something worthy of a visit, our hopes were more than realised, and it will be a long time before the recollection of what was there seen will become effaced from the memory.

From morn till eve the day proved to be full of interest, opening as it did with a most enjoyable ride through the enchanting scenery of the Wye Valley on a perfect August morning, and we may be forgiven if the prospect of the fruit was for the time forgotten in the romantic beauty of the landscape on each side of the placid stream. Here was a range of forbidding looking cliffs, there a gentle wooded slope, and further on a sequestered ravine, the recollections of which are so pleasant that the pen is apt to wander away from its object—describing the fruit fields at Glewston—and dwell on the charms of Dame Nature so magnificently illustrated near the meandering waters of the river Wye. Soon, however, yea, too soon for one unaccustomed to such sights, this part of the day's pleasure came to an end, the quaint old town of Ross was reached, the three miles of pleasant country lanes that divide it and Glewston passed over, and from viewing Nature in her primitive form, our attention was directed to her products rendered more perfect by aid of the art of cultivation. Herefordshire and Apples are so synonymous that to speak of the former brings the latter to the memory, and in passing along many orchards were noticed well laden with creditable fruit, but nowhere could there be seen any worthy of comparison with those displayed in such abundance in Mr. Campbell's fruit field, proving beyond doubt that to produce samples of the finest quality, and it is such that commands the highest price and most ready sale, they must receive the care and attention in cultivation due to them, and given this, a visit to Glewston proves beyond argument that Apples may be obtained in this country which for size and quality have no superiors.

The climatic conditions of the early part of the season having been favourable the crop this year exceeds any of its predecessors, and aided by bright sunshine the colour and quality leave nothing to be desired. The fruit field occupies an area of 10 acres, has a south-easterly aspect, and is situated 150 feet above the fog line of the Wye Valley; the surface soil being sandy loam resting on a foundation of old red sandstone. Six thousand bush trees of Apples, Plums, and Pears occupy the area, the first portion of which was planted twelve years ago, and the second six years later.

Once within the enclosure interest ran high. Numerous questions were asked, all of which were readily answered by Mr. Campbell himself or his clever gardener, both of whom seem to be acquainted with each individual tree. Everything is carried out on the most improved system, and the disposal of the fruit conducted on strictly commercial lines. The trees are planted from 8 to 9 feet apart, and are kept low, ranging from 8 to 10 feet, by which method much labour is saved in pruning and washing, as the work can be done without the aid of steps or ladders. That the soil and situation are in every way suitable for Apples is apparent by finely coloured fruit and healthy condition of the trees, while on the portion set aside for Pears the case is very different, as these are an entire failure, from which it may be gathered that Pear growing at Glewston is a dead letter.

Amongst other Apples Ribston Pippin, Yorkshire Beauty, Ecklinville Seedling, Emperor Alexander, Peasgood's Nonesuch, Warner's King, and Lady Sudeley were exceedingly fine, while the colour of Worcester Pearmain left nothing to be desired, in addition to other excellent

qualities, its rosy appearance being so attractive to the eye, this being an important factor in effecting a ready sale.

"Which do you consider the best Apples for market purposes?" was a question put to Mr. Wright. "Ecklinville Seedling and Lane's Prince Albert on our soil," was the prompt reply, and judging from the huge crop and superb quality of the fruit there was sufficient evidence to justify the statement. A large portion is set aside for Plums, of which Victoria is the favourite, the excellent samples realising the highest price in the market. Ever inquisitive to obtain as much information as possible the next interrogation was in reference to manures, as, like everything else at Glewston, this item has been the subject of careful experiment and study, with the result that the following has been found to be the most effective:—Muriate of potash, 3 cwt. to the acre applied in two dressings—first, directly after the fruit is set, and second when the swelling process is well in operation. Superphosphate and nitrate of soda at the rate of 5 cwt. of the former and 1½ cwt. of the latter per acre, mixed together and applied in a similar manner as the muriate of potash in two dressings.

A favourable and striking feature about the trees is the clean and healthy appearance of the bark and foliage, and this has doubtless much to do with the excellent results. The energy of Mr. Wright has led him to make insects a special study, and having made himself acquainted with the many pests which play havoc amongst fruit trees, he considers the following one of the best recipes for washing—viz., 1 lb. of crude potash, and 1 lb. of caustic soda, mixed with 10 gallons of water, and applied warm when the trees are dormant. The dreaded winter moth is a deadly enemy, and for its eradication a simple method is adopted at Glewston with favourable results. A number of fowls are kept in the fruit field, and when the pests are in a grub state the trees are continually shaken, while the fowls follow and greedily devour the grubs as they fall to the ground. Simple as such methods are, they are well worthy of note, and by giving them careful attention much anxiety might be dispensed with, and many a fruit crop saved.

"Has not the dry weather affected you?" was another question asked. "Oh, we provided ourselves against that," was the reply, "by the aid of two large steam engines fixed to a pulsometer pump, by which over 1,000,000 gallons of water was applied to the trees, and by this means we not only saved our fruit crop this year, but it has also had the effect of plumping up the buds for next season?" Such forethought is certainly worthy of commendation, and though next season seems a long time to prophesy about, yet, under favourable conditions, the trees are in excellent condition for future crops. Many growers with old-fashioned notions would probably laugh at the idea of going to so much trouble and expense over watering Apple trees; but "What is worth doing at all is worth doing well" are the lines followed at Glewston, and the result is apparent.

The fruit had been thinned previous to our visit, and a large quantity of the smallest disposed of, so that the majority of those remaining were first-class samples, in every way creditable to the cultivator; and it is when such fruit as that produced at Glewston is more generally placed in our markets that English, not American, Apples will be consumed to a far greater extent than at present. A more suitable time to see the fruit at its best could not have been chosen, as many of the earliest Apples showed signs of being ready for market, and amongst them we could not help remarking on the size and excellence of Ecklinville Seedling, which is certainly at home in the soil and situation, and where this is the case we know of no other Apple possessing higher qualifications. The Plum portion was in itself a feature, the trees being laden with highly coloured Victorias to such an extent as to necessitate propping of the trees. As already stated, this variety is considered the most profitable, and in size and colour (two important factors) the fruit was rapidly nearing perfection. An air of activity prevailed, gathering and packing being the chief present occupation, and to see the huge piles of hampers ready for distribution told plainly that choosing the markets and disposing of the fruit is no small item in Mr. Wright's numerous duties, and that it is not till the products are in the hands of the consumer that the responsibility ends.

Had there been nothing else to see more time might have been spent among the hardy fruit, but such was not the case, and it was with some reluctance that we were obliged to leave this interesting department, and turn our attention to the glass houses, where we were not surprised to find everything of the same high order of merit. In commencement Mr. Campbell did not confine his attention to hardy fruit growing, but erected suitable houses for the cultivation of Vines, Peaches, Tomatoes, and Cucumbers; and those who have visited many of the principal shows will need no reminding of Mr. Wright's skill as a successful grower. A peep into a range of lean-to vineries, 120 feet long and divided into three sections showed heavy crops of fruit, much above the average in quality. The first section is devoted to Muscat of Alexandria and Muscat Hamburgh; the second to Black Alicante and Mrs. Pince's Black Muscat; and the third to Gros Colman.

The crop in each of these is an exceedingly heavy one, and not formed of small bunches, but large clusters of fine berries, giving every prospect of superb finish and colour by the time the fruit is ripe. Any notion that Vines cannot finish heavy crops would be dispensed with after a visit to the Glewston vineries, as here is proof to the contrary of any such idea, and Mr. Wright estimates the Muscats at 3 lbs. per bunch, while the Alicantes would draw more.

In a Peach house 80 feet long such varieties as Crimson Galande, Royal George, Bellegarde, and Early York had been stripped of their luscious burden, though the condition of the trees gave unmistakeable

evidence of good culture. Tomatoes and Cucumbers are grown in quantity, and readily disposed of. In a span-roofed pit 100 feet long numerous large fruits of the former were noticed, while we learnt that throughout the summer the crop had been an exceptionally fine one. Several frames are devoted to Melons, and many fine examples proved that under careful treatment excellent results may be obtained by this system.

Other crops of less general interest were noted, but everywhere the result of sound cultivation and careful attention to details was apparent, and nowhere has it been our lot to see a more striking instance of what can be effected where in the first place a keen interest like that of Mr. Campbell is taken in a garden; and secondly, where such is under the management of a man with the capabilities and energy of Mr. Wright, as the interests are then mutual. Approaching eventide, however, brought with it the close of a day spent pleasantly and profitably, and with some regrets that the time had passed so rapidly, our steps were again directed homewards, satisfied that it was to our advantage in many ways that the day had been spent, and with mind full of congenial reminiscences of a day at Glewston Court.—G. H. H.

BRITISH FUNGUS-FLORA.*

THE fourth volume of this valuable work treats of the Ascomycetes group of Fungi, which "are characterised by having their spores produced in 'asci' or mother-cells." Mr. George Masee, the author of this trustworthy work on British Fungi, gives very clear definitions of this family in its various conditions, describing, with considerable acumen, the constituent parts of the "ascophore," or receptacle containing the spores or reproductive bodies.

The Ascomycetes group of Fungi is particularly interesting to horticulturists, as in the sub-family Ascomycæ the representative species are parasitic on living plants. This consists of but one genera, Ascomyces, and embraces the well-known Peach-leaf blister fungus (*Ascomyces deformans*). This fungus is well known to gardeners growing Peach and Nectarine trees against walls, and it is said to cause the disease known as "curl" in the leaves of Peach and Apricot, "also forming the dense fasciculations of small branches called 'bird's nests' or 'witches' besoms' in the Plum, Cherry, and Bird Cherry." This is strangely in contrast with statements attributing such growths to as many species of Ascomyces. Has anyone proved that bloom from the leaves of a Bullace "witches' besom," and attributed to the fungus called *Ascomyces institia*, produces that of *A. deformans* on the young growths of the Nectarine and Peach? Supposing we take spores from the Peach fungus and place them on the young growths of a Cherry, Plum, or Bird Cherry (*Cerasus Padus*) tree, will they grow, and producing in that or the following year "fruits," which, on examination, are the exact likeness of those borne by the parental stock on the Peach tree whence they were taken? This is a very interesting experiment, and far-reaching in results. *Ascomyces pruni* "causing peculiar deformations in the young fruit of the Plum, Sloe, and Bird Cherry," is happily an uncommon affection of the Plum in this country. I have only met with one specimen in fifty years.

The fungus (*A. bullatus*) "forming blisters on living leaves of Pear and Hawthorn" finds place in "British Fungus-Flora," but why overlook its growing on Apple trees, which in 1893 and 1895 (seasons particularly favourable to the Ascomycæ) were quite red in the young leaves and shoots with the infection of this parasite, the trees having a really picturesque appearance? The owner of the trees called it blight, caused by the weather, but it only affected old or unhealthy trees. These he was doing his best to rejuvenate by re-grafting, for the trees were not really old, but decrepit prematurely from the recurring blight. His cankered Apple and Pear trees had been treated in the same way, and they were perfectly healthy, paying their way from the third year. Here was a man who knew nothing whatever about fungi doing what fungologists were only beginning to advise—destroy the fungus and there will not be any disease of the character it produces. This orchardist did not know that the myceliums of the blight (Apple leaf blister fungus) and canker fungus (*Nectria ditissima*) were perennial, but he did know that cutting off the heads of the diseased trees in both cases and putting on new by re-grafting with clean healthy scions was effective against both "blight" and "canker." But will they come again? Certainly both will return if there be any affected trees in the locality.

Under the Ascomyces I find no mention of *A. turgidus* producing "witches' besoms," on Hornbeam, nor is mention made of any Ascomyces giving rise thereto. I cannot see any difference between *A. turgidus* and *A. Carpinii*, the assumed species found on the Hornbeam. As this species is not recognised by Mr. Masee presumably he does not admit it to be different from *A. turgidus*. This is the great merit of "British Fungus-Flora"—namely, all doubtful species are excluded, such as *A. juglandis*, which I have striven to find in Walnut trees without success.

Mr. Masee's work, as embodied in the four volumes issued, is a masterpiece of systematic arrangement, while the terse descriptions and faithful portrayals or engravings of the several groups, families, sub-families, genera, or typical species render the work indispensable as a text book for students and for reference to fungologists. The volumes are handy in size, well and attractively bound, the paper good, the type bold, and matter clear, definite, and invaluable—a work to be cherished.—G. ABBEY.

* Vol. IV., Messrs. George Bell & Sons, York Street, Covent Garden, London.



EVENTS OF THE WEEK.—On Friday and Saturday the National Co-operative Society holds its tenth annual flower show at the Crystal Palace. On Tuesday the Committees of the Royal Horticultural Society meet at the Drill Hall, and the Brighton and Sussex Horticultural Society opens its summer show in the Pavilion of that town. On Wednesday Bath show will be held, as also will Harpenden.

— WEATHER IN LONDON.—The weather during the past week has been glorious, the sun having shone bright brilliantly every day. The barometer has fluctuated slightly, but no rain has fallen, and the temperature has been very high. On Tuesday, during the early part of the morning, it was somewhat dull and cooler, but towards midday the sky cleared, and the sun shone warmly.

— THE next meeting of the Royal Horticultural Society will be held on Tuesday, August 27th, in the Drill Hall, James Street, Westminster. At three o'clock a paper by Mr. C. F. Bause on Crotons and Dracænas will be read.

— THE WAKEFIELD PAXTON SOCIETY.—We have received a communication from Mr. T. Garnett which cannot be published this week, if at all. If Mr. Garnett will send us a copy of the balance sheet of the Society we will, if necessary, make inquiries on certain points at issue, of much more than local importance. We have to repeat, that we shall decline to insert matter of a personally acrimonious nature from any person in relation to the conduct of the affairs of this Society.

— WOBURN EXPERIMENTAL FRUIT FARM.—A party of forty agricultural students attached to the Summer College of the Bedfordshire County Council visited the above farm on Tuesday, August 20th, by permission of His Grace the Duke of Bedford and Spencer Pickering, Esq., F.R.S. They were conducted over the grounds by the Manager, Mr. Castle, and the general scope of the 500 experiments already commenced was explained. Much interest in the work was evinced by the visitors, who were chiefly schoolmasters engaged in the County, and who are qualifying for teaching classes under the Technical Education Department. Before leaving they were entertained at tea in the house on the farm, thus concluding a very agreeable afternoon's outing.

— NYMPHÆA LAYDEKERI ROSEA.—In reply to "J. F. H." (page 154) I have much pleasure in stating that I have just measured two fully expanded blooms of this fine Water Lily, one proved to be 5 inches in diameter, and the other slightly larger. *N. alba* growing in the same pond had several flowers which measured 6 inches in diameter, the others being somewhat smaller. To be quite correct I should, therefore, have described the flowers of the variety named at the head of this note as being a trifle smaller than those of *N. alba*. I do not think we have had one flower of *N. Laydekeri rosea* so small as 3 inches in diameter, and as the plants came direct from Monsieur Marliac I think there can be no mistake about having the true variety. Perhaps other growers will favour Journal readers with the measurements of their flowers. Without doubt these hybrid Lilies are "coming" flowers, and additional notes about them will, I believe, be welcomed by many.—H. DUNKIN.

— POINSETTIA ROOTS DYING.—It is rather difficult to give a reason for the Poinsettia roots dying, as requested by "H. W." (page 106), but I am inclined to think that they must have received a severe check, caused by allowing the pit to get too hot, and then when giving air allowing a cold draught to blow on the plants, and possibly they have been watered with cold water. In my opinion the soil in which they were potted at their final potting is of too stiff a nature. The compost that I use, and find they grow well in, is three parts turfy loam, three parts peat, and one part each of coarse sand, manure, and leaf mould. If "H. W." roots his cuttings under hand-lights in a temperature of 50°, and when rooted gradually hardens them, so as to have them standing in cold frames by the beginning of July, and the lights kept off on all favourable occasions until the beginning of September, when they should be taken in a house, have a temperature of about 50° gradually rising to 60°, and the plants kept well syringed, he will be rewarded with good bracts and plenty of green leaves.—G. H.

— WE learn that Mr. J. B. Sowerby has been appointed Secretary of the Royal Botanic Society in succession to his father, Mr. W. Sowerby, who is retiring after fifty years' service.

— BULBS FOR THE LONDON PARKS.—Messrs. Carter & Co., High Holborn, write:—"We have again been honoured with the commands of Her Majesty's First Commissioner of Works to supply the bulbs for the Royal Parks of London, and we have also received a similar favour from the London County Council for the parks, gardens, and open spaces under its control."

— PLANT DISEASES ON THE CONTINENT.—During the past three or four weeks about nine-tenths or more of the growing crops of Tomatoes in the fertile lands of the Rhone valley have been destroyed by disease. The Onion disease is just now assuming alarming proportions. In both Western and Southern France whole fields are simply ruined; where 500 kilos were confidently expected, not so much as 10 kilos will be saved. These are, of course, exceptional cases, but hardly one field is unaffected. Were it not, says a contemporary, for the fact that the acreage is exceptionally large, a famine would certainly result. Leeks, although not affected to the same degree, are also attacked, but only the individual growers of this article are likely to suffer.

— LEIGHTON BUZZARD HORTICULTURAL SOCIETY. — The eleventh annual show of this vigorous and thriving society (under the presidentship of Mr. Leopold Rothschild) was held in the Bell Close on August 15th, and being favoured with fine weather, proved in every respect highly satisfactory. The exhibits were numerous and of excellent quality, while the attendance of visitors was all that could be desired by the hard-working Committee and courteous Secretary (Mr. Aubrey Collier). Three spacious tents were occupied with plants, cut flowers, fruit, and vegetables in the open, amateurs' and cottagers' classes, all being admirably represented by good produce. For stove and greenhouse plants, with groups arranged for effect, the principal prizetakers were Messrs. W. Finch, gardener to J. Marriott, Esq., Coventry; W. Vause, Somers Place, Leamington; W. J. Empson, The Gardens, Ampthill House; and J. J. Martin, Leighton Buzzard. The leading exhibits of cut flowers came from Messrs. J. Walker, Thame; Perkins & Son, Coventry; and J. Burrell & Co., Cambridge. Fruit and vegetables were shown in capital form by Messrs. W. J. Empson; W. Tompkins, gardener to F. Bassett, Esq., The Heath, Leighton Buzzard; F. Scott, gardener to J. W. Brown, Esq., Liscombe Park; and J. Smith, gardener to R. Tindall, Esq., The White House, Leighton Buzzard. Groups of plants and collections of flowers not for competition were shown by Messrs. J. Veitch & Sons, Laxton Bros., Paul & Son, and Cutbush & Sons.

— MR. FREEMAN-MITFORD ON HARDY BAMBOOS.—In his lecture upon Hardy Bamboos at the Horticultural Society's meeting last week, Mr. Freeman-Mitford contrived to give quite an interesting character to what cannot be regarded as exactly a popular subject. It is a pity that one who combines so many of the qualities of a fine lecturer should have been called upon to appear so late in the season; but, despite this fact, there was an excellent attendance, and the address was listened to with marked attention by the audience. Mr. Mitford spoke as an enthusiast, and vindicated the character of the Bamboo from the accusation of delicacy. Many, he said, were excellently fitted to resist the hardships of our climate. So much, however, depended on the way in which they were planted out. This should not be done in autumn, but in June. Throughout the winter after their arrival they should be kept in a cool house. Before being put into the pots the roots should be soaked in water for twelve hours. During winter they should be sparingly watered, but more freely in spring when the new growth commences, and towards May the hardening process, preliminary to planting out, should be begun. In planting out the chief point to be observed was not to tread the soil firmly down upon the roots. In conclusion, Mr. Mitford passed in review many of the most striking species of Bamboo, enumerating their characteristics. One point of great practical utility upon which he touched was the fact that the hardy species can often be distinguished by their peculiarly quadrangular venation, but it does not appear that this peculiarity can be implicitly relied upon when selecting specimens for out-of-door treatment in this country. One of the most useful results of the lecture was a piece of information volunteered by Dr. Masters during the discussion, and which is worthy of wide dissemination. Shady spots are the despair of small gardeners in and about towns, and advice regarding plants suited to such positions is constantly being asked. For the most troublesome cases Dr. Masters recommends *Bambusa Metake*, which will often grow in hopeless situations where all other plants have failed.

— ASTRAGALUS HYPOGLOTTIS ALBUS.—This plant differs from the type, *A. hypoglottis*, only in the colour, which is as the name indicates of a pure white, while the latter has white, blue and purple variegated flowers which are produced in a roundish head, springing from the axils of the leaves on stems standing out well above the foliage. The latter is pinnatifid and of a dark green colour, while the stems are hairy and creeping or prostrate. According to a writer in the "American Florist" it is a very ornamental plant for rockwork or the edge of the border, growing only 3 to 4 inches high, and it delights in dry soil and a sunny situation, flowering freely from the latter part of June to the end of August. *Astragalus alopecuroides* blooms in compact oblong spikes on axillary peduncles, and is one of the best taller varieties. The flowers are a light yellow, very pretty, and remain in perfection from the end of June to the latter part of August. The leaflets are covered with a whitish down, and the habit of the plant is erect, growing 2 to 3 feet high.

— THE KITTUL PALM.—The Wine Palm or Kittul Palm attains a height of 50 or 60 feet, and is remarkable for the peculiar form of the leaflets, which have been compared to those of our common Maidenhair Fern. The leaves themselves are from 18 to 20 feet long. It is a native of Ceylon and India, growing in forests in the hilly districts where Teak and the wild Mango abound. The Kittul fibre of commerce is prepared from the sheathing leafstalk; it is used as a substitute for bristles for making brushes and baskets. The value is from 3½d. to 10d. per lb. It is said that in Ceylon ropes made from the fibre are used for tying elephants. Roxburgh says it is highly valuable to the natives of the countries where it grows. "It yields during the hot season an immense quantity of toddy or palm wine. I have been informed that the best trees will yield at the rate of one hundred pints in the twenty-four hours. The pith or farinaceous part of the trunk of old trees is said to be equal to the best sago; the natives make it into bread, and boil it into thick gruel; these form a great part of the diet of the people, and during a famine they suffered little while the trees lasted. I have reason to believe this substance to be highly nutritious. The Wine Palm ends its existence by flowering. The first flowerstalk appears at the top of the tree, as soon as that has done flowering another appears lower down, and so on, till the last one blossoms at the foot of the trunk, proclaiming that the death of the tree is near at hand. These flower spikes hang down in large bunches, producing quantities of round, reddish berries. The wood is strong and durable, used for agricultural purposes, water conduits and buckets.—("Indian Agriculturist.")

— SHREWSBURY FLORAL FETE.—As this great floral fête was only opened this morning it is impossible for us to give a detailed report in this issue, but our representative telegraphs that "this is the largest show ever held here, the marquees being crowded with splendid produce. The number of entries was 2740. Weather brilliant, and the show a magnificent success." The generosity of the Shrewsbury executive is well known all over England, the prize money this year amounting to upwards of £800. No wonder such magnificent produce is shown year after year. The first prize (£25) for twenty specimen plants went to Mr. J. Cypher, Cheltenham, who showed in perfect form; the second place being occupied by Mr. Finch, Coventry. Mr. J. Cypher was again successful for a group of plants arranged for effect, in this case securing £20. He was followed by Messrs. J. Edmonds, Bestwood Lodge, £16; Finch, £14; and Roberts, £10. The taste displayed in floral decorations at Shrewsbury is well known. Messrs. Perkins & Sons were first, £12 10s.; Jones & Sons, second, £10; and Mr. Chard, third, £7 10s. In the classes for ball and bridal bouquets the prizes were secured in the same order as for the floral decorations. The celebration of the jubilee of the Society was signalled by the introduction of a new class for fruits to comprise twenty-five varieties, the prizes being £20, £15, £10, and £6. Superb examples of culture were staged, the prizes going to Messrs. J. H. Goodacre, Elvaston; J. McIndoe, Guisborough; J. Edmonds, and Nowell. For a collection of eight dishes of fruit Messrs. McIndoe, Goodacre, Bannerman, and Gilman. Mr. J. J. Craven, Allerton, was a splendid first for six bunches of black Grapes, securing £10; Mr. Barker being second with £7 10s.; Mr. Lambert third with £5, and Mr. Bannerman fourth with £2 10s. Vegetables were shown in magnificent condition by large numbers of growers, Mr. T. Wilkens of Inwood securing the premier position for a collection of twelve varieties. Messrs. Pope and Milner were second and third as named. Gold medals were awarded to Messrs. J. Veitch & Sons, Eckford, Prichard, W. & J. Birkenhead, and Rothschild, several silver-gilt and silver medals being also accorded, of which further particulars will be published in our next issue.

— IT IS SAID THAT CUT FLOWERS will keep very fresh if a small pinch of nitrate of potash or common saltpetre is put in the water in which they stand. The ends of the stems should be cut off a little every day to keep open the absorbing pores.

— THE MANCHESTER LILY SHOW.—Referring to the exhibition of *Liliums* which opens at Manchester on the 22nd inst., and continues the two following days, the Rev. David R. Williamson, in wishing success to the project, expresses the hope that he may live to see a "National Lily Association, conducted on the same principles as the National Rose Society, which has already accomplished so much for the higher culture of the 'Queen of Flowers.'"

— THE SCOTCH THISTLE.—An old legend traces the origin of the Thistle as the emblem of the Scottish kingdom to the far-away time when the Danes were invading the country. On a dark night, runs the story, as they were advancing to attack an encampment of Scots, one of them trod on a Thistle, and the thoughtless exclamation which followed awakened the slumberers, who, springing to arms, defeated their assailants. In gratitude for this deliverance the flower of the Thistle was adopted as the national emblem.

— THE UNITED STATES NATIONAL HERBARIUM.—It is reported that this has been removed from its home in the building of the Department of Agriculture to the Smithsonian Institution. The collections in connection with the divisions of agrostology, vegetable pathology, and forestry will not be removed at present. We understand that American botanists are agitating for a proper building to hold the National Herbarium, and for a staff of scientists to conduct the necessary work in connection with it. This is a most commendable movement.

— THE EFFECTIVENESS OF PARIS GREEN.—This is of varying results, as the experience of G. M. Nichols demonstrates. Experiment station bulletins and Government reports recommend 1 lb. of Paris green to 200 gallons of water, applied early in the season. For the first application to half-grown Potato plants, half a pound to 50 gallons of water was used with no effect. After waiting forty-eight hours of sunny weather, the patch was again sprayed with Paris green, 1 lb. to 50 gallons. The latter spraying disposed of about half the insects in forty-eight hours. The patch was sprayed the third time with 1½ lb. Paris green to 50 gallons water, and the work was done effectively. Had Mr. Nicholls sprayed earlier, he would doubtless have found the 1 lb. poison to 200 gallons of water effective. It is almost impossible to cover all of the leaves with Paris green so that every insect will get its death dose in a very short time. The first application should invariably be made as soon as the first larvæ hatch, using water liberally so that the Paris green will be settled into the creases and folds of the leaves and caught on the hairs. If not applied until the larvæ are well grown, they are so wise that they will eat all around the poison before they take the part with Paris green upon it. Under those circumstances, it should not be expected the poison would be effective in less than forty-eight hours. Used stronger than 1 lb. to 200 gallons of water, the leaves are often injured.—("American Cultivator.")

— CHRYSOBACTRON HOOKERI.—Mr. J. B. Kellar writes in the "American Florist":—"This is a rare plant, but a very handsome one, blooming freely and constantly during July and August. The flowers are of a very bright yellow, and are produced in abundance on long stiff erect racemes. The leaves are from 9 to 12 inches long, broadly linear, grass-like, of a dark green when mature, but when first coming out in early spring the points of the young growth is of an intense orange scarlet colour, and from a distance look like a mass of flowers, where they are planted thickly, and if the plant had no flowers at all this spring ornament alone would make it most desirable, for in spring blooming plants we have none to give us this intense and dazzling colour. It succeeds best in a moist situation, and should have plenty of water if planted in the ordinary border; height 2 feet. This plant should be grown largely in all collections, but unfortunately stock is very limited, and it takes time to raise enough from a few plants to make a show, although they divide easily, and the smallest offset will make a good growth the first season. There are so many herbaceous plants of easy culture that have become very rare and almost extinct, but with the revival of interest in them as manifested in the last few years, I hope that most of the more desirable ones will be plentiful in the near future, and sold at popular prices. As it is now, high prices are the rule for rare things, and people are indifferent as to buying them unless they actually see the plants and take a liking to them."

— MESSRS. G. BUNYARD & Co. write:—"We have received a Royal Warrant appointing us purveyors of fruit trees to Her Majesty the Queen."

— HEADLEY HORTICULTURAL ASSOCIATION.—This Society held its eleventh annual show of horticultural and floricultural produce on Tuesday, 13th. Over 2000 people visited the show, which was in every way a success, and reflects great credit on the Hon. Secretary and his Committee for the excellent arrangements for displaying of the exhibits in the schoolroom.

— VEITCH'S CLIMBING FRENCH AND SUTTON'S TENDER AND TRUE RUNNER BEANS.—"A. D." says at page 155 "that it has not yet been his good fortune to see both the above mentioned Beans growing side by side this season," and he then goes on to say that "he saw Tender and True at Ashted Park recently, where it had reached 5 feet in height, and was cropping abundantly." I should like to say in reference to the above remarks that I have rows of Veitch's Climbing French Bean 8½ feet high, and yielding long, straight, handsome pods of the best quality in abundance from bottom to top of haulm. This is no new experience of the Bean's height and productiveness on my part, as I have grown it during the last sixteen or eighteen years. During the whole of that period (summer months) two or three long ranks of this Climbing French had excited the wonder and admiration of all gardeners visiting this place.—H. W. WARD, *Longford Castle, Salisbury.*

— THE ARNOLD ARBORETUM.—This, it is reported, has recently been considerably enlarged, the additions having been made by an arrangement recently concluded between the President and Fellows of Harvard College and the City of Boston. These additions include two parcels of land with an area of about 20 acres within the boundaries of the original Arboretum, but reserved by the city for its own uses when it was established; two pieces of land with an area of about 3 acres on the north-west border of the Arboretum, and purchased by the city last year; a piece of land, the property of Harvard College, south-west of the old Arboretum, with an area of 67 and 6-10ths acres; this consists of a high, rolling, grassy hill, the second highest land in the City of Boston. From the summit of this hill fine views are obtained; the wooded portions of the Arboretum lie at its base; to the south all the Blue Hill range is in view; the waters of Massachusetts Bay are seen to the south-east, and to the north and west a broken well-wooded country. With these additions the area of the Arboretum is 222 and 6-10ths acres. Two and a third miles of drives have been finished and planted, and under the new arrangement the City of Boston is to construct 1 and 3-10ths mile of additional roads.

— COULSDON COTTAGE GARDEN SHOW.—This newly established Society held its first exhibition in the Mission Hall at Coulsdon Valley on Wednesday last, and beyond having splendid weather the show was a marked success. In addition to the hall, broad awnings were thrown out on either side, and beneath these not only numerous garden products were staged, but also various poultry, British birds and rabbits, these things being also in competition, and were largely presented. Within the hall the chief honorary exhibits were staged by Mr. Peacock, gardener to the L.C.C., Cane Hill Asylum, who had a fine group of plants; Mr. A. Donald, gardener to Captain Acland, Woodmansterne, who showed plants in groups, fruit and Tomatoes; Mr. J. Gullivan, gardener to Mrs. Davies, Purley, whose group included good Begonias and Caladiums. Mr. A. Hunt, Hooley Park Nurseries, sent a group of foliage plants and capital fruit. Mr. J. Ironmonger, Strood, showed an admirable collection of Apples, Plums, and vegetables. Mr. Swift, Croydon, good small fruits and Apples; and various other exhibits greatly helped. Competition was excellent, and for a first show was full of promise for the future. Mr. W. Walker had the best six plants, capital examples too; and Mr. H. Bashford the best four. Mr. Walker also had the finest Intermediate Carrots, very handsome samples; also the finest winter and spring Onions, as good as shown anywhere in the county this season. Mr. Tubbs showed very handsome Snowball Turnips. Mr. J. Coomber had the best nine dishes of vegetables, all excellent; and Mr. Jeffrey was also first for a similar collection. Mr. J. Knight had the best brace of Marrows; they were exceptionally good, but the bulk were far too large and old. Both Runner Beans and Dwarf Beans were capital, and some Peas very good for the season. Potatoes were many, and very good. The prizes were distributed in the evening by the wife of the Rev. Canon Stewart, and Mr. A. Dean gave an address. Mr. Peacock was most untiring as Manager, and Mr. Gardener was a very efficient Secretary.

— **A LARGE ELM TREE.**—"Meehans' Monthly" says that "curiosity has been aroused as to the largest specimen of any of our forest trees, so far as known. Among Elms this eminence is claimed—one in Portland, Connecticut, standing near St. John's Chapel, a mile from Gildersleeve, which is 22 feet in circumference; but one is reported from Ledyard on the 'Larrabee Farm,' which is 24 feet, and the spreading branches cover half an acre."

— **CELERY CULTURE IN AMERICA.**—It is well known that the Celery plant delights in a rich and moist soil, and those who have the opportunity to use liquid manure in the cultivation of this plant have a great advantage over others. In addition to this, some cultivators who grow the Celery for market are introducing water artificially, and find it to be a profitable practice. In Allegheny City, Western Pennsylvania, one grower has a supply pipe from one of the city water mains, so arranged that at the end where the flow commences guano or some other artificial fertiliser can be placed in the water pipes. He can get double the crop from the same ground as by the ordinary methods, and stalks that bring a much higher price in market.—("Meehans' Monthly.")

— **THE NEW YORK BOTANIC GARDEN.**—This seems likely to become a well-endowed institution in a very short time. Its creation has long been contemplated, and now, by the generosity of twenty-two rich citizens the endowment fund of £50,000 has been raised. The City of New York has now to provide 250 acres of land in Bronx Park, and raise £100,000 by bonds for building and similar purposes. There is little doubt but that the City will do its part well and quickly, and that in due course Bronx Park will be not only a source of delight to the citizens, their wives and children, but an institution of great importance for educational purposes, and especially for scientific investigation in the now numerous departments of botanical, horticultural, agricultural, and medicinal science.

— **BERLIN EXHIBITION.**—It is reported that the grounds of the Berlin Industrial Exhibition, to be held during the summer of 1896, will be exceptionally attractive. Their chief feature will be a large lake formed by the flooding of the present great playgrounds of Treptow Park. A promenade shaded by four rows of Plane trees now encircles the playground and will form an admirable border for the lake, to create which 48,000 cubic metres of earth must be removed. The water will be pumped up to heights overhanging the lake, whence it will fall into it by means of fine cascades, finally flowing off into the river Spree. But the most interesting feature of the scheme is that the city authorities have stipulated that, when the exhibition is over, the playgrounds must be restored to their original condition, which will necessitate among other things the storing away of the 24,000 square yards of turf which now cover them.

— **THE GARDENS OF THE CITY OF PARIS.**—The Committee of the Paris Municipality, to which is entrusted the ornamentation and maintenance of the parks, squares, and gardens of Paris, the total area of which, reckoning only the lawns, plantations, flower-beds, and borders, is about 75 hectares (1 hectare=2.471 acres), possesses nurseries, situated some in the Bois de Boulogne, others in the Bois de Vincennes, and the Fleuriste still at La Muette, at Passy, and the transfer of which to the Parc-aux-Princes is in progress. The nurseries supply a number of young trees for avenues and for ornament, about 2000 a year destined for the streets and walks, and about 50 000 woody and shrubby plants to be used in forming and refurnishing clumps. At the Fleuriste de la Ville, with its branches, the decorative plants necessary for furnishing the gardens are raised. The annual production of miscellaneous plants, raised for the decoration of the municipal gardens, amounts to more than a million of specimens.—("Revue Horticole.")

— **HARTON HALL.**—J. M. Moore, Esq., J.P. (late Town Clerk of South Shields), opened his gardens to the public last Saturday, and, in addition to the attractiveness of the grounds, he provided an excellent band, which enlivened the proceedings. Harton Hall is near South Shields, therefore many hundreds of people partook of the advantage of Mr. Moore's kindness. The grounds are not large, but are well kept; and this is the only place where Mistletoe is growing in the district. There are also some fine specimens of *Ilex Hodginsi* and *Mandarensis*, which are grand to be so near the sea. The vineries are finishing fruit well. The conservatory was very gay, the roof being covered with an exceptionally fine *Lapageria rosea*. The bedding and herbaceous borders are all aglow with bloom. Every visitor was delighted with the outing, Mr. Moore being present all the time, and it seemed to be everyone's desire that the generous owner might live many more years, to enjoy in repose the beauty of his country home, after so many years of active life.—BERNARD COWAN.

— **AMERICAN PINE TIMBER.**—According to a dispatch to the New York "Tribune" 10,000,000 feet of Pine and Fir lumber are now being loaded on the Pacific coast, or are on their way to South Africa, for use in timbering the deep mines. This lumber is said to be much superior in length and strength to that from the Baltic region, which held a monopoly of the market until two years ago. The first shipments were made by sailing vessels, but several steamers are now regularly engaged in the trade.

— **WEEDS AND HOW TO KILL THEM.**—The latest farmers' bulletin issued by the United States Department of Agriculture is on this subject. After some general remarks on the proper methods of exterminating annual, biennial, and perennial weeds, a few of the pests which have been attracting special attention during recent years are described and figured, together with the best means of combating them. This is followed by a useful table of a hundred weeds which are regarded as about the most troublesome in the United States, giving the common and technical name, with their range and their characteristics. To this is added the time of flowering and the appearance of their flowers, the time of their seeding, and the methods in which the seed is distributed, with brief remarks as to the best means of eradicating them.

— **ORIGIN OF PHOSPHATE BEDS.**—Professor E. T. Cox, formerly State Geologist of Indiana, and who for many years past has made a study of the phosphate beds of Florida, shows conclusively the fallacy of the prevailing belief that they have resulted from shell deposits. He says that with the evidence before us, of causes now in action that produced the immense deposits of guano on the islands off the rainless coasts of Chili and Peru, the islands of the Caribbean Sea, and elsewhere where the droppings of numberless birds are converted into guano, both pulverulent and rock guano, it is not necessary to construct strange theories to account for the phosphate deposits in Florida. Unlike Peru, the climate here was humid, and washed out of the guano the soluble salts, leaving, says "Meehans' Monthly," the insoluble phosphate of lime. The isolation of the deposits, their occurrence in detached pockets of greater or less extent, as well as the conformability of the phosphate rock to the very jagged surface of the limestone on which it rests, all point to the bird origin as guano.

— **WEATHER AND CROPS IN GUERNSEY.**—After a ten-days interval of broken weather, with some grand refreshing rains, which have wonderfully improved the face of Nature, it is again charmingly fine, with the greatest sun heat we have yet had this summer. What little corn there is grown here is now being cut, crops being generally very good. The rains have greatly improved the root crops. Mangolds are somewhat patchy, but Swedes and Parsnips are very good. Apples are a very good crop; Pears not so heavy as last year. The exportation of Grapes and Tomatoes is now at its height, the number of packages daily shipped being a sight not to be easily forgotten. Growers are, however, complaining of the very low prices they are receiving. As regards quality, I think we can hold our own against all comers, especially if our growers will pay a little more attention to good packing. Another thing, we require much lower freights to the midlands and north of England to bring us to a fair level with the foreign producer.—X.

— **BARRELING APPLES.**—Many of the most profitable operations in commercial life depend in the first instance on very simple facts. Most persons would pass by without observing the barreling of Apples as a case in point. If Apples were placed loosely in barrels they would soon decay, though passing over but a very short distance of travel; and yet, when properly barreled, they can be sent thousands of miles, even over the roughest ocean voyage, in perfect security. According to an American contemporary this is owing to a fact discovered years ago, without any one knowing particularly the reason, that an Apple rotted from a bruise only when the skin was broken. An Apple can be pressed so as to have indentations over its whole surface without any danger of decaying, providing the skin is not broken. In barreling Apples, therefore, gentle pressure is exercised so that the fruit is fairly pressed into each other, and it is impossible for any one fruit to change its place in the barrel on its journey. Apples are sometimes taken out of the barrels with large indentations over their whole surface, and yet no sign of decay. In these modern times we understand the reason. The atmosphere is full of microscopic germs which produce fermentation, and unless they can get an entrance into the fruit rot cannot take place. A mere indentation without a rupture of the outer skin does not permit of the action of these microbes. This is a simple reason why the early observation enabled the barreling of Apples to be so successful.



ROSES IN POTS.

ROSES are generally admitted to be the most beautiful flowering shrubs of our gardens, and for a number of years both in England and on the Continent they have occupied a large share of attention. Who is there that will come forward and deny that they have not a slight weakness, if I may term it so, for Roses? At all times Roses are strikingly beautiful, but more particularly so during the spring and the early summer months. They are especially valuable for the ornamentation of the conservatory, and I know of no more pleasing sight than that of a house furnished with well-grown specimens bearing luxuriant foliage and well formed flowers. So well do they harmonise and associate with other spring flowers that it is of their culture in pots for this purpose, as well as for exhibition, that I describe the method that I have adopted with a fair amount of success.

As soon as possible after receiving the plants examine their roots, for it may be found that many of them will be benefited by a shift into 10-inch pots. This operation will also enable you to ascertain whether the drainage is in good order or not—a point that is most essential, for the Rose is very impatient of stagnant water at the roots. The following soil will be found suitable to them:—Good strong turfy loam the top spit from an old pasture three parts, the other part of well-decomposed cow manure; a little leaf mould and a sprinkling of bone dust may be added with advantage. Chop and mix the compost well together and pot firmly, taking care that the plants are moist at the roots before potting them. After potting place the plants in a cold frame, admitting plenty of air by tilting the lights, and on all favourable occasions draw them entirely off. It is not warmth that is required, but a place of shelter from the heavy autumnal rains and very severe frosts. In these quarters the plants may remain until they are started into growth.

It takes, as a rule, from eight to eleven or twelve weeks to bring Roses in full bloom from the time they are started; and if wanted to flower during May, which is the month in which pot Roses are usually exhibited, the first week in March will be found early enough to start them. Soon after the turn of the new year, say early in January, prune away all weak or watery-growing shoots, and shorten the points of all the shoots, more especially all such as are not well ripened; it is not, however, necessary to prune as hard as you would for a plant growing out of doors. Have a ball of cord or some other tying material in readiness for training the plants, begin by placing a string around the rim of each pot, then bring gently down the point of each shoot to the string; this to be continued until all the branches or twigs are bent back, so that they may be likened to an umbrella turned inside out. This severe training or bringing down of the branches is indispensable, as it regulates the sap and causes each shoot to break right back, which otherwise would not be the case.

If plants are not wanted to bloom until May they can be started about the first week in March in a cold pit or in a house set apart for them, and must be encouraged into growth by keeping them close and syringing them two or three times a day with tepid water. If rain water is not procurable, always place some pots of water in the sun to prevent that sediment which is so often found on the foliage of plants after using hard water. Keep the plants as near to the glass as possible, and close until the buds begin to burst strongly. As the buds begin to gain strength air must be given as weather permits. This simple work requires more than ordinary caution, as cold currents must be carefully avoided, and often during March we have strong bursts of sunshine with very keen cutting winds. The young and tender foliage is unable to bear these cold draughts, which are often the cause of the mildew.

As soon as the buds appear well above the foliage the plants should be trained into a somewhat flattened bush-like form, which form enables the grower to make a better display of his flowers, besides encouraging a more even habit of growth, taking care to distribute the flower buds regularly all over the plants. For this purpose neat sticks are suitable, choosing those that have been cut and laid by for some time. Place some of these sticks in a slanting position resting on the rim of the pot, and bring the lowest and most forward shoots down to the sticks, securing them neatly, carefully cutting away all the ties made when the plants were first pruned. Secure each of the growing shoots to the sticks, placing them equally over the plant until the desired shape is attained. From the time the buds first appear manure water may be given freely, for when well established the Rose is able to absorb strong stimulants.

When the plants have done blooming and the weather has become warmer, say by the middle of May, plunge them out of doors in a bed of coal ashes or cocoa-nut fibre refuse, cut off all dead flowers, and give copious supplies of manure water, or a mulching of decayed manure around them will answer the same purpose, as the watering and rains will wash its virtues in. It is on the summer growth that success mainly depends, and attention must therefore be given to produce it. Watering and frequent dampings after a hot day will help to keep the plants fresh and healthy.

Most of the plants if they have made good growth will require a

shift. This operation is best done from June to September—the earlier the better, as it gives a longer time for fresh roots being made, and the more a plant has filled its pot with roots the better will it be able to stand forcing and stimulants. If it is required to have flowers earlier in the season it will be necessary to prune the plants sooner than already stated, also to introduce them into a genial temperature of 45° or 50°, and if convenient a slight bottom heat of 10° more will materially assist. As the plants gain strength, if thought desirable they may be subjected to a temperature of 60°; but hard forcing should be avoided at all times, for it will be found detrimental to good blooms. The harder the plants are driven the smaller will be the flowers, as well as being devoid of colour.

In conclusion, let me say to those who propose specimen-growing that they must have great patience and be exceedingly watchful, for a specimen pot Rose requires a great amount of attention to grow it in perfection, and many details must be attended to which cannot be well taught by writing.—GROWER.

ROSE MURIEL GRAHAME.

THIS is a new Tea-scented Rose, for which we are indebted to Messrs. A. Dickson & Sons, Newtownards, Ireland, who have placed so many excellent Roses on the market, of which we may quote Mrs. W. J. Grant as an example. A few days ago Messrs. Dickson & Sons forwarded to us blooms of this variety, and also specimens of the parent, Catherine Mermet, and the sister, The Bride. All Rose growers know the two latter, and it is probable that ere long all will know Muriel Grahame as a Rose of singular beauty, perfect form, and chastely beautiful colouration. It is entirely distinct from The Bride in colour, as also is it from its parent. With the blooms came the following note from the growers:—

"The Rose in question is a sport from Catherine Mermet, and is quite distinct from anything extant so far as colour. In growth and general character it is similar to the variety from which it sported. It is very constant in colour, and is now thoroughly fixed."

The colour is a pale cream faintly flushed with rose. We regard this Rose as a decided acquisition to this already very large section, and are of the opinion that when put in commerce it will rapidly attain to a great popularity.

BENTINCKIA NICOBARICA.

DURING June at one of the meetings of the Royal Horticultural Society at the Drill Hall, Westminster, Messrs. Sander & Co., St. Albans, exhibited a specimen of *Bentinckia nicobarica*, of which the woodcut (fig. 26) is a faithful portrayal. This Palm was brought from Central Asia, and is of very handsome appearance, and should prove of value for decorative purposes, providing, of course, it is found to stand well. The habit, as a glance at the illustration will prove, is distinctly that of a *Kentia*, but it is sufficiently distinct to permit of its being grown in conjunction with these old favourites. The colour of the leafage is a pleasing pale green. The Floral Committee agreed that a first-class certificate should be accorded to it.

FROM THE GREEN ISLE TO SUNNY KENT.

THE experience of those who have of late been doing Ireland on a bicycle has not apparently been a happy one. Such, at least, is the impression I derive when boarding the "Banshee" and find myself in the company of wheelmen who have been making their first trip to the Green Isle, and are emphatically asserting that it shall be their last. But small consolation is afforded by telling them of the two months of tropical weather they came all too late for, and being possessed of that feeling, which I think is a very common and a very proper one, that visitors should receive a good impression, an endeavour is made at the eleventh hour to set matters right. One prolonged wail from the "Banshee's" steam whistle, and but a few minutes elapse ere I am calling attention to the charming scenery on each side of the Bay, and as my young friends are now dry, and comforted to boot by something from the Steward's department, I trust they will forgive and forget past unpleasantness. Abreast of Kingstown the mail boat glides out of the harbour, with which for some few miles we run neck and neck, and eventually leave behind. Bravo, "Banshee!" we—all of us—are proud of your performance this night. What matter that we have to cool our heels at Holyhead for some two hours until Her Majesty's mail arrives and is despatched, the most pessimistic passenger aboard is cheered by results.

At Crewe a cruel disappointment awaits those who seek refreshment in the "wee sma' hours;" one solitary maiden; a crowd clamorous for meat and drink (mostly the latter); some have paid and cannot get what they want, one has it without paying, and all, save one who is left behind, are off with a rush in the grey of the breaking morning, revealing a country saturated with rain.

Burned patches in the hedges along the railway banks tell their tale of the drought that has been. The quickening daylight reveals broad stretches of undulating country, and mental note-taking commences. Undoubtedly the balance, by comparison amongst the crops, is in favour of the Irish farmer—that is, so far as Co. Dublin is concerned, for grain and roots are there far more promising than anything we note *en route*. Clouds of sparrows rise from the skimpy-looking Oat stooks, all too few and far between; whilst roots, chiefly of the Turnip tribe, are but just

sufficiently in evidence as to show what was intended. So is this very noticeable through miles and miles of rural England. Compared with home (Irish) experience we have distinctly the advantage.

From Charing Cross to Chatham by South-Eastern Railway—the end of my tether in “Sunny Kent” this time—I am on the *qui vive*, after leaving London, to note all matters horti—and agri—cultural. By New Cross and Lewisham the edible and æsthetic seems to be mainly represented by Scarlet Runners and Sunflowers, both of which appear to thrive amazingly, but as we approach Bexley the great fruit grounds come into evidence. Hop gardens, which of late years have approached metropoliswards as far as Eltham, look very promising. Signs of the times are visible at Dartford in front of the fine factories of Messrs. Burroughs & Wellcome, where neat gravel walks and bright flower

thousands or hundreds of thousands are here I know not, but am better prepared to accept any statement rather than verify it by counting. Another month with the copious rainfall should put them at their best; as it is, except some magnificent beds in front of the manager's residence, imagination, which cannot here be a vain thing, must atone for the shortcomings of the season. He with the hoe straightens his back for a moment as I, somewhat fearful of arrest, walk down the central path, and tells me that all the singles are on one side, all the married—no, doubles—are on the other; as they should be, of course, and as everything here appears to be.

In comparing prices of produce current in Tomato Land with Dublin ditto I do not fail to note a young Bexley heathen with a basket, crying, “Cowkimbers”—which would not disgrace an exhibition board



FIG. 26.—BENTINCKIA NICOBARICA.

beds frame the lofty buildings. Lower down the line, in the chalk cuttings, red Valerian brightens the banks with, here and there, patches of blue Sage-like blossoms which we cannot determine.

A warm reception is given on the first day at Chatham by the burning of some timber stores in the centre of the town, and multitudes watch the combat 'twixt fire and water. Old Rochester's stately castle in the pretty grounds frowns o'er the Medway, and one is gratified in noting the recognition given by the men of Kent to the claims of Ampelopsis Veitchi. The pretty cemetery of St. Margaret's, Rochester, is ablaze with the most brilliant of bedding plants, but evergreens show the severity they endured from the past winter.

Returning for a brief sojourn in Tomato Land, more commonly known as Bexley Heath (and its environs), the effects of protracted drought on the light gravelly soil is much in evidence. “You must see the Begonia farm,” I am told; so I see it, and a Begonia farmer steadily hoeing between the lines as coolly as other farmers hoe Turnips. How many

—“tuppence a piece,” but the lowest price of the staple product, the Tomato, is sixpence per pound; for choicer samples “tuppence” more. A call on friends at Belvedere finds them busily engaged converting the last Raspberries into jam and gathering the earliest Apples for market. Here the soil appears to be rather more of a holding nature to the benefit of the Apple crop, of which some acres of healthy young trees are bearing clean large fruit, and no complaint is made of prices realised. Another thing I notice is that a running demand is made by local people on the home-made jam; they believe in it, and the Missus's reputation as the maker is duly rewarded by a dingling stream of coin flowing into her pocket.

How bright, cheerful, and pretty are the little stations on the South-Eastern Railway, with just a suspicion of the stone age in the use of flints to label the stations. Would that my countrymen in Ireland would do a little more of this railway gardening. Flints they cannot have, flowers they can, and though in the start on this brief journey I had to

listen to much abuse of our climate, I draw the conclusion that so far as gardening and farming are concerned we have this season much to be thankful for.

Ere returning I make my first visit to Fleet Street in order to pay my respects at the shrine of the *Journal of Horticulture*, and find that the high priests are like myself, from home. Perhaps I am disappointed, perhaps a feeling of relief ensues in escaping the criticism my temerity has courted. Anyway, I carry back very pleasant recollections of half an hour's chat with him on whose young shoulders devolves the duty of "making up"—a technical term dealing with the latchkey of literature. Soon, all too soon, am I back at Euston. "Where are you going?" says a porter; "To Dublin" says—THE MAN WITH GREEN SPECTACLES.

ROYAL HORTICULTURAL SOCIETY.

DRILL HALL.—AUGUST 13TH.

SCIENTIFIC COMMITTEE.—Present: Dr. M. T. Masters, in the chair; with Mr. McLachlan, Mr. Burbidge, Mr. Weathers, and Rev. G. Henslow, Hon. Sec.

Black Currant × *Gooseberry*.—A fruiting specimen of this hybrid was sent by Mr. Culverwell. It was previously received and described in the minutes of the Scientific Committee for June, 1890. The fruits are small, and have a very slight taste of the Black Currant. The bark reveals the scent more distinctly, while the skin of the fruit has the glandular hairs of the latter mixed with the ordinary hairs of the Gooseberry.

Lilies Diseased.—Specimens of the foliage of *L. Lowi* and *L. nepalense* were received from Mr. Wallace of Colchester attacked by apparently the too common "Lily disease" fungus. Bordeaux mixture is suggested as the best remedy. He observed that the disease in his garden only attacks the Lilies received from Burmah. It was formerly thought that burning was the only means of extermination, but experience has shown that the bulbs may not be at all injured, and that as the disease may be very prevalent one year and very scarce the next, it will be better in future to leave the bulbs, only destroying the aerial portions attacked.

Lime and Bees.—A spray of a Lime tree was received from Mr. F. Enock of 21, Manor Gardens, Holloway, to be named. It proved to be *Tilia petiolaris*, *D. C.* He also observed that numerous dead bees were found under the tree, suggesting that the honey might be of a poisonous nature. In a communication from Kew, whither the specimen had been sent, it is observed:—"We have long noticed at Kew that bees are killed after visiting the flowers, and quite a circle of dead bodies are found under the branches every summer." Mr. McLachlan remarked that this occurrence has been long known to entomologists, and by the watching of the trees by Mr. E. Saunders, he found that the death of the bees was caused by the attacks of tom-tits, apparently by extracting their honey bags.

Lettuces Attacked by Aphides.—Plants received from the Chiswick Gardens showed the roots to be badly infested by these insects. They were forwarded to Mr. G. B. Buckton, Haslemere, for further examination.

Potatoes Diseased.—A communication was received from Mr. Ashley, Elmcroft, Staines, stating that "the leaves appear to be spotted with brown, where holes appear; the leaves subsequently curl up. The disease occurs in patches and gradually spreads. It is not confined to one sort of Potato alone. I noticed the same disease on some early Potatoes about two months ago, and washed the leaves with very weak paraffin and water. This seemed to stop it." Having been forwarded to Kew for examination the report is as follows:—"The young leaves are in the first instance punctured by an insect; the wounds made are the points afterwards attacked by a microscopic fungus—*Macrosporium Solani*—which completely destroys the tissue, hence the holes in the leaves. Spraying with Bordeaux mixture will destroy both insect and fungus; but if a solution of very weak paraffin has proved effectual it would be wise to continue its use. The great point in spraying, whatever the solution is used, is to thoroughly wet the leaves. A little soft-soap mixed with the liquid assists in doing this."

Photo of Cedrus deodara Struck by Lightning.—Mr. Weathers exhibited a photograph, taken at Kew at 7 A.M., August 12th. It represented a *Deodara* which was shattered by lightning on the night of August 10th. The main trunk is cleft in twain almost to the base, while large splinters and branches are scattered about. The wood is perfectly sound, and shows no signs of charring. The tree was about 30 feet in height.

Castanea vesca, Female Replacing Male Flowers.—Mr. Henslow exhibited specimens of this exchange of sex, as being particularly abundant on a Chestnut tree this season; a probable result of the climate, as it is well known that external conditions often decide which sex shall predominate when a plant is naturally bi-sexual. He alluded to experiments by Mr. Meehan, Hoffman, and his own, in which seeds of bi-sexual plants gave rise to various proportions of males and females, according as they are sown very thickly or thinly.

CHISWICK.—AUGUST 16TH.

FRUIT COMMITTEE.—This body met on the above date to examine Tomatoes in pots, of which a large and very excellent trial is being conducted; also Runner Beans, Cabbager, and other crops.

Of Tomatoes, very few new ones were found showing special merit; indeed, it would seem, judging by the aspect of the older and newer

sorts, that little progress was now being made. Some varieties gave fruits of monstrous size and most ungainly; but the bulk had handsome even fruits, and were in these respects so very much alike. The following had previous awards confirmed:—Golden Princess, deep round, handsome rich yellow fruits; Tennis Ball, smallish round scarlet fruits, abundantly produced, capital for dessert; Comet, good sized smooth scarlet fruits; Sutton's Dessert, scarlet, very free and good; and Golden Nugget, a yellow duplicate of the preceding, very free cropper; Frogmore Selected, handsome scarlet, free and fine, certificated at the Drill Hall; Duke of York, also fine smooth scarlet and certificated at Westminster; Chemin, a well-known scarlet variety; and the popular Conference, still one of the best; also three marks were awarded to Laxton's Early July, apparently an improved open air and Cherry-shaped small round scarlet, borne in clusters, for its delicious flavour and for the dessert.

Runner Beans next attracted attention. There is a good trial of these, the recent rains promoting strong growths. Of the Scarlet Runner type the following had three marks awarded—Sutton's Prize-winner, a very superior long-podded form; Sutton's Al, also a fine variety; Leviathan, a first-rate cropper, good pods; and Capp's White Runner, very prolific, the best of that section. Of smooth-podded varieties the only forms worthy of notice were Sutton's Tender and True and Veitch's Climbing French Bean, both forms of Canadian Wonder. These are growing in one row, and both had the certificates of merit confirmed. At the same time the Committee dealt with the question of identity, and after minutely examining growth and pod, also having the latter cooked, also inspecting the ripe seed, the conclusion was unanimously arrived at that they were identical. As to which name has the commercial right of priority the Committee declined to determine.

Some of the Cabbages of the trial now being conducted were also examined. The best early dwarf stocks were those of the Improved Nonpareil sent by Messrs. J. Veitch & Sons and Nutting and Sons, and the best of the second early, or rather larger forms, was that from Messrs. Sutton & Sons as Earliest, Barr & Sons as Best of All, and Vilmorin & Co. as Express and Les Etamps. Red Cabbages are generally represented by the Dwarf Blood Red type and the old Giant type. Three stocks of the dwarf were inspected, Sutton's Blood Red, Benary's, and Vilmorin's. These all seem to be identical. It was agreed to defer final awards to these until the next meeting at Chiswick.

A few early Turnips were seen, but called for no comment. Potatoes could not be examined because growth generally is still so gross. It is purposed to examine these later, probably on September 10th, on the occasion of holding the vegetable exhibition, when no doubt there will be a large attendance of members of the Committee.

LILY OF THE VALLEY.

WRITERS have oftentimes sung the praises of recent introductions, but it does not appear likely that, despite the undoubted beauty of many of them, they will ever supplant such old favourites as Zonal Pclargoniums and more especially the Lily of the Valley. It is of this that I purpose to write on this occasion, and I am fully aware that no words of mine can do it justice. For the bridal or any other bouquet who shall despise this chaste flower, whether as a denizen of our forcing houses from December until March, or as yielding its charming groups of little snowy and fragrant bells in our borders and woodland walks in May and June? Some account of its culture from one who has grown it in various forms for the last twenty years may, I trust, prove useful.

The outdoor culture of this Lily is the first consideration; for, like the Seakale, its style and quality when forced depend much on its high culture during the growing season. The Lily of the Valley will grow pretty well in any good garden soil; but to grow it in the highest perfection of which it is capable some extra consideration must be given to the compost. It succeeds to admiration with us in a dark and unctuous loamy soil; and we have a north border in which I have grown my whole stock for twenty-two years, merely changing from one end to the other in making new plantations. But this border is exceedingly rich in decayed vegetable matter; and those who wish to excel in Lily of the Valley culture must not fancy that because this plant is found growing tolerably well in neglected situations it is averse to manures and high culture. We have seen them grow in woods in great breadths, and in tolerable style; but then the two chief conditions were present—partial shade and abundance of the decayed leaves.

As to the staple soil, then, for Lilies of the Valley, I am of opinion that a darkish and somewhat stiff soil will produce the finest buds; and one essential is that the ground be not liable to droughts, for they love a permanent moisture. As to shade I have ever found them finest on a north border; but be it understood they are not within 5 feet of the wall, consequently the sun shines freely on their foliage; but then the border surface inclines considerably to the north, and of course the ground is much cooler and damper than it would be on a southern incline. It is very probable that an east or west border would be superior.

There are at least three distinct modes of cultivating Lilies of the Valley for forcing. The first, growing them in patches in the open ground, and potting such patches when two years old. A second is to grow them in pots—the latter plunged in a rich medium; and a third to take up the roots, and single them out in November, sorting all the finest eyes, and placing them thickly in pots adapted to the purpose.

I think that for early forcing those grown in pots will be found the best, inasmuch as it is necessary the roots should not be disturbed, and that the crowns should go to rest betimes. For succession crops they may be cultivated by the first mode; and for the latest the third mode may be best adopted. They will do well by any of the above methods if the roots be strong; if they are badly grown the forcer will be defeated in his aim. I may now detail the planting process, together with the preparation of the soil.

Let a plot of ground be selected in the beginning of March, a plot possessing the conditions before named. It must be deeply dug, and the parts well broken, and during the process means must be taken to introduce as much as 4 inches in depth of very old manure; the kind I prefer is old hotbed linings, composed of about equal parts manure and tree leaves, but which have crumbled to pieces with age and turning. To those who cannot obtain such a valuable article I say lay hold of any old black residue, whether of the wood pile, the rubbish heap, old thatch, or old rotten weeds; anything which has once been living vegetables, and has become a black residuum, through age and exposure to the air, is eligible. This, however, I address to the needy; for, after all, there are few things so good as the hotbed linings. The ground being thus prepared stations may be marked out for the Lily patches if to be forced in pots according to our first mode. We force them in pots of about 9 to 11 inches diameter, and it is necessary so to plant the patches that they may readily fit the proper sized pot when taken up.

The ground is marked out in lines of 2 feet distance; these lines to receive the patches of Lilies at about 14 inches apart, therefore pegs put down at that distance form points around which a thick cluster of crowns has to be planted. This done, a pot of about 7 inches in diameter is used to stamp circles around each peg, and on this circle, and within it, they are dibbled as thick as they can be placed. Each patch will thus be made to contain from twelve to fifteen eyes or buds, which are as many as are necessary to form a good potful of blooms; and when planted a top-dressing of decayed manure in a mellow state is spread nearly 3 inches thick all over the surface of the Lilies. Through the ensuing summer they are kept clear of weeds, and after a second summer's growth they are first-rate buds, and will give every satisfaction to the forcer.

I may now advert to the second mode—growing them in pots. I will not say what has been done, or what may be the general practice, but rather point to what I conceive would be a superior practice. They need a pot wide and shallow, rather than narrow and deep; and I think we may say pots about 10 inches in diameter, and about 7 to 8 in depth, would be highly eligible. But as I have to recommend a plunging mode of culture in order that the roots may avail themselves of a richly prepared soil outside their pots, and the latter should have plenty of holes all over their bottoms, and even round the side, about 2 inches above the base.

The crowns or buds should be planted as thickly as they can be in the beginning of March, and the compost must be of the most generous description. About half of an unctuous loam, and the other half old manure and leaves, almost become a mould, with a little silver sand, will grow them well in pots, putting some coarser manurial matters over the drainage; and if crocks are used they should be very coarse, in order that the fibres may get through with facility. These things done, I have to recommend a prepared bed to plunge them in. Nothing would be better than a bed of half-decayed leaves, or anything of similar texture, even manurial matters. This should be above the ground level, in order to avoid swamping. As before observed, a situation where they would get only half a day's sun would do well, only there must be no trees above. They would require regular waterings through the season, and when in active growth liquid manure.

Now, it will require a second season's growth to produce strong blooms, although with every appliance they may be bloomed the first season, providing the roots were very strong. A second season's culture, however, will amply repay the exercise of patience. In November of the first year they had better all be moved, and those roots which are through the pots trimmed away, for if suffered to proceed unprotected I fear the check would be too great in the second autumn. Being turned round, therefore, or replunged they will be ready for another summer's culture, and about the second week in October, or as soon as the foliage begins to assume an autumnal tint, those which are required for very early forcing may be lifted, the side fibres outside the pots cut off, and the pots placed in a very sunny corner, to hurry their buds to a state of rest. Before the sharp frosts set in they may have their decayed foliage cut away and be again plunged.

About the third practice little need be said. The soil will, of course, be prepared as advised in the first detailed practice, and in planting the roots may be either dibbled thickly in rows or planted all over the bed. In all other respects they may be treated as the others, and at the end of the second summer they will be fit for forcing. The buds intended for selecting from must be taken up in the beginning of November, and the roots sorted carefully—all the largest crowns being reserved for potting. These may be singled out and dibbled into any size of pot or box desired, and protected as recommended for the others.

Thus much for culture outdoors. Now a few words about the forcing. There is no difficulty in this procedure if plenty of time be given; for they would, doubtless, blossom much before the usual period, if only placed beneath the greenhouse stage; but to obtain good blooms in December and January is altogether another affair. To accomplish this, it is necessary to resort to bottom heat, and I have found from 70° to 75° most congenial. My practice is to plunge them in warm

tan or leaves; but care must be taken to uncover them as soon as they have sprouted about 2 inches in length, or they will become so weak as not to be able to sustain their weight. It is necessary to place a lighter or finer material over their crowns when plunged, or the pressure of the leaves or tan will bind them down and spoil their character. I always pile up a mound of finely riddled old tan over them, and this answers admirably. We sometimes force them in the Mushroom house, sometimes in front of a Pine pit; and, indeed, the structure is quite immaterial, as darkness is essential until they have sprouted a couple of inches. Care must be taken on their first introduction to light that it be done gradually, and it is best to place them in a shady part of the greenhouse or other structure for awhile, protected equally from cold currents of air and from sunshine, and they should be frequently syringed; in fact, a rather moist atmosphere is indispensable, and a temperature from 50° to 60° will be amply sufficient until in blossom, when the cooler they are kept the finer will the blooms be, the longer they will endure, and the higher will be their scent.

When the foliage becomes green by exposure to light and air they will be improved by sunshine at an early period; but as the spring advances little sunshine will be necessary. They will require water liberally whilst in blossom. The freer the circulation of air the higher will the scent be; and I should prefer, at the blooming period, a temperature of from 40° to 55° to a higher one, and they will thus continue much longer in blossom.—PRACTICE.

FACTORS OF A SOIL'S FERTILITY.

THE reports of experiments instituted by the Government of the Dominion of Canada generally contain suggestive matter, and that of the chemist (Mr. F. T. Shutt) is no exception to the rule. The factors on which the fertility of the soil depends are many. The amount of plant food and its degree of solubility, the mechanical texture or tilth and climate (temperature, amount of rainfall) are the chief of these. Mr. Shutt says:—

"Soil to be fertile must contain the elements of plant food in such forms that they can be readily used for the nutrition of vegetation. At the same time its condition must not be too loose, else a firm hold will not be afforded to the roots of plants, and there will be too much drainage and evaporation. Nor must it be too heavy and plastic, for then air and water could not freely permeate it nor the roots extend themselves beyond a very limited area. Generally speaking, light loose soils are not so rich in plant food as those in which clay predominates; yet, on account of their excellent condition of tilth, they often yield in favourable seasons heavier crops than the latter. Stiff heavy clays, though rich in inorganic plant food (potash and phosphoric acid), are often poor in nitrogen, while their condition is such as to prevent thorough aëration and the penetration of the roots. It is these soils especially that are benefited by drainage. By a system of drainage the water which saturates the surface soil is carried off, air allowed to permeate, the whole rendered more friable and easily worked, and much plant food is converted into assimilable forms. Where sand largely predominates the soil is not retentive of moisture and fertilising material, especially if the subsoil be light, and though easily worked is not so desirable in dry seasons as a heavier soil. A proper proportion of sand and clay, therefore, for many reasons makes the best soil.

"With the clay and sand varying amounts of peaty matter or humus (derived from the decomposition of vegetable matter) and of calcareous matter (principally carbonate of lime) are usually associated, and a right proportion of the two latter exerts a beneficial influence upon the tilth of a soil. From the presence of these predominating materials soils are known respectively as clay—sandy, peaty, and calcareous, according as the one or the other is in excess. By the slow decomposition of the clay and the peaty and calcareous matter plant nutrients are liberated in a soluble form, and therefore the function of these soil fundamentals is not only mechanical but chemical.

"The most important in organic constituents of a soil are potash and phosphoric acid. These, together with nitrogen, are known as the essential elements of plant food. Potash—derived principally from the decomposition of felspathic rocks, *e.g.*, granite—exists chiefly in combination with silica in a more or less soluble condition. The limits of potash in a soil lie between a mere trace and about 2 per cent. A good agricultural (or garden) soil contains between 0.25 and 1 per cent. Clay soils usually are the richest in potash. Potash as a fertiliser is of special value to Clover, Peas, and other leguminous crops; Potatoes, Beets, Cabbage, grasses, and leafy plants in general, are also benefited by it. It should form a large part of manures for orchards and all fruit trees.

"Phosphoric acid, combined principally with lime, is found in all fertile soils. Like potash, it has been derived from the rock that originated the soil, and consequently is not constant in quantity. It never exceeds 1 per cent. even in the richest soils, and the average in good soils is about 0.2 per cent. It benefits chiefly root crops, *e.g.*, Turnips and Beets, and in conjunction with nitrogenous manures is very effective for the cereals, promoting an early maturity and an increased yield.

"Lime.—Of the inorganic elements of minor importance lime is the principal. It affords food directly to the plant, and liberates in the soil potash and nitrogen, pre-existent in insoluble forms. Many consider that less than 1 per cent. shows a soil to be deficient in lime, and calcareous soils are almost invariably fertile.

"Nitrogen is the element of value in the organic portion of a soil. It there exists, for the most part, in forms from which it can be but slowly absorbed by plants. By a process of fermentation, known as nitrification, it is rendered assimilable. The presence of lime (carbonate of lime) appears to assist in this useful operation, especially when the ground is sufficiently open for the air to permeate it. Moisture and warmth are also necessary to encourage the growth of the microscopic ferment, which causes the formation of nitrates from nitrogenous material. Very rich soils contain from 0.5 to 1 per cent. of nitrogen; good fertile soils possess on an average from 0.15 per cent. to 0.25 per cent. An excess of nitrogen, however, promotes undue rankness of growth."

Such is the barest outline of what the Government of Canada does in aiding the agriculturists and horticulturists in the cultivation of the soil. The report treats of alkaline soils, the barrenness of which is traced to sulphate of magnesium (Epsom salts), and not sulphate or carbonate of sodium (the usual forms of alkali). Sodium sulphate (Glauber's salt) is, however, deleterious to vegetation, while 5 per cent. of magnesium sulphate added to good soil greatly retarded the germination of seeds. "Many of the seeds (Wheat, Peas, and Indian Corn) sown never produced plants that appeared above the surface of the soil, while those which came up lacked robustness, made but little growth, and then died. All the experiments proved that magnesium sulphate to the extent of 5 per cent. in the soil is most disastrous to plant life." As a corrective powdered chalk (carbonate of lime) was mixed with the soil, and it to some extent counteracted the deleterious effects of the magnesium sulphate. When lime [limestone burned, slaked = quicklime] was substituted for carbonate of lime in the soil containing the 5 per cent. of magnesium sulphate, the reaction of the lime in rendering the magnesium salt insoluble was quicker and the results better—indeed, lime proved the more efficacious of the two. It would appear, therefore, that soils barren from the presence of this salt (magnesium sulphate) may, by the simple method of treatment with lime, be brought into a state of fertility. Of course, drainage should be resorted to, as the alkali is soluble in water.

"Where a large proportion of the saline matter is sodium sulphate, the treatment with lime would first result in the formation of corrosive soda, and then of sodium carbonate. This would finally be converted into sodium sulphate. Although much slower in its action, carbonate of lime would here prove beneficial, since it would render the magnesium salt insoluble without reacting upon the sodium compound. An application of a mixture of gypsum and lime in such a case might also be of benefit, the former having the tendency to keep the sodium salt as sulphate, the latter converting the magnesium salt into an insoluble form. This treatment should be carried out in conjunction with drainage, which must also be resorted to wherever practicable. For soils impregnated with alkali in which sodium sulphate largely predominates, drainage, deep ploughing, thorough cultivation, and high manuring are the only remedies that can now be recommended with confidence.

"Of all the constituents of plant food taken from the soil by growing crops, there are but three that it is generally necessary to return—viz., nitrogen, phosphoric acid, and potash, and repeated experiments the world over have proved that the fertility of the soil can only be maintained by such a return. Without it the land becomes, by successive cropping, less and less productive. Where mixed farming is in vogue, ordinary well-preserved farmyard manure is no doubt the most economical form in which to supply these elements, since by this means nearly 80 per cent. of the plant food taken from the soil is replaced. From various causes, however, it often occurs that the supply is inadequate, and must be supplemented from outside sources. Leaving out of consideration for the present the question of phosphoric acid and potash, we may discuss briefly the sources from which available nitrogen may be obtained, other than that already mentioned. These fall into three classes.

"1, Artificial fertilisers, such as nitrate of soda and sulphate of ammonia. These present nitrogen to the rootlets of plants in an exceedingly soluble form. They are, moreover, concentrated fertilisers, since weight by weight they possess a much larger proportion of this element than other nitrogenous manures. Their cost, however, militates against their general use, and necessitates—for their economical application—a considerable amount of skill and experimenting on the part of the farmer.

"2, Green manures. This method consists in ploughing under a growing crop, preferably of Clover, Peas, or some other of the leguminous plants. These plants are known as nitrogen collectors in contradistinction to others which are nitrogen consumers. They are able to appropriate and assimilate nitrogen from the atmosphere, which, when the plants are turned in, is preserved in the soil for the growth of succeeding crops. For light sandy soils, poor in organic matter and nitrogen, this method of manuring can be highly recommended. It is economical, since it is both cheap and effective, improving the tilth and adding to the store of fertility.

"3, Muck, leaf mould and peat. These consist largely of semi-decomposed vegetable matter, and contain a considerable, though variable, amount of nitrogen. This nitrogen is not so readily available as are the two classes of nitrogenous manures we have just considered, but by fermentation of the material it may be converted into assimilable forms. The value of a muck (bog soil) or similar material depends chiefly, therefore, on its percentage of nitrogen. By a suitable treatment of the air-dried muck or peat many farmers may obtain at little cost a manure not only rich in the valuable element of nitrogen, but also containing notable

quantities of other plant food constituents. All fertile soils possess high percentages of organic matter. This, besides yielding nitrogen, liberates in the soil, by its decomposition, carbonic acid. This latter, undoubtedly, exerts a beneficial action in setting free mineral plant food. It is, therefore, apparent that green manuring, or an application of composted muck, serves many useful purposes in the soil. Besides acting chemically, such materials serve to mellow heavy soils by rendering them porous and permeable to the air, while sandy and light soils have their retentive and absorbent qualities increased. We may briefly discuss the different ways in which muck and peat may be treated before being applied to the land.

"The air-dried substance is extremely absorbent and capable of soaking up and retaining large quantities of liquid manure. Its use for bedding stock and for spreading in the barnyard is therefore apparent. By a plentiful application much valuable fertilising material that would otherwise go to waste is saved. The stable manure not only has its good qualities preserved, but by the ensuing fermentation the nitrogen of the muck is rendered available. When it is properly preserved and fermented there results a quick acting and forcing manure.

"Wood Ashes.—For orchards, vineyards, and small fruit plantations wood ashes are of especial value, though at the same time they should be supplemented by a more complete manure. All leafy crops—e.g., Cabbage, Beet, and Potato, and leguminous plants, as Clover, Pea, and Bean, require a liberal supply of potash, and hence are much benefited by an application of wood ashes. They are also of much value in improving the tilths of light sandy soils, cementing together the grains of sand and making the whole more retentive of moisture. Wood ashes have long been used to advantage for making a compost with muck or peat. The resulting manure is one that is exceedingly rich in available nitrogen and potash."

Reference is made to gypsum as useful in liberating potash in the soil and absorbing or fixing ammonia, in addition to supplying certain elements (sulphur and lime) of plant food. An application to rich soils is followed by excellent results, on poor soils it must be supplemented by manure containing nitrogen, phosphoric acid and potash. "Gypsum has been found of special value for Peas and Clover. Since it sets potash free it is also useful for Turnips [where the land is not infested with Club-root fungus], Indian corn, and many crops that require large quantities of this element. Powdered gypsum, when sprinkled in stables and cowhouse, preserves much ammonia [valuable plant food] that would otherwise escape and be lost."

Green manuring with the legumes—i.e., ploughing under a crop of Clover, or Peas preferably while in flower, is one of the cheapest and most effective methods of enriching and improving the soil. It increases the amount of organic matter and nitrogen, the latter being readily available for succeeding crops."

Such is merest outline of the work of the chemist in aiding the farmer and gardener to make the soil produce profitable crops—G. ABBEY.

ANNUALS FOR SPRING.

FROM the middle of April to the middle of June is always our worst time in the flower garden, whether its ornaments be planted in masses or only in the mixed way. Annuals are uncertain in the summer, as we all know, and few people like to trust to more than a very few sorts of them for keeping the beds full for any length of time, too, the first difficulty a new beginner meets with. He is no gardener, but he wants flowers, and would like to try his hand at something cheap to get experience. No plants are cheaper than annuals, and from the present time to the first week in September is the time to sow a number of them.

When the beds and borders of a mixed flower garden are dressed in the spring, and all the established plants have sticks or labels set to mark the places, the spare ground ought to be immediately filled with the different kinds of annuals that were sown in the autumn, for they are as easily removed and planted as Cabbages, and coming into flower just at the time we are most in need of their aid it is our own fault if we do not come up to the mark six weeks earlier every year than many of us are now in the habit of doing.

Like all other crops, annuals sown in the autumn are liable to be injured by the weather. A very mild and late autumn is much against them, because they grow too rank and are very liable to be cut off by a very severe winter. The soil should be light and poor, and the situation an open airy spot away from where fallen leaves are likely to gather in heaps by the wind. This gathering together is the very worst thing I know of for any seedlings, for if such quantities of leaves rest on the seed bed for a week the little seedlings are either smothered or made so tender and blanched that the first dry wind or cold night finishes them. The soil should not be dug more than 3 inches deep, and the seeds should be sown thinly. A deep bed is likely to encourage the seedlings to grow too fast and bulky, and so make them more liable to be cut with frost, and if they are thick in the bed the one helps to draw up the other too weak and spindly. Like many other causes of success in gardening, attention to these little matters is more essential than great skill or practical knowledge.

The best thing to cover seed beds in the autumn is one-half light soil and one-half finely sifted coal ashes, from which the very fine dust and the rough cinders are taken. The first few rains will wash down all the finer particles of this compost for the roots to work in, and the surface is left gritty and porous, so that the stems and collars of the seedlings have free air and elbow room instead of being

jammed in a sour crust of rank earth, as would be their condition if they were sown on rich strong soil. A west aspect is by far the best for them, as then they are less liable to suffer from hard frosty nights followed by very sunny mornings, or what we call extremes of weather. New seeds of many kinds of annuals are not so good to sow in the autumn as old seeds, because the newer the seeds the more strong and healthy the seedlings, and therefore the more liable to suffer from a hard or long winter.

Red and white Clarkias are well worth growing, and no winter kills them when self-sown. *Collinsia bicolor* and *C. grandiflora* are the two best of that family; they also are hardy enough to stand most winters. The two yellow *Eschscholtzias* are as hardy as Wheat or Barley, and though not annuals they do much better if sown and treated as such, first in September, and secondly about the middle of April; if they are to be transplanted it should be done when they are quite young. The blue and spotted *Nemophila insignis* and *N. maculata*, also *N. atomaria*, pass over almost any winter, and come into bloom before April is out. *Eucharidium grandiflorum* ought to be grown, and the plants stand a smart winter. *Godetias* are as good as they are gay, and as hardy as a Scotch Crocus, and they will be the brighter in flower and more manageable in plant if they are planted in poor soil rather than rich; but recollect if poor it must be deep and well worked. Stunted growth is quite a different thing from subdued growth caused by sandy soil well tilled. The flowers of all the *Godetias* show brighter when the plants are in this subdued growth.

Gilia tricolor is hardy and very attractive; this and *Collinsia bicolor* are the two best lilac. *Erysimum Perofskianum*, when sown in September, planted out in the beginning of March, and trained down to the surface of the bed as it grows, comes into bloom at the beginning of May and lasts till midsummer or longer, and so treated is one of the very finest beds ever seen in May; but if allowed to grow its own way you might just as well have a bed of seed Turnips. A second sowing of it the first week in April and again about the end of May would carry it right through the season till the frost came. Six or seven plants of it put into pots about the new year would come in finely for the greenhouse in April; but it will not stand forcing—the protection of a greenhouse or pit is as much as it can safely endure. *Lasthenia californica* and *Limnanthes Douglassi* are two yellowish kinds which are grown for making up this colour in May. *Bartonia aurea*, a beautiful clear yellow flower on a weedy looking plant, sown now and transplanted into very poor light soil early in April will flower in May, and be much better than under any other treatment. The flowers are as rich as those of *Allamanda*, but the plant is no better than a Dock in good soil.

Leptosiphon densiflorus, a very dwarf lilac, or purple-and-white mixed flower, stands the winter well. *Lupinus nanus* has quite a different character when allowed to grow on slowly all the winter. It blooms from May to the middle or end of August from seeds sown about the middle or end of September, provided the plants are not allowed to ripen any seeds. Another sowing about the first week in May would carry it on to the middle of October. *Silene pendula*, *S. compacta*, and *S. Schafta* are the best of the Catchflies, and are always best from autumn sowing. The Virginian Stock flowers in April if sown now, and all the varieties of the branching Larkspur will bloom most part of the summer if sown earlier in September. Cornflowers (*Centaurea cyanus*) should be sown now for cut flowers.—F. G.

DISQUALIFYING AT SHOWS.

I AM of the opinion that "A. D.'s" (page 129) colleagues were right in disqualifying the exhibit where more than the required number stated in the schedule was put up. At a recent show in Lincolnshire several of the entries were wrong in this respect as to number stated; such as, for eight Carrots some had nine; twenty pods of Beans, some had twenty-two or more; a dish of six Apples, where some had seven; and many other cases of a like nature. Of course the exhibitors had all been cleared out of the tent, and we drew the Secretary's and some of the Committee's attention to these blunders before awarding the prizes. These officials declared they hardly knew what to do, but must leave the matter in our hands to do as we liked.

We, as judges, thought it right to disqualify all who had not obeyed the wording of the schedule, and marked their cards accordingly, as we thought it would make them more careful in the future. Naturally enough, putting seven Apples on a plate when there should be only six, or twenty-two pods of Beans or Peas when there should be only twenty, may make a dish look more imposing, but I consider it would be decidedly wrong to give that dish the prize, even if they were the best. It would be very unfair to those who do count correctly, and such may well exclaim that the executive should have appointed competent judges who are competent to count six, eight, or twenty, as the case may be.

Would any judge, I ask, at a London or large provincial show think of awarding a prize to, say, ten stove or greenhouse plants, when the exhibitor staged eleven? What would be thought of a cattle show judge if he awarded a prize to a pen of four sheep when the schedule distinctly states it must be three? It only requires one answer, that the judges must act up to the schedule, and let the public see they know how to count, even if some of the exhibitors do not. My answer to a few of the discontented ones at that show was, that before they exhibit again they should learn to count; as to award them prizes would be manifestly unfair to those exhibitors who had staged correctly.—A. HARDING, *Orton Gardens, Peterborough.*

IRIS FIMBRIATA.

ALL the Irises possess special attractions for plant admirers, and though many are more showy than the little *Iris fimbriata* (fig. 27), yet this has a graceful habit, and is so floriferous that it can be employed with good effect in several ways. Like numerous other members of the family its flowers are, however, somewhat fugacious, and are not adapted for cutting. The plant is compact in habit, and is consequently well suited for culture in pots, and being somewhat tender it is safer in a greenhouse than outside—in fact, comparatively few positions suit it except in the warm southern and western counties, where I have occasionally seen it tried, but not with very encouraging results.

For some years I have grown it entirely for greenhouse decoration,



FIG. 27.—IRIS FIMBRIATA.

and as I have a good stock by forwarding some and retarding others, I manage to keep up a fairly long succession of flowers. These are of such a soft pale bluish mauve relieved by orange markings that they appear very distinct arranged with other plants having more brightly coloured flowers. A moderately light loam, ample root space, and plentiful supplies of water during the growth and flowering, are the principal points in its culture and need special attention.—A. B.

RAISING AND PREPARING VINES FOR PLANTING.

MR. INNES endeavours to make out, on page 162 of the Journal, that what he quotes from my uncle is "a sweeping condemnation" of what I have advocated.

I would reply, that what he quotes is rather "a sweeping condemnation" of such practice as keeping Vines in 3-inch pots till the middle of August. Mr. D. Thomson recommends a 6 or 7-inch pot as large enough for growing planting Vines in, and all who have any practical

knowledge at all will agree with this sound advice. In this sized pot one can grow a splendid cane, and there is room for an abundance of fine fibrous roots; but I feel certain that Mr. D. Thomson would never expect to get that out of a 3-inch pot!

There is such a thing as the "happy medium," and that I consider is found in a 6 or 7-inch pot for growing planting Vines; certainly not in a 3-inch pot! No amount of argument or assertion will make me believe in this latter method, and Mr. Innes simply condemns himself when he quotes from my uncle.

The latter, as one would expect from his long experience, recommends a rational mode of treatment, and all who follow such advice as he gives will be on the right road to attain success. The same could not be said if the 3-inch pot treatment was indulged in.—JOHN THOMSON, *Clovenfords*.

I AM very averse to taking any part in the controversy that has recently appeared in your columns on this subject, but I am desirous that any former remarks of mine should not be misunderstood or misconstrued. I am under the impression that there must have been a great disparity between the Vine I sent you and my description of it and the Vines Mr. Innes planted out of 3-inch pots.

If your correspondent thinks that the remarks I then made or the sample of Vine I sent you justifies his inference that I either approve or recommend such Vines as I think it possible to produce in a pot not larger than 3 inches he is labouring under a misconception, as I do not think it possible that I could produce in so small a pot a Vine that I would prefer for planting, or one to be compared to the sample I sent you.—D. THOMSON, *Drumlanrig Gardens*.

HORTICULTURAL SHOWS.

SALISBURY.—AUGUST 14TH.

THE Wilts Horticultural Society held its annual exhibition of plants, fruit, flowers, and vegetables in the Bishop's Palace Grounds, Salisbury, on the above date, beautiful weather prevailing. The show on the whole was a success, and compared favourably with the majority of its predecessors. The Committee and the courteous Hon. Secretary, Mr. C. G. Wyatt, are to be congratulated on the general excellence and arrangements of the show.

PLANTS.—Mr. Cypher was a good first for twelve stove and greenhouse plants, distinct, six foliage and six flowering, with large brightly coloured Crotons angustifolius and Sunset, Kentias Fosteriana and australis, Cycas circinalis, Latania borbonica, Stephanotis floribunda, Ixora Williamsi, Clerodendron Balfourianum, Erica Austiniana, Statice profusa (a grand plant of the kind), and Phenocoma prolifera Barnesi—a good all round exhibit. Mr. T. Wilkins, gardener to Lady Ivor Guest, Inwood House, Henstridge, was second, and Mr. E. Wills, Shirley, Southampton, a creditable third.

Mr. W. Peel, gardener to Miss Todd, Shirley, was first for nine stove and greenhouse plants, four in bloom and five in foliage, showing, among others, Kentia Fosteriana, K. Belmoreana, Croton Victoria, C. Johannis, and Ixora Williamsi; Mr. E. Wills being a good second. Mr. Wilkins was placed first in the class for six exotic Ferns, showing Davallia fijiensis plumosa, D. Mooreana, Adiantum cuneatum, and Nephrolepis exaltata. Mr. George Hall, gardener to Louise Lady Ashburton, Romsey, was accorded second place for uniformly large and fresh-looking plants. Mr. A. Robey, gardener to Captain Greenwood, Harnham Cliff, Salisbury, was easily first for six Tuberous-rooted Begonias, distinct, staging admirably grown and capitally flowered plants of double and single varieties. Mr. Bedford, Salisbury, was second, and Mr. W. Mitchell, gardener to J. W. Fleming, Esq., Chilworth Manor, Romsey, third. Mr. Bedford was a long way ahead for six Fuchsias, showing pyramidally trained plants, fresh and well flowered.

GROUPS.—For some years back groups of miscellaneous plants arranged for effect have been a recognised feature in the Salisbury show, and never have they been seen to greater advantage than at this exhibition. In the open class the prizewinning exhibits were very close to each other in point of merit. Mr. Mills was first, Mr. Carr, gardener to W. A. Gillett, Esq., Bishopstoke, was second, and Mr. A. Robey third. Mr. Bedford and others also showed well in this class. In the group confined to gentlemen's gardeners (a semicircle of 12 feet in diameter) as in the preceding group, Mr. Carr, Mr. Peel, and Mr. Robey secured the awards in that order for capital arrangements, the first and third prize groups containing some good Orchids set off to advantage.

FRUIT.—Mr. H. W. Ward, gardener to the Earl of Radnor, Longford Castle, Salisbury, was a good first for a collection of eight kinds, staging fine bunches of Madresfield Court and Muscat of Alexandria Grapes, good in berry and finish, highly coloured fruits of Prince of Wales Peach, a handsome fruit of Lockinge Hero Melon, Brunswick Figs, a fine dish of Clapp's Favourite Pear, Moor Park Apricot, and Pitmaston Orange Nectarine. Mr. Inglefield, gardener to Sir John Kelk, Bart., Tedworth, Marlborough, was second, his best dishes being Late Admirable Peach, Pineapple Nectarine (good examples of each), and medium-sized bunches of Black Hamburgh Grapes, good in berry and beautifully coloured. Mr. Ward and Mr. George Hall were first and second respectively for Pine Apples, the former staging a good-sized and brightly coloured fruit of Smooth Cayenne, and the latter a medium-sized Queen.

The Grape classes were well contested. Mr. Ward was an easy first for three bunches of Muscat of Alexandria, good in berry and colour; Mr. Solman, gardener to — Bennett-Stanford, Esq., Pyt House, Tisbury, was second, Mr. Mitchell taking third place. In the any other white, Mr. Gardener, gardener to Col. H. S. Bates, Twyford, Winchester, was placed first for three handsome bunches of Mrs. Pearson; Mr. Fred Smith, gardener to the Bishop of Salisbury, being accorded second with Foster's Seedling; and Mr. Warden, gardener to Sir F. H. Bathurst, Bart., Clarendon Park, Salisbury, was third with Buckland Sweetwater. Mr. James Chalk, gardener to George Read, Esq., Westwood, Salisbury, had the best three bunches of Black Hamburgh, being pressed very hard by Mr. Mitchell with slightly smaller, but more compact bunches, Mr. Warden taking third place. In the any other black Grape class the prizes went to Messrs. Smith, Ward, and Warden, all showing Madresfield Court.

With Peaches, Messrs. Inglefield and Hall were respectively first and second, the former staging large well coloured fruits of Late Admirable and the latter well coloured fruits of Barrington. For Nectarines, Messrs. C. Solman and Inglefield received the prizes in the order named, the former staging good fruits of Elruge and the latter of Pineapple. Mr. Solman had the best dish of Apricots and Mr. Ward the best dish of Plums, staging large ripe fruits of Guthrie's Gage.

Out of nine exhibits of three dishes of dessert Apples, Mr. George Fulford, gardener to Earl Nelson, Trafalgar Park, Salisbury, secured premier position, showing grandly coloured fruits of Beauty of Bath, Early Harvest, and Red Astrachan; Mr. Smith being a close second with beautifully coloured Irish Peach, Beauty of Bath, and Red Astrachan. The last-mentioned exhibitor secured premier place in the corresponding class for a like number of culinary varieties with specimens of The Queen (finely coloured), Toddington Seedling, and Lord Suffield; Mr. George Marlow, gardener to Alfred Buckley, Esq., New Hall, Salisbury, being a good second with Ecklinville Seedling, Lord Suffield, and The Queen; Mr. Wilkins taking third place. In the class for four dishes of Pears, distinct varieties, Mr. Smith came to the front once more, staging Bon Chrétien, Louise Bonne of Jersey, Jargonelle, and Beurré Clairgeau, large but unripe.

VEGETABLES.—Several good collections of twelve kinds were staged, Mr. Wilkins, as usual, taking premier position with grand produce admirably set up. Autumn Giant Cauliflowers (large, close, and perfectly white), Intermediate Carrots, Prodigy Pea, fine Satisfaction Potatoes, Progress Cucumbers, Perfection Tomato, Lyon Leek, Inwood Favourite Onion (large, handsome-shaped, well ripened bulbs), Ne Plus Ultra Runner Bean, Wright's White Celery, and Pragnell's Exhibition Beet; Mr. Brown, gardener to the Hon. Percy Wyndham, Clouds, East Knoyle, Wilts, being a good second; and Mr. E. Ford was a fair third.

CUT FLOWERS.—These were shown largely and well. Mr. F. W. Flight, Twyford, Winchester, had the best twenty-four Roses of not less than sixteen varieties, staging good blooms for the time of year. Mr. R. West, Northlands, Salisbury, had the best dozen Roses; he also secured first for six bunches Cactus Dahlias, first for twelve Show Dahlias, fine even fresh blooms of Maud Fellows, Shirley Hibberd, Harrison Weir, Mrs. Gladstone, and Duke of Fife; first for twelve Pompon Dahlias, distinct, six blooms in a bunch; first for twenty-four Asters, and first for twelve bunches of flowers, distinct, grown out of doors. Mr. E. L. Brown had the best stand of eighteen Carnations or Picotees, showing a good assortment of fine, even, fresh blooms. Stands for decoration of dinner-table, bouquets, buttonholes, baskets, and shoulder-sprays for ladies, were admirably shown by Miss Carey, Stratford Sub Castle, Salisbury, Miss E. Bone, Mr. Cypher, Mrs. Frank Read, Romsey (who took three first prizes) and Miss E. M. Waters, Stratford Sub Castle, Salisbury, was first for dressed vase of wild flowers.

NON-COMPETITIVE EXHIBITS.—Messrs. Keynes, Williams & Co. had a grand display of Dahlias, including blooms of the most recent and approved varieties of the Cactus, single and Pompon varieties, which were effectively arranged and greatly admired. Messrs. W. L. Lewis and Co., Southgate, London, contributed a small collection of Orchids and small plants, including Dendrobium Phalaenopsis Schröderianum, and Cattleya guttatum. Mr. Bedford also contributed miscellaneous plants, and Mr. Ladhams of Shirley showed a collection of herbaceous flowers.

CARDIFF.—AUGUST 14TH AND 15TH.

THE seventh annual show, held under the auspices of the Cardiff Horticultural Society, took place in the Sophia Gardens, Cardiff, on the 14th and 15th inst. Year by year the quality of the exhibits is improving, and the Committee is this year confident that this exhibition was the best yet held. The number of entries remains about the same as last year, but in some classes the competition was much keener. A feature of the Cardiff Show, which is rapidly gaining popularity, is the grouping of plants for effect. This year a tent was set aside for these exhibits alone, and the number of competitors was such that the area was fully occupied. Needless to say, this tent was much patronised, and the groups greatly admired. Specimen stove and greenhouse plants were generally well, but not numerous shown. Fruit, as usual, was well represented, and in some cases the competition was keen. Apples appeared to be rather under the average size, but exceedingly well coloured. Stone fruit also appeared to be undersized. Several fine dishes of Gooseberries and Currants were in evidence notwithstanding the lateness of the season. Vegetables, although not exhibited as plentifully as one would expect, were of exceedingly good quality. Competition

was not confined to the locality, as exhibitors came from all parts of the country.

In the open class Mr. J. Cypher, Cheltenham, took the first prize for twelve stove and greenhouse plants in bloom. Noticeable among these were *Allamanda Hendersoni* and *A. grandiflora*, *Bougainvillea glabra* and *B. Sanderiana*, *Ixora Duffi* and *Erica obbata*. In the collection of eight fine-foliage plants Mr. J. Cypher again took first place with four well-grown *Crotons* and four handsome *Palms*; Mr. Carpenter, gardener to W. J. Buckley, Esq., Llandelly, took second place. Mr. T. Clarke, gardener to Col. Sir E. Hill, Llandaff, was awarded first prize for a fine collection of stove and greenhouse *Ferns*; and Mr. R. McLew, gardener to John Lunn, Esq., Llandaff, was awarded the second prize. Six *Fuchsias*, for which Mr. T. Clarke obtained a first prize, showed much cultural skill, as did also the six which took second prize, shown by Mr. T. Hillard, a Cardiff working man. Mr. T. Clarke was also first in the amateurs' division for four specimen *Fuchsias*, and Mr. E. C. Askman second. In this same division Mr. R. McLew took first place for four stove and greenhouse plants in bloom; Mr. A. Pettigrew, gardener to the Marquess of Bute, was first for four fine-foliage plants; and Mr. Wm. Hockey, gardener to Col. Page, Llandaff, first for four stove and greenhouse *Ferns*.

Several prizes were given for *Begonias*, with the result that a very fair display was made. For a collection occupying a space not less than 10 feet by 6 feet Mr. T. Clarke took first place, the majority of the varieties in his group being double; Mr. T. Malpas, gardener to J. Lynn Thomas, Esq., Penylan, Cardiff, took second place with a collection of almost all singles. The latter took first prize for a collection of twelve distinct varieties; and Mr. Geo. Wall, gardener to Mrs. Evan Lewis, Llandaff, took second prize in this class. For a collection of twelve table plants Mr. Wm. Hockey obtained first place, and Mr. T. Clarke second; whilst for six table plants these two changed places.

Groups of plants arranged for effect were exhibited in two classes, one being open to all while the other was confined to gentlemen's gardeners and amateurs. The finest group in either class was that arranged by Messrs. Case Bros., Cardiff, for which, besides receiving the first prize, they were awarded the R.H.S. silver medal, their group being considered the best exhibit in the open division. Mr. R. Crossling, Penarth Nurseries, obtained second prize with a very tastefully arranged group. In the amateurs' division a group occupying a space of 50 feet, arranged by Mr. T. Clarke, had first place given to it, and one arranged by Mr. J. Styles, gardener to Marcus Gunn, Esq., Llandaff, was placed second. It should be mentioned that Mr. T. Clarke was awarded two silver cups for the above exhibit, one going with the first prize and the other was awarded on account of the group being considered by the Judges as the best exhibit in the amateurs' section.

In the open division for cut *Roses* Mr. Stephen Treseder, Pwll-coch Nurseries, Cardiff, took first place in each of the four following classes:—Twelve varieties of Hybrid Perpetuals, three blooms of each; twelve distinct varieties of *Teas*, three of each; twenty-four distinct varieties of H.P.'s; eighteen distinct varieties of *Teas*. The R.H.S. silver medal was awarded to Mr. Treseder for his box of eighteen distinct varieties of *Tea Roses*. Mr. R. Crossling was placed second in each of the classes named. Mr. H. Jeans, gardener to T. Hobbs, Esq., Bristol, took first prize in the amateurs' division for twelve blooms of distinct varieties of *Tea Roses*, and A. Hill Gray, Esq., Bath, second. Mr. E. Garraway, Bath, and J. Jeans were placed first and second respectively for a collection of twelve blooms of distinct varieties of H.P. *Roses*. Messrs. Keynes, Williams, & Co., Salisbury, obtained two first prizes for *Dahlias*, one for *Fancy* and the other for *Cactus Dahlias*. Mr. Wm. Treseder, Cardiff, was second in both cases. Mr. G. Drake, Cardiff, was awarded first for a collection of twelve distinct varieties of *Dahlias*.

For a collection of six bunches of *Grapes*, three varieties, J. Lloyd, gardener to Vincent Stuckey, Esq., Langport, was awarded a first prize and a silver cup, valued £3 3s. Mr. R. Grimrod, gardener to P. A. Clive, Esq., Hereford, was awarded second prize. The latter took first for three bunches of black *Grapes*, any variety. Mr. M. Chatfield, gardener to L. Guret, Esq., Chepstow, took first prize for three bunches, and first for one bunch of Black *Hamburgh Grapes*, also one first and two second prizes for white *Grapes*. Mr. J. Nowell, gardener to A. Pitt, Esq., Abergavenny, carried off the first prize for three bunches of White *Muscat*, and Mr. A. Pettigrew did the same for three bunches of *Foster's Seedling*, and also for one bunch of Black *Alicante*. Mr. J. Hopkins, gardener to Mrs. P. Tubervill, Swansea, obtained the first prize for the best bunch of *Madresfield Court*, and first for a bunch of White *Muscat*.

Mr. A. Pettigrew received two first prizes for *Melons*; the Bishop of Llandaff obtained first for two scarlet-flesh *Melons*, and T. Malpas first for one scarlet-flesh *Melon*. The first prize for two Pine *Apples* was awarded to Mr. J. Nowell, the variety shown being *The Queen*.

In the competition for the six best dishes of dessert fruit Mr. J. Hopkins was placed first, and Mr. S. T. Wright, gardener to C. Lee Campbell, Esq., Ross, second. Mr. S. T. Wright was successful in taking first place for his collection of six dishes of distinct varieties of dessert *Apples*, Mr. J. Lloyd being second. Mr. Geo. Garraway carried off the first prize for the collection of six dishes of distinct culinary *Apples*, and Mr. J. Basham, Bassaleg, took the second. As the season is still early for *Pears* these were not extensively shown. For a single dish Mr. A. Pettigrew took first place with *Jargonelle*, and Mr. W. Hockey second with *Williams' Bon Chrétien*. Mr. J. Lloyd obtained first prize for a dish of *Nectarines*, and Mr. R. Grimrod first for *Peaches*, first for *Nectarines*, and a certificate of merit for a basket of *Grapes*. Mr. J. Nowell was awarded the R.H.S. bronze medal, and Mr. S. T. Wright a certificate of merit for collections of fruit.

In the vegetable classes, Mr. Foster, gardener to Morgan Williams, Esq., Glyn-Neath, was successful in carrying off the first prize and the R.H.S. bronze medal for the best collection of nine distinct varieties of vegetables. His collection—as indeed all his other exhibits—were much admired for their general excellence. Mr. Geo. Shewring, Llandaff, took second place with his collection. Mr. C. Foster also took first prize for a collection of six distinct varieties of vegetables grown from Sutton's seeds. Mr. W. Pugsley, gardener to General Lee, took second prize in this competition, and first for a similar collection grown from Mr. Wheeler's (Gloucester) seeds. Mr. T. Clarke and Mr. Geo. Wall took first and second prizes respectively for the best collection of vegetables grown from seeds supplied by Messrs. Garaway & Co., Bristol, whilst Mr. Geo. Shewring took first, and Mr. Geo. Clarke, Cardiff, second, for a collection of six varieties of vegetables grown from seeds supplied by Messrs. Ware & Co., Bristol.

Mr. C. Foster took first prizes for *Carrots*, *Onions*, *Leeks*, *Turnips*, and also for a collection of six varieties of *Potatoes*. Mr. W. Pugsley carried off first prizes for a dish of round *Potatoes* and three heads of *Cauliflower*. Mr. W. W. Nell, Wenvoe, obtained firsts for six *Beetroots* and a dish of kidney *Potatoes*. Mr. Geo. Shewring was awarded first prize for fifty pods of *Peas*, first for fifty pods of *Runner Beans*, and first for thirty pods of *Broad Beans*.

The florists of Cardiff made a very attractive display of bouquets, buttonholes, crosses, and wreaths, and it is noticeable that the competition in this class is getting keener every year. Mr. W. Treseder was awarded the first prize and the R.H.S. silver medal for the best bridal bouquet in the show. Mr. A. E. Price, Cardiff, obtained first prize for a hand bouquet, also for a cross, and a wreath.

The trade was in great evidence with non-competitive exhibits at this year's show. Messrs. W. & J. Birkenhead of Sale were present with an extensive collection of *Ferns*, for which they were awarded a silver-gilt medal. Messrs. W. Clibran & Son, Altrincham, had a good and varied collection of succulents, as interesting but possibly not as saleable as the exhibits of the other nurserymen. A silver-gilt medal was awarded to the firm for this collection. Messrs. Cutbush & Sons, London, also had a silver-gilt medal for a stand of miscellaneous plants; and Messrs. Dicksons, Ltd., Chester, were similarly treated for their stand of hardy herbaceous cut flowers. Messrs. Phelps & Co. were awarded a silver medal for floral decorations, and certificates of merit were given to Mr. Geo. Drake, Cardiff, for a collection of *Zonal Pelargoniums*; and to Mr. R. Morrow, Leominster, for a collection of *Dahlias*.

WESTON-SUPER-MARE.—AUGUST 15TH.

THIS Society has been revived after a lapse of six years, and judging from what the exhibition there is every likelihood of its once more taking its place as one of the most popular fixtures in the West of England. Messrs. W. C. Thomas and W. H. Webb are the Honorary Secretaries, and, though new to the work, acquitted themselves to the satisfaction of all concerned. Grove Park, with the adjoining Glebe House Field, are admirably adapted for the purpose of holding these exhibitions, and nothing was wanting to make the show the success it proved to be.

In the open classes the competition was close and good all round. For twelve stove and greenhouse plants Mr. J. Cypher, Cheltenham, was first, having grand back row plants of *Caryota sobolifera*, *Kentia Belmoreana*, *K. Fosteriana*, *Latania borbonica*, with *Crotons Victoria* and *Sunset* in fine form. The flowering plants were *Ericas Thompsoni* and *tricolor vera*, *Ixora Pilgrimi*, *Bougainvillea Sanderiana*, *Rondeletia speciosa*, and *Stephanotis floribunda*. Mr. W. Rowland, gardener to W. Brock, Esq., Exeter, was a very good second, his best being fresh, well-flowered specimens of *Stephanotis floribunda*, *Bougainvillea glabra*, *Allamanda nobilis*, *Clerodendron Balfourianum*, *Dipladenia amabilis*, and *Ixora Williamsi*. The first prize for six flowering plants went to Mr. Cypher, who had a grand specimen of *Erica obbata purpurea*, and perfectly flowered specimens of *Erica Marnockiana*, *Statice profusa*, *Clerodendron Balfourianum*, *Rondeletia speciosa major*, and *Anthurium Scherzerianum*. Mr. Rowland was again second, showing *Bougainvillea glabra*, *Stephanotis floribunda*, and *Ixora aurantiaca* in fine condition. Mr. Rowland succeeded in beating Mr. Cypher in the class for a single stove plant with a finely flowered *Stephanotis floribunda*, but in the corresponding class for a greenhouse plant Mr. Cypher was first for a grand specimen of *Lapageria rosea*.

Fine-foliaged plants made an imposing display. Mr. Cypher was first for six, showing fine specimens of *Cycas revoluta*, *Kentia Fosteriana*, *Latania borbonica*, *Kentia australis*, *Croton Johannis*, and *Croton Baron J. Rothschild*; Mr. Rowland was second; Messrs. Brooks & Son, Weston-super-Mare, third; and an extra prize went to Mr. C. Holland, gardener to Mrs. Campbell, Weston-super-Mare. A beautifully coloured specimen of *Croton Chelsoni* gained Mr. Cypher the first prize for a single fine-foliaged plant, Mr. Rowland following with *Croton Johannis*, also in perfect condition.

Four competed with groups arranged for effect, Mr. Rowland having excellent materials, and displaying great taste, taking the lead. Mr. W. Appleton, Weston-super-Mare, was a good second, his group including numerous *Orchids* and a variety of other well-grown plants, which only wanted a better background to show them off to the best advantage. Messrs. Brooks & Son also made a good display, and were placed third, an extra prize going to Mr. W. Summerhayes, gardener to H. Pethick, Esq., Weston-super-Mare. *Ferns* were well shown. With eight exotic varieties Mr. Rowland was first, showing fine specimens of *Davallia bullata*, *Actinopteris raida*, *Neottopteris nidus*, *Dicksonia squarrosa*,

and a small *Gymnogramma sulphurea*. Messrs. Brooks and Son were second; and Mr. E. Hall, Bath, third. With eight *Adiantums* Mr. C. Holland was first, showing, among other varieties, good specimens of *A. trapeziforme* and *A. farleyense*. Mr. E. Hall was second; and Messrs. Brooks & Son third. Hardy Ferns were finely shown by Mr. E. Hall, who had *Athyrium plumosum*, *Osmunda regalis*, *Polystichum lonchitis*, *Scolopendrium vulgare* var. *crispum*, *Polypodium vulgare cambricum*, *Polystichum angulare proliferum*, *Scolopendrium vulgare Coolingi*, *Osmunda regalis cristata*, and other crested *Scolopendriums*. Messrs. Brooks & Son were second.

Double Zonal Pelargoniums were well shown by Messrs. W. Summerhayes, E. Hall, and C. Holland; and single flowering varieties by Messrs. Summerhayes, C. Holland, and Brooks & Son, who took the prizes in the order named. Messrs. Brooks & Son had a first for Ivy-leaf, and Mr. W. Daffurn, gardener to Donald Cox, Esq., for other Pelargoniums. Messrs. Brooks & Son showed good *Petunias*, and were first; Mr. C. Holland being second. Messrs. W. Daffurn, Brooks & Son, and W. Summerhayes were the most successful exhibitors of Tuberous Begonias; Messrs. Brooks and Rowland had the best *Liliums*; and Mr. Holland the best *Fuchsias* and *Coleuses*.

Table plants were well shown by Mr. J. Coles, Clifton; and Mr. G. W. Shelton, gardener to W. K. Waite, Esq., Clifton; and others. For a new or rare plant Mr. Cypher was first, showing the very effective and distinct *Croton Reidii*; Mr. Appleton being second with *Cypripedium Charlesworthii*. The last-named was first for Orchids, *Lælia crispa* and *Oncidium Sanderianum* being his best. Mr. Cypher was a very close second, *Brassia caudata* being his most noteworthy plant.

Cut flowers were numerous and well shown, the sides of one large tent being wholly given up to these. For twenty-four varieties of Roses, two blooms of each, Messrs. J. Townsend & Sons, Worcester, were first with a fine stand, which comprised extra good blooms of Lady Sheffield, Ulrich Brunner, Duke of Edinburgh, Victor Verdier, Marie Baumann, Benoit Comte, Dr. Andry, and The Bride. Mr. F. Ley, gardener to Dr. Budd, Bath, was second, and Mr. J. Mattock, Oxford, third. In Messrs. Townsend & Son's first prize stand of twelve Roses were fine blooms of Her Majesty, La France, Mrs. John Laing, Alfred Colomb, and Mrs. Harry Turner. Mr. Ley was again second, and Mr. Mattock third. The last named was well first with twelve Teas, showing good blooms of Adam, Innocente Pirola, François Michelin, Souvenir de S. A. Prince, Maréchal Niel, and C. Mermet. Mr. Ley was second, and Messrs. Townsend and Sons third.

The best twenty-four Dahlias were shown by Mr. G. Humphries, Chippenham; Mr. F. Harris, Bristol, being second; and Mr. T. Hobbs, Bristol, third. With Cactus Dahlias, Mr. S. Tottle, Taunton, was first; and Mr. F. Harris second; and the best single Dahlias were shown by Mr. J. Truckle, Twerton. Hollyhocks, though not numerous, were extra good. Mr. W. Smith, Kingswood, was first; and Mr. T. Hobbs second. Mr. A. A. Walters, Bath, was first for a fine collection of hardy perennials; and Mr. Garraway had the best annuals. Begonias in two classes were well shown by Mr. J. B. Blackmore, Twerton, who had two first prizes. Mr. G. Humphries made a fine display of Zonal Pelargoniums, and was first; while the best Asters were shown by Messrs. J. Jones, A. A. Walters, and G. Garraway. Mr. S. Bird, gardener to F. H. Fox, Esq., had a first prize for some grand *Gladioli*; S. Tottle also showing good spikes. Messrs. Brooks and Son were most successful with hand bouquets and such like; and Mr. J. Attwell, gardener to J. B. Brain, Esq., Clifton, was a good first with a vase of fruit and flowers. The first prize collection of wild flowers, by Miss Smith, Kingswood, was worthy of special mention.

The display of fruit was fairly extensive, and the greater part of it was in admirable condition for the table. The first prize for a collection of eight dishes went to Mr. H. W. Ward, gardener to the Earl of Radnor, Longford Castle, Salisbury, who had a good Smooth Cayenne Pine Apple, well ripened Muscat of Alexandria and Madresfield Court Grapes, a fine Hero of Lockinge Melon, highly coloured Prince of Wales Peach, Moor Park Apricot, Brunswick Fig, and Pineapple Nectarine. Mr. J. Lloyd, gardener to Vincent Stuckey, Esq., was a good second, his fruit of Pineapple Nectarine, Bellegarde Peach, and Hero of Lockinge Melon being very superior. Mr. A. Crossman, gardener to J. Brutton, Esq., Yeovil, was third. The last named succeeded in beating five other competitors with four dishes, showing well finished Black Hamburgh, a fine Hero of Lockinge Melon, and handsome Pineapple Nectarine and Dymond Peach. Mr. Lloyd was second, and Mr. H. W. Ward third. Mr. Ward was first with a Pine Apple.

Four classes were provided for Grapes. With Black Hamburgh, Mr. J. Marshall, gardener to J. Dole, Esq., Clifton, was first, the bunches and berries being large, and the latter fairly well coloured. Mr. J. C. Godwin, Stoke Bishop, was second. In the any other black class, Mr. H. W. Ward led with beautifully coloured Madresfield Court, the second prize going to Mr. W. Daffurn for good bunches of the same variety. Mr. W. Pollard, gardener to C. Hill, Esq., Clevedon, was first for fine clusters of Muscat of Alexandria, Mr. Ward having a second prize for superior bunches. In the any other white class Mr. G. Shelton was first for extra fine, well-ripened bunches of Buckland Sweetwater, the second prize going to Mr. W. Summerhayes for Canon Hall Muscat in excellent condition. Peaches were well shown by Mr. Ward, Nectarines by Mr. Crossman, Figs by Mr. Ward, Cherries by Mr. Lloyd, Plums by Mr. Crossman, Apples by Mr. Virgo, Clevedon, and Tomatoes by the Frome Flower and Fruit Company, first prizes being awarded in each instance. The competition was also good in the various classes provided for vegetables.



FRUIT FORCING.

Vines.—*Early Forced in Pots.*—The Vines intended for starting by the beginning of November must be strong, short-jointed, brown, and hard in the wood, with round, plump, well formed buds. Although the leaves may not be off the Vines will now be at rest, for when the wood is properly ripened, and water not supplied oftener than necessary to keep the soil from becoming dust dry, and the house or place where they are is kept cool and dry, there is no danger of starting the cane buds, even when the Vines have the laterals closely pruned and the shortening effected to about 6 feet, more or less, according to the situation of the promising buds on thoroughly sound wood. The principal leaves will still possess some elaborative power, and the nutriment assimilated be stored in the wood and buds. This makes all the difference between Vines starting strongly and weakly when subjected to the requisite heat and moisture. Vines that mature with clean healthy foliage are the only ones giving satisfactory results when early forced, but this is conditional on their being stored with concentrated food for utilisation in the early stages of their growth under forcing treatment. When the Vines have to be bought orders should now be placed, or even the canes selected and marked for delivery at an early date. All points considered, there are no varieties equal to Black Hamburgh and Foster's Seedling for very early forcing. White Frontignan forces splendidly, but the clusters and berries are too small for marketing. Madresfield Court is one of the best for early work, and when well done commands good prices by its taking appearance and high quality.

Earliest Forced Planted-out Vines.—There is seldom any question as to the ripeness of the wood in the case of early forced Vines. It is different with those not previously subjected to early forcing, but those intended for starting in November or early in December should now have the wood ripe, and some foliage, perhaps, falling; but there must not be any attempt at removing it, nor to cut the laterals close in, as that may cause the principal buds to start, therefore remove the laterals by degrees, and shorten some of the long shoots, preserving, however, some growth, especially when the basal leaves are down, the final pruning being deferred until the early part of next month. In the case of such Vines it is desirable to remove the old surface soil from amongst the roots carefully with a fork, taking this advantage to raise any that are deep, laying them in fresh material near the surface. Good calcareous loam is the most suitable, with an admixture of crushed bones and other enriching substances. If the soil be light add a sixth of clayey marl dried and pounded, or, if stiff, a similar proportion of calcareous gravel or old mortar rubbish.

The thing is to secure a healthy rooting medium, such as will induce fibrous root formation and keep the roots in a healthy state. This can only be effected with sound materials and thorough drainage. Give a moderate watering, and the roots will push from near the collar into the soil at once, thus the Vines will be in capital condition for starting when the proper time comes round. When lifting or renovating the border is deferred until the leaves fall the starting of the Vines is not nearly so satisfactory.

Midseason Houses.—The Vines this season have on the whole done well, being satisfactory in the colour and quality of the Grapes. The season has been an abnormal one, and favoured red spider, thrips, and other pests of Vines. It has also been prolific of scorched leaves and scalded Grapes, both of which are avoidable by early ventilation, especially after a few days of dull weather and a return to bright. Mildew has also been rampant in some localities, and appears to thrive in drouthy weather with moisture sufficient for germinating purposes. Mealy bug likewise has had a fine season, and is not by any means a stranger in vineries. All these pests and many others are sure to take advantage of their opportunities, therefore the only safe course is to pursue sound cultural management and keep a sharp look out for the enemy, which, in one form or other, ever attends the cultivation of Vines.

Midseason Vines delight in a good spread of foliage, every principal leaf having full exposure to light and air, and with these formed under well ventilated conditions, the wood is then stout and short-jointed, the leaves thick, leathery, and deep green in colour, the Grapes well nourished, colouring and finishing well, while the wood ripens kindly, being brown and hard, and the buds plump and promising for next season's work and cropping. Copious supplies of water and top-dressings of fertilisers have done wonders this season. Mulching light soils has materially aided results where water has been scarce. Even sewage water has been requisitioned in some places with advantage, but this must not be overdone, for an overstrong dose and needless waterings are the precursors of shanking, which has been no sinecure this season so far as regards giving employment to scissors in removing such berries.

Sustaining rather than stimulating food is desirable for Vines ripening their crops. Moderate nitrogen supplies aid the Vines immensely in the late stages of the Grapes swelling, but that from bone and blood manures and good all-round fertilisers is better than nitrates. Fire heat

is often necessary to ripen midseason Grapes perfectly, but with ventilation day and night, to insure a circulation of air, it may often be dispensed with in bright weather. The nights, however, are now getting cold, and fire heat may be necessary, though a good rest at night aids Vines wonderfully that are carrying heavy crops of Grapes. Enough fire heat should be given to maintain the temperature at 70° to 75° by day, and 60° to 65° at night, allowing 5° more for Muscats or similar varieties.

Late Houses.—The Grapes will now be nearing the colouring stage, and should be given every encouragement. Afford full supplies of water through a good surface mulching, sweetened horse droppings, or stable litter freed from the straw and thrown in a heap, and when hot turned inside to outside, answering well when not more than 1 to 2 inches thick, continuing the supplies of nourishment until the Grapes are well advanced in colour, for most late Grapes take a long time to perfect thoroughly, and some, particularly Mrs. Pince, are not so up to the shank, which is often a consequence of the short supplies of food; and in some cases the consequences of too early stopping the supplies of nutrition are manifest in the Grapes shrinking, as not unfrequently occurs with Muscats, and in the doings of the Vines the following season. All late Grapes require time—some more than others; but all ought now to be colouring, or close on, while no harm will come to those advanced therein as regards keeping afterwards.

In order to effect perfection of berry in size and finish a fair amount of air moisture with a circulation of air constantly is imperative, diminishing the air moisture as the Grapes advance in colouring. Poverty of finish is the chief cause of Grapes shrivelling, cracking resulting of a close atmosphere following a period of drought or ventilating injudiciously. Afford a temperature of 70° to 75° by day artificially, 80° to 90° with sun, and close sufficiently early to increase to 90° or 95°. When the sun is losing power put on enough top and bottom ventilation to insure a circulation of air, allow the temperature to gradually cool, which rests the Vines, and increase the ventilation early with the advancing temperature. The hot-water pipes should, if necessary, have a little warmth in them to prevent the temperature falling below 65° at night.

THE FLOWER GARDEN.

Spring Flowering Annuals.—Much may be done towards brightening up the flower beds and borders next spring with the aid of annuals and biennials, the best among these being Sweet Alyssum, Candytuft, Corn Marigold, Clarkias, Collinsias bicolor and grandiflorum, Coreopsis tinctoria, Godetias in variety, dwarf Larkspurs, Leptosiphon androsaceus, Limnanthes Douglasi, Nemophila insignis, Pansies, Poppies, Saponaria calahrica, Scabious, Silene pendula and pendula compacta, Venus's Looking Glass, Virginian Stocks, and Viscaria cardinalis. The Silenes, Saponaria, Pansies, and Violas move well, and some of the others can occasionally be transplanted fairly well, but as a rule they are best sown thinly in beds, patches, or lines where they are to flower. In either case moisten the soil prior to sowing the seeds and cover lightly with sifted soil. This being done not later than the middle of August, and the plants duly thinned, they will become stout and strong, and being preserved from slugs will pass safely through the winter. It is somewhat late to sow Violas and Pansies, but if the seeds are sown in a sheltered position, and not disturbed till the spring, they can be transplanted and will flower well.

Tuberous Begonias.—Late-raised seedlings of these should be taken good care of, as they will form small bulbs for storing, and be of a serviceable size next summer. If they are at all thick in the seed pans transplant carefully to either a frame or to boxes, using a fairly rich light soil, and disposing them 3 inches apart each way. Keep them in a moist state at the root while growing strongly, and when the tops die store them in a cool dry place, where severe frosts cannot reach them. Larger sizes, if not wanted for the flower beds, would have been best located in nursery beds. All that flower, in fact Tuberous Begonias generally, should be labelled according to their habit of growth and flowering, or whether the flowers are erect or pendulous, the former being the best for beds and the latter for vases and hanging baskets. Note their respective colours, so as to be able next season to mass the colours, the most effective arrangement. Now is a good time to take cuttings of the best varieties. Trim off the lower leaves, cut to a joint, and then dibble them in at the foot of a sunny wall or on a raised south border, a little sharp sand only being added to the ordinary garden soil. Thus treated they will strike root as readily as Zonal Pelargoniums, and form small tubers before dying down.

Verbenas.—Though not so generally used as of old these are yet among the most effective of the summer bedding plants. The greatest difficulty is usually experienced in getting clean, healthy cuttings both now and in the spring, but unless these are forthcoming a poor stock of plants will be raised. This season, being cool and showery, suits the Verbenas well in some respects, plenty of flowerless young shoots now springing up from the centre of most of the plants. No time should be lost in preparing plenty of these. Bottom heat is not needed at this early date, but would be necessary if the propagation is much longer deferred. Place a single light frame on a hard bottom, half fill with partially decayed leaves and manure, treading it down firmly, and on this spread 3 inches of fine light soil, finishing off with a surfacing of silver sand. Shorten quite young flowerless shoots to the third joint, removing the lower pair of leaves, and dibble them in 1 inch apart each way. Water gently, keep the frame close, shading heavily on bright days and more lightly on duller days. Do not let them suffer for

want of a dewing over occasionally, and it will benefit the cuttings by having the lights drawn off on fine nights. Thus treated they soon strike root, and before the roots become interlaced all the plants ought to be carefully raised and placed in pans of fairly rich soil, being returned to frames till re-established. In this manner a capital lot of sturdy stock plants will be prepared, these wintering best in a cool, airy house, only enough heat being turned on to keep out frosts.

PLANT HOUSES.

Palms.—Where these are infested with small scale every endeavour should be made to clean them. This scale is easily destroyed with petroleum and water, but great care is necessary in its application. The oil drains into the centre of the plant, and often proves injurious if strong applications are used and the plants stood upright again directly they have been syringed. Three ounces of the oil may safely be used to each 4 gallons of water, but the first application will not destroy all the scale; it may have to be repeated three or four times in succession at intervals of a fortnight. The best way to syringe Palms with this solution is to slightly incline the pot so that the stem and fronds of the plant hang downwards. This prevents any oil reaching the centre. The leaves, if possible, should not be allowed to touch the ground, or they may be injured by the oil that collects and floats on the surface of water on the floor. The best plan is to move the plant to a fresh position as soon as it has been syringed, so that its leaves are free from the floor.

Cissus discolor.—For covering the back wall of a stove or other warm house few plants are more beautiful. The main branches of the plant should be trained at the top, so that all the young growths will hang downwards in a natural manner. When trained under the roof and well treated it grows so rapidly that it quickly forms a dense shade. From time to time liberally but judiciously thin the shoots, so that a good percentage will hang in a natural manner. This plant does not display half its true beauty when trained in a stiff formal manner. With good treatment and liberal feeding it will continue to grow until the end of the year. Perhaps at no season does it look more beautiful than during the sunless days of autumn. The foliage can then be used with advantage for many forms of decoration.

Bertolonias.—Side shoots may now be taken off, as they root freely in sphagnum moss and sand in a close propagating frame, or under bell-glasses in the stove. A few tops may also be taken and rooted, so that cuttings will be produced for next year's stock. Young plants rooted now pass the winter in better condition than plants with large well-developed foliage. The latter are almost certain to damp.

Aralia leptophylla.—Specimens that have grown too tall for use in 5 or 6-inch pots may be cut up at once for yielding suitable decorative plants in the spring. If the old plant is cut off close to the soil it will break again into growth, and in due time make a good specimen. The remainder of the stem should be cut up into lengths of a little more than 2 inches, and inserted singly in small pots in sandy soil. If plunged in the propagating frame and shaded from the sun all will form roots and break into growth from the top eye. At the first potting afterwards the portion of old stem above the soil in the small pots can be buried. Plants required for decorative purposes during the autumn and winter becoming too tall in their present quarters should be gradually hardened and given cooler treatment for a time.

Ananassa sativa variegata.—A few well grown plants are worth a place in a stove on account of their distinctive character and striking appearance amongst other plants. To produce good plants quickly leave the suckers on the parent until they are sufficiently strong for 5 or 6-inch pots. If inserted in sandy loam they will root freely enough arranged in the stove with other plants. The only defect in this plan is that the soil is liable to get wet before it is filled with roots. Where practicable, it is a good plan to plunge the pots, covering the surface of the soil and rim of the pots with the plunging material until they are well rooted. By this means no water will be needed before roots are formed if the soil has been moderately moist at potting time. If suckers are not freely produced before the plant fruits there is no difficulty in getting the necessary quantity afterwards.

Anthericum variegatum.—In from 4 to 6-inch pots few plants are more conspicuous in appearance or more useful for various forms of decoration. This plant will certainly thrive in a cool house, but it grows much more quickly in heat, and young plants should be treated to nearly stove heat until they attain a decorative size. Under cool treatment the plant is very slow, but in heat suckers are produced much more quickly. It is necessary to grow the stock plants moderately warm for this purpose. It grows freely in good loam, sand, leaf mould, and one-seventh of manure.

Tillandsia (Vriesia) hieroglyphica.—For rooms and various forms of decoration this plant might be grown much more generally, for few, if any, plants last in rooms in good condition for the same length of time. For this purpose propagation by suckers is too slow, and therefore seedlings should be obtained. Hitherto we have failed to save seeds, but found no difficulty in having seedlings obtained for us. This plant requires 4-inch pots, and grows freely in loam, peat, leaf mould, and sand. Plants in this size are very effective when from 6 to 8 inches high, especially if a few small seedling Ferns and dwarf mosses have been established on the surface of the soil. They require stove heat, but after they are large enough they will stand for weeks in any structure without injury.

THE BEE-KEEPER.

APIARIAN NOTES.

THE HEATHER HONEY YIELD.

It is now over three weeks since our bees were taken to the moors, and as yet they have not had more than one fair day. We have, however, escaped the torrents of rain, hail, and sleet. Near Lockerbie, where so much destruction has been done to crops, the large pieces of ice which fell helped to the destruction. Railways were flooded, and trains were detained; the storm, accompanied with thunder and vivid lightning, was distinctly seen and heard from where our bees stood storing honey undisturbed.

It may seem strange to some to hear with so seemingly untoward weather that our hives are in a satisfactory state, being in as good condition and as weighty as they have been for years, and with a few more fine days honey will be as plentiful as it was in some of the good honey seasons which occurred from 1850 to 1859, these years being the most productive of honey which have occurred during my lifetime.

It is still raining, but the barometer at 1000 feet above sea level is firm at 29—60, the bees being working, and good hives are crowding out. The brevity of this article is due to my bees requiring extra supers, which they must have.

Never in all my life have I experienced bees so vicious. Whether that is due to my absence from them on account of the wet weather, or the abundance of honey I know not; but when near them the enraged bees cover the whole person, which makes working amongst them disagreeable.—A LANARKSHIRE BEE-KEEPER.

SEASONABLE NOTES.

A GENERAL cleaning up of the apiary should now take place, and if not already done (except in the Heather districts) all spare frames and crates of sections should be removed from the hives. Those that are not properly sealed or disfigured in any way should be placed in the extractor and the honey taken from them, so that all may be packed away clean and dry for use another season.

All propolis should be cleaned off the top of frames, as this is often a breeding place for the wax moth, which is sometimes so destructive to combs when stored away for future use. These should always be stored in a dry airy place, and if wrapped in some light material, which had previously been sprinkled with carbolic acid, and then placed in boxes which are mouse proof, they will come out in good condition in the spring. Mice are very fond of the combs, and if they once gain an entrance to them will soon play havoc. If the combs are stored in a damp place it is almost impossible to keep the wax moth from them, and if allowed to keep possession for any length of time the wax will be consumed and the combs rendered useless. A lump or two of naphthaline placed in the box containing spare combs will also answer the same purpose.

At this time of year great care should be exercised in removing frames containing honey, and in handling the bees, as a little carelessness will result in the whole apiary being in an uproar, making it dangerous for anyone to venture near it. In removing spare combs from the hives it is an advantage to have a box close to hand to place them in; over this should be placed a cloth which had previously been sprinkled with carbolic acid. This will prevent the stray bees from getting to the combs.

As outdoor supplies are now practically over, robber bees are ever on the alert to help themselves from their neighbours' stores. It is surprising how quickly they will discover honey that may be exposed only for a few minutes, whereas when honey is coming in somewhat freely from its natural sources, they will take no notice of honey that may be placed close to the entrance to their hive. If they once have the robbing mania, it is sometimes difficult to prevent a great slaughter of bees, and if they once obtain an entrance to a weak stock will soon clear it of all its stores, resulting in the loss of many bees. The first start of robbing is often caused through the careless handling of combs when examining stocks at this time of year.—AN ENGLISH BEE-KEEPER.

TRADE CATALOGUES RECEIVED.

J. Carter & Co., High Holborn.—*Bulb Catalogue.*
Dickson & Robinson, Old Millgate, Manchester.—*Bulbs and Roses.*
J. Laing & Sons, Forest Hill, S.E.—*Dutch Bulbs and Fruit Trees.*
Sutton & Sons, Reading.—*Bulb Catalogue.*



TO CORRESPONDENTS.

* * All correspondence should be directed either to "THE EDITOR" or to "THE PUBLISHER." Letters addressed to Dr. Hogg or members of the staff often remain unopened unavoidably. We request that no one will write privately to any of our correspondents, as doing so subjects them to unjustifiable trouble and expense.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Bee subjects, and should never send more than two or three questions at once. All articles intended for insertion should be written on one side of the paper only. We cannot reply to questions through the post, and we do not undertake to return rejected communications.

Clematis indivisa lobata (*Amateur*).—The plant appears to be thriving satisfactorily, and it does not require any special treatment just now. If you wish it to fill as much space as possible do not shorten the growths, but let them advance freely so long as they can be fully exposed to the sun and air to mature; do not, however, allow them to become crowded. Syringe occasionally to keep the plants clean and free from insects, and supply water liberally while growth is advancing. In the winter keep the plant cool, as undue heat is apt to weaken it, causing premature growth. The flowering period is during April and May.

Tecoma radicans (*Idem*).—It is difficult to ascertain when this beautiful deciduous climber was introduced to this country from North America, its native place of growth. It was evidently cultivated in this country by Parkinson in 1640, as he has described in minutely, adding, "This never bore flower with mee, nor any other that hath it in our country that I could heare of." From that we may infer it could not have been long and generally cultivated, as the plant blooms freely enough when a few years old and the wood is well ripened. It used to be called *Bignonia radicans*, but was transferred to *Tecoma*, the difference in the genera consisting chiefly in the partition of the fruit. Plants are raised from cuttings and layers in the autumn, and grow luxuriantly in rich soil, but firm growth in firm soil containing chalk is promotive of flowering. It is popularly known as the Ash-leaved Trumpet Flower.

Mrs. Pearson Grape Failing (*C. H. C.*).—The leaves now sent show plainly that the Vines are in a very enfeebled and unhealthy state, and the presence of roots on the rods suggest that those in the soil are defective. It is quite certain they are not supplying what the Vines need. How the evil has been brought about we have no means of knowing, possibly overcropping when the Vines were young, though you say nothing about their age nor the composition of the border. Your method of ventilation appears to be sound, and we have no fault to find with the temperatures. Unless a special desire exists to grow this variety we should uproot the Vines, for it will be a task of no small difficulty to restore their lost vigour. If they must be retained the fruit should be cut and the roots placed in fresh soil, cropping lightly, if at all, next year. Mrs. Pearson Vines usually grow freely, and there is something wrong with your soil or management. If you remove them the space can soon be filled with additional rods taken from other healthy Vines near without injuring these in the least under good cultivation. Possibly when the Vines were planted the canes were not sufficiently shortened, but cropped too soon along their entire length.

The Windsor Pear (*H. Johnson*).—The Pear you have sent, and about which you desire information, is the Windsor, and the following extract from Dr. Hogg's "Fruit Manual" gives the history of the variety as far as it can be traced:—"Windsor (Bell Tongue; Bellissime; Figue; Figue Musquée; Green Windsor; Grosse Jargonelle; Konge; Madame; Madame de France; Summer Bell; Suprême).—Fruit large and handsome; pyriform, rounded at the eye. Skin smooth, green at first, and changing to yellow mixed with green, and with a faint tinge of orange and obscure streaks of red on the exposed side. Eye open, with stout erect segments, not at all depressed. Stalk 1½ inch long, inserted without depression, and with several fleshy folds at the base. Flesh white, tender, buttery, and melting, with a fine, brisk, vinous flavour, and nice perfume. A fine old Pear for orchard culture; ripe in August. It should be gathered before it becomes yellow. The tree is one of the strongest growers of any variety in cultivation; particularly in its early growth, the shoots are very thick and succulent, but short. It forms an upright, tall, and handsome tree when grown in an alluvial soil, or in a deep sandy loam, with a cool subsoil; but if the soil is stiff, cold, and humid, it very soon cankers. It is a good bearer, and when grown in a soil favourable to it we have seen it produce an abundance of very large, handsome, and excellent fruit. It has the property in many seasons of producing sometimes a profusion of bloom at midsummer, and a second crop of fruit, which, however, is never of any value, from which circumstance it has been called Poire Figue, Figue Musquée, and Deux fois l'an."

Lily of the Valley (*F. J. B.*).—You could scarcely expect many flowers this year from a bed planted last season with growing, not flowering, crowns, and especially as the soil is, as you say, very "tough." When the plants are established they grow and flower well in strong soil, but do not establish themselves quickly in such soil. No doubt the bed would have been improved if a quantity of wood ashes and decayed vegetable matter, also soot, had been incorporated in the soil; still if the plants have made strong leaves and crowns this year they will probably flower next season. If a little of the strong soil can be forked away without injuring the crowns or materially disturbing the roots, and a mixture of the kind suggested spread on the beds 2 or 3 inches thick and allowed to decay, the effect will almost certainly be beneficial. You say you "filled" the bed with plants. Perhaps they are too crowded, in which case bold crowns and fine spikes will be comparatively few in number.

Potato Haulm Forming Tubers at the Joints (*E. F. H.*).—It is not uncommon for the haulm when buried in the soil, either broken off or earthed up, to form tubers from any undeveloped leaf buds, which under ordinary circumstances would develop lateral shoots or side branches. Such are strictly tubers—that is, stems thickened by a concentration of matter on certain parts, usually lateral stems from the upright or radical ones, but when the main stems underground are destroyed by fungi or other agent; the plant usually forms tubers from the axils of the leaves on the haulm, these being small and green if above the soil, and furnished with buds or eyes at the forward end for pushing growth and continuing the plant. Yours is a similar case, only the haulm being broken off, and in the soil the tubers from the leaf buds are more like ordinary tubers. Such phenomenon is very interesting and instructive, as showing the resources of Nature in the struggle for existence.

Melons Gummy (*E. R. M.*).—Gummy is a consequence of too rich soil, too much moisture, and too little heat. The result is a gangrene or ulcerous exudation, and very distinct from canker, which, however, is due to over-much moisture, with probably a deficiency of silica and lime in the soil, with too much organic matter, resulting in crude imperfectly elaborated growth, especially in a dull period. The softened places are full of fungus threads and spores, usually belonging to a fungus very common in Cucumbers, succulent fruits, and even Grapes, also Peaches and Plums, or in those the plants of which require a siliceous and calcareous soil. The only remedial measures are to cut away all the affected parts where practicable and burn them. Rub the others with quicklime, repeatedly until dry. Keep the plants drier, not giving any water at the roots, or only to prevent flagging; and when supplying it keep it from the growths or stems as much as possible. Admit a little air constantly, so as to cause a circulation and consequently evaporation from the foliage, and afford more heat, which in your case is practically excluded; therefore keep the house drier, and husband the sun heat.

Vallota, Amaryllis formosissima, and Hæmanthus (*R. D.*).—*Vallota purpurea* does not require starting in heat, neither does *Amaryllis formosissima* nor *Hæmanthus*. The *Vallota* succeeds admirably in a greenhouse, where in plenty of light and with due supplies of water it is a free-growing evergreen bulbous plant, flowering profusely in late summer—about September. We never had any trouble with this plant, but we have known cases where it could not be grown, and on investigating the bulbs we found them infested with mites. The condition you describe shows the plants to be similarly affected. If so the best plan is to destroy the affected plants, or procure a bottle of Messrs. Clibran's *Eucharis* mite mixture and apply it according to the instructions. The *Hæmanthus* is only beginning to grow because it is its proper season, but it usually flowers in advance of the leaves being put forth, and as yours are not doing so we conclude they are not strong enough. The *Hæmanthus* also is a greenhouse plant, and requires to be kept in a light position whilst making its growth, and until this is effected with proper supplies of water, then it will store sufficient matter for forming and developing the flower scapes, not otherwise. After the leaves have died down the plants may be kept rather dry at the roots, but not excessively so, and about this time another year the bulbs will push flower scapes, when they should be duly supplied with water. The *Jacobæa Lily*, or *Amaryllis formosissima*, is also a greenhouse species, but we find both it and *Hæmanthus* do better in a warm greenhouse or cool stove, the plants being grown in all the light possible. The *Amaryllis* does not flower until spring, but does not require starting in heat, nor need much water be given until growth is pushed, when due supplies being afforded it will make good growth, and this properly matured will, after the plants have been kept rather dry from the leaves falling until starting into growth again, usually afford a display of bloom in due season.

Names of Fruits.—*Notice.*—We have pleasure in naming good typical fruits (when the names are discoverable) for the convenience of regular subscribers, who are the growers of such fruit, and not collectors of specimens from non-subscribers. This latter procedure is wholly irregular, and we trust that none of our readers will allow themselves to be made the mediums in infringing our rules. Special attention is directed to the following decision, the object of which is to discourage the growth of inferior and promote the culture of superior varieties. In consequence of the large number of worthless Apples and Pears sent to this office to be named, it has been decided to name only specimens and varieties of approved merit, and to reject the inferior, which are not worth sending or growing. The names and addresses of senders of fruit to be named must in all cases be enclosed with the

specimens, whether letters referring to the fruit are sent by post or not. The names are not necessarily required for publication, initials sufficing for that. Only six specimens can be named at once, and any beyond that number cannot be preserved. They should be sent on the first indication of change towards ripening. *Dessert Pears cannot be named in a hard green state.* (*W. W. B.*).—The Apple has the appearance of an immature specimen of Cox's Orange Pippin. (*Parnacott*).—1, Stirling Castle; 2 and 4, not recognisable—presumably local seedlings, of which there are so many in Devon. Mr. Veitch of Exeter might possibly name them; 3, perhaps a small fruit of Mère de Ménage, or it may be a local variety; 5, *Prunus Pissardi*. (*W. B.*).—The Onions are the Trebons, or one of its varieties. (*F. N.*).—As we have repeatedly stated, Plums can only be named when specimens of the young wood are sent. Forward fresh fruits with growth of each, and we will give them prompt attention.

Names of Plants.—We only undertake to name species of plants, not varieties that have originated from seeds and termed florists' flowers. Flowering specimens are necessary of flowering plants, and Fern fronds should bear spores. Specimens should arrive in a fresh state in firm boxes. Slightly damp moss, soft green grass, or leaves form the best packing, dry wool the worst. Not more than six specimens can be named at once, and the numbers should be visible without untying the ligatures, it being often difficult to separate them when the paper is damp. (*F. M. S.*).—*Catalpa syriaca*. (*G. H.*).—1 and 2, varieties of *Adiantum cuneatum*; 3, *Ixora Duffii*. (*F. J. B.*).—*Pelargoniums* are florists' flowers that can be named by comparison in a large collection; see rules above. (*S. W.*).—1, *Kalosanthes coccinea*; 2, *Anthericum liliastrium*; 3, *Scabiosa atro-purpurea*; 4, *Lilium chalcidonicum*; 5, *Pavonia grandiflora*; 6, *Veronica longifolia alba*. (*W. B. W.*).—1, *Gymnogramma chrysophylla*; 2, *Blechnum braziliense*; 3, *Nephrolepis tuberosa*; 4, *Adiantum trapeziforme*; 5, *Selaginella Kraussiana*; 6, *Adiantum assimile*. (*Orchidist*).—1, *Lælia elegans*; 2 and 3, good varieties of *Cattleya gigas*; 4 and 5, apparently *Dendrobiums*, but it is impossible to give specific names without flowers. (*H. T. M.*).—*Kerria japonica variegata*. (*M. P.*).—Possibly a *Veronica*. Send fresh specimen.

COVENT GARDEN MARKET.—AUGUST 21ST.

SUPPLIES heavier with prices falling all round.

FRUIT.

					s.	d.	s.	d.						s.	d.	s.	d.
Apples, per bushel	..	..	1	3	to	3	0	Filberts, per 100 lbs.	..	..	40	0	to	0	0		
„ Nova Scotia, per barrel.	..	..	0	0	0	0	Grapes, per lb.	..	..	0	6	1	6				
„ Tasmanian, per case	..	..	0	0	0	0	Lemons, case	..	..	10	0	15	0				
„ Tasmanian, per case	..	..	0	0	0	0	Peaches, per dozen	..	..	1	0	6	0				
Cobs, per 100 lbs.	..	..	45	0	0	0	Plums, per half sieve	..	..	1	6	2	6				
							St. Michael Pines, each	..	..	2	0	6	0				

VEGETABLES.

	s.	d.	s.	d.		s.	d.	s.	d.		
Beans, Kidney, per lb. ..	0	3	to	0	0	Mustard and Cress, punnet	0	2	to	0	0
Beet, Red, dozen	1	0	0	0	0	Onions, bushel	3	6	4	0	
Carrots, bunch	0	3	0	4	0	Parsley, dozen bunches ..	2	0	3	0	
Cauliflowers, dozen	3	0	6	0	0	Parsnips, dozen	1	0	0	6	
Celery, bundle	1	0	1	3	0	Potatoes, per cwt.	2	0	4	0	
Coleworts, dozen bunches	2	0	4	0	0	Salsafy, bundle	1	0	1	6	
Cucumbers, dozen	0	9	1	6	0	Seakale, per basket	0	0	0	0	
Endive, dozen	1	3	1	6	0	Scorzonera, bundle	1	6	0	0	
Herbs, bunch	0	3	0	0	0	Shallots, per lb.	0	3	0	0	
Leeks, bunch	0	2	0	0	0	Spinach, bushel	1	0	1	6	
Lettuce, dozen	0	9	1	6	0	Tomatoes, per lb.	0	3	0	4	
Mushrooms, punnet	0	9	1	0	0	Turnips, bunch	0	3	0	6	

AVERAGE WHOLESALE PRICES.—OUT FLOWERS.—Orchid Blooms in variety.

	s.	d.	s.	d.		s.	d.	s.	d.
Arum Lilies, 12 blooms ..	3	0	to	4	0	Orchids, various, dozen blooms	1	6	to 18 0
Asparagus Fern, per bunch ..	2	0	4	0	Pansies, various, dozen bunches	1	0	2 0	
Asters (English) doz. bchs. ..	4	0	6	0	Peas, Sweet, doz. bunches..	1	6	3 0	
Asters (French), dozen bunches	8	0	12	0	Pelargoniums, 12 bunches ..	4	0	9 0	
Bouvardias, bunch	0	6	1	0	Primula (double), doz. spys. ..	0	6	1 0	
Carnations, 12 blooms ..	1	0	3	0	Roses (indoor), dozen ..	1	0	2 0	
„ dozen bunches ..	4	0	8	0	„ Tea, white, dozen ..	1	0	2 0	
Corndflower „ ..	1	0	2	0	„ Yellow, dozen (Niels) ..	3	0	6 0	
Eucharis, dozen	1	6	2	6	„ Safrano (English), dozen.. .. .	1	0	2 0	
Gaillardias, doz. bunches..	2	0	3	0	„ Yellow, dozen blooms ..	0	6	0 9	
Gardenias, dozen	2	0	3	0	„ Red, dozen blooms ..	1	0	1 6	
Geranium, scarlet, doz. bunches	4	0	6	0	„ various, doz. bunches ..	3	0	6 0	
Lilium lancifolium, twelve blooms	1	0	2	6	Smilax, per bunch	2	0	4 0	
„ longiflorum, 12 blooms ..	2	0	3	0	Stephanotis, dozen sprays ..	1	6	2 0	
Marguerites, 12 bunches ..	1	6	3	0	Sunflowers (small) dozen bunches	2	0	3 0	
Maidenhair Fern, dozen bunches	4	0	6	0	Sweet Sultan, doz. bchs. ..	2	0	3 0	
					Tuberose, 12 blooms. ..	0	4	0 6	

PLANTS IN POTS.

	s.	d.	s.	d.		s.	d.	s.	d.		
Arbor Vitæ (golden) dozen	6	0	to	12	0	Geraniums, Ivy, per dozen	3	0	to	6	0
Aspidistra, dozen ..	18	0	36	0	0	Heliotrope, per dozen ..	4	0	6	0	
Aspidistra, specimen plant ..	5	0	10	6	0	Hydrangeas, per dozen ..	12	0	42	0	
Campanula, per doz... ..	5	0	9	0	0	Lilium lancifolium, 12 pots	12	0	18	0	
Coleus, per doz.	2	6	4	0	0	Lobelia, per dozen	3	0	4	0	
Dracæna, various, dozen ..	12	0	30	0	0	Lycopodiums, dozen	3	0	4	0	
Dracæna viridis, dozen ..	9	0	18	0	0	Marguerite Daisy, dozen ..	6	0	9	0	
Euonymus, var., dozen ..	6	0	18	0	0	" Yellow	9	0	18	0	
Evergreens, in var., dozen	6	0	24	0	0	Myrtles, dozen	6	0	9	0	
Ferns, in variety, dozen ..	4	0	18	0	0	Palms, in var., each	1	0	15	0	
Ferns (small) per hundred	4	0	6	0	0	" (specimens)	21	0	63	0	
Ficus elastica, each	1	0	7	0	0	Pelargoniums, per dozen ..	8	0	12	0	
Foliage plants, var. each	2	0	10	0	0	" scarlets, doz. ..	3	0	6	0	
Fuchsias, per dozen	4	0	6	0	0	Rhodanthe, per dozen ..	4	0	6	0	



WEEDS.

"SMOTHER the weeds!" was the cry of a certain worthy farmer to his bailiff last spring in answer to an objection to sowing 6 bushels of Oats per acre—4 bushels was the quantity in common use in that locality. Surely an extra 2 bushels must be a mistake? It might have been for clean strong land in February; but this happened two months later. The land was somewhat foul, the season advanced, the corn would not tiller; therefore, to sow thickly with a full dressing of chemical manure would give a full strong plant, growing so quickly as to render anything like a free or strong weed growth impossible. So much for spring plans; but now that we have an early harvest and cleared stubbles we certainly had the eradication of weeds well in mind while writing the articles on "Autumn Tillage." How best to do this is worthy of careful consideration. Let us see how it can be done this autumn.

With the soil so moist and warm as it is now seed germination is certain to be speedy; therefore, on all light land and mixed soil stubbles, a turn of the harrows should suffice to stir the surface sufficiently to induce germination in all seed that has fallen on the surface. Then deeper cultivation may follow at once, no weed seeds will be buried, and perennial weeds may be uprooted, brought to the surface, collected, and destroyed by fire. Time is so precious now that there must be no waiting for the sun to kill weeds however bright and settled the weather may become.

Fine light harrows do much to collect such weeds, but there must be hand-picking of every piece of root and rhizome as well if we would have the land clean. The number of turns of any of the implements—horse hoe, cultivator, ploughs, harrows—just depends on the degree of foulness; so long as portions of the roots of couch grass, thistle, dock, or other weeds are brought to the surface it must be worth while keeping on. A little extra expenditure now on this work points to a considerable saving of labour next spring, as well as a saving of soil fertility next summer.

The question very naturally arises, Will it "pay" to do this work so thoroughly? We do not hesitate to answer, Yes, it will pay if due attention be given to economy of time and labour, and this can only be possible when the master's eye and hand are there to control and lead the work. Payment by the acre for all hand labour is to the mutual advantage of master and man. We have seen so much foul land again this summer, have heard so much about the unfair share of profit which the labourer takes from the land, that the question of how and what to farm presses more and more on the mind. Of one thing we are assured—that many a farmer would be the better for less land and better work on the land.

We have seen whole fields one thick bed of thistles, a colony of docks extending over nearly a rood of land in the midst of a corn field, corn thickly infested by coltsfoot, beds of thistle, dock, nettles, and anonis out on permanent pasture, charlock rampant everywhere on arable land, fallow land one huge bed of couch grass. If times are hard and prices low how can we afford to suffer the land to be robbed of its fertility by such pests? Weeds thrive on precisely similar plant food as do our farm crops. The moral is too self-evident to require explanation. But we may enumerate clean land, both pasture and arable, full and sustained fertility, timely culture, and for arable land only crops on which a profit is still possible. Such crops would then derive full benefit from the clean, rich soil; they would be of the best even when required for home consumption, as more and more of them must be.

He is undoubtedly the best farmer who throughout the depression has sent most of his corn walking to market in the guise of live stock fattened at the farm has not suffered his land to become foul and poor, but has kept down weeds, has kept up condition, has made a study of each field and its requirements, and proved to his own profit and for the benefit of agriculture that successful farming is still possible.

To those who have not been so thorough-going, and who, like our correspondent who asked how to destroy thistles last week, intend trying to do better, we say now is the time for a new departure for fresh efforts. Get the land clean, and in doing so make a free use of fires to burn up all weeds, so as to destroy weeds and seed. It is certain that rubbish heaps, accumulations of weeds and decaying vegetable matter, are a haunt for the dormant life of many of our insect pests; get rid of them, break up and well stir all soil bare of crops, and your farm will be clean both in the absence of insect pests as well as of weeds.

WORK ON THE HOME FARM.

Never have we seen more irregularity in farm work than at present, haymaking, corn harvest, root-singling and hoeing, and the sowing of autumn crops all being done now. It is certainly not a question of latitude, for we saw much of the haymaking approaching completion in the South of Scotland early in July, yet six weeks later much of the hay crop in the High Peak district of Derbyshire had still to be carted to the ricks. In this matter it is more a question of fertility of soil than of climate, the hay crop on rich land always being ready for mowing much earlier than that on poor land.

Earlier and more abundant is the hay, so too is the aftermath. On some poor meadow land the hay is got so late that what aftergrowth comes is of very little use. We have a splendid growth of herbage on all our meadows which were mown this season; evidently the rain has dissolved and washed in much of the chemical manure dressing that was used for the hay, but which, owing to the drought, had not been available for it.

Root crops of all kinds are making rapid progress now. We saw a few days ago a magnificent crop of Mangolds from seeds dibbled in by women. Where such labour is plentiful and the land in good heart there is much in favour of this method; ridging is avoided, plant-singling is comparatively such a trifling matter that it must be got through in less than half the usual time, as it resolves itself into the removal of the superfluous plants around each station, and the hand-hoeing must certainly be lighter, as there is no chopping out of plants for the singling. Enough of the plant had run to seed to show that the seed was dibbled in early, but the crop could not have been seriously checked by the drought, as the roots were so large.

We commend this plan to all small home farmers and others, only pray remember that for it to be successful the soil must be rich in fertility, the seed good, and the sowing early, say by the middle of April. This Mangold field is on a Kent farm in the parish of Swanley. Not a weed was to be seen in it, and it was quite in keeping to hear that it was in the hands of a bailiff who is so energetic as to be a man of mark in a district where every man is brisk, and most of the managers cater for the London market.

METEOROLOGICAL OBSERVATIONS.

CAMDEN SQUARE, LONDON.

Lat. 51° 32' 40" N.; Long. 0° 8' 0" W.; Altitude 111 feet.

DATE.		9 A.M.					IN THE DAY.				Rain.
1895. August.	Barometer at 32° and Sea Level.	Hygrometer.		Direc- tion of Wind.	Temp. of soil at 1 foot.	Shade Tem- perature.		Radiation Temperature			
		Dry.	Wet.			Max.	Min.	In Sun.	On Grass.		
	Inchs.	deg.	deg.		deg.	deg.	deg.	deg.	deg.	Inchs.	
Sunday .. 11	29.580	60.9	57.8	S.	61.5	70.0	57.3	114.7	53.8	—	
Monday .. 12	29.812	61.4	56.1	W.	60.7	70.4	52.8	117.4	49.0	0.260	
Tuesday .. 3	29.751	59.3	57.9	N.E.	60.1	64.3	53.1	100.8	49.6	0.300	
Wednesday 14	29.955	62.9	58.1	N.W.	59.2	71.2	51.5	118.3	47.3	0.023	
Thursday.. 15	30.224	62.1	57.9	N.W.	59.7	74.4	50.1	116.1	45.2	—	
Friday .. 16	30.238	65.2	60.8	N.	60.2	71.4	57.2	83.9	52.9	—	
Saturday .. 17	30.246	64.3	60.0	N.	60.9	76.4	56.1	111.3	50.8	—	
	29.971	62.3	58.4		60.3	71.2	54.0	108.9	49.8	0.583	

REMARKS.

11th.—High wind, much cloud, and a slight shower in morning; generally sunny after noon.

12th.—High wind, cloud, sunshine, and showers; and a storm rain just after 10 A.M.

13th.—Rain from 6 A.M. to 9 A.M.; dull and drizzly till 11 A.M.; then heavy rain to 2 P.M.; generally sunny after, but a heavy shower at 6.30 P.M.

14th.—Generally sunny day; a little rain at 8 P.M.

15th.—Fine, with frequent sunshine.

16th.—Hazy, dull and close all day.

17th.—Hazy early; bright sunshine and pleasant breeze after 10 A.M.

A week in all respects very near the average.—G. J. SYMONS.

DUTCH FLOWER ROOTS.



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KENT, THE GARDEN OF ENGLAND.



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Journal of Horticulture.

THURSDAY, AUGUST 29, 1895.

A SUGGESTED INDUSTRY.

ORANGE BLOSSOM.

GROWERS of plants and flowers for market who achieve success are invariably men of great business capacity as well as good cultivators. They bring much skill and energy to bear on the cultural part of their business, but they do "something" more than this, or they would at times be driven among financial rocks. This something consists of the exercise of foresight and judgment in anticipating demand, and providing for it accordingly. No matter how profitable a certain crop may have been the shrewd ones often see that it must for a time cease to be lucrative, because the success of one season leads so many to "rush" in that direction the next, with the inevitable result that a "glut" occurs in the markets, and the once paying crop brings naught but loss.

Facts which have recently come under my notice have led me to form the opinion that there is room for the working up of a profitable trade in a well-known plant, which has not, as far as I know, been systematically cultivated by any market grower in this country. I refer to the Orange tree. The demand for Orange blossom seems to be much greater than the supply, and it seems to me to be a matter of surprise that some shrewd market man has not taken up the culture of Orange trees with the view of supplying flowers at all seasons of the year. This, I think, if carried on in a systematic way might be made a good paying concern, for the spray or wreath of Orange blossom has so long been regarded as an indispensable adornment of the fair English bride that it is not likely to be a fashion that will quickly change, for above all things the British people cling tenaciously to customs which have been observed at the important stage in the lives of so many successive generations.

Everything therefore seems to indicate that so long as marriages continue to be contracted Orange blossom will be in great request, and I suppose it would need a bold man indeed to assert that "marriage was a failure," or likely to become an obsolete custom among civilised people. True, the marriage rate may ebb and flow with the nation's prosperity or depression, but notwithstanding such natural fluctuations

No. 2448.—VOL. XCIII., OLD SERIES.

NEW BULB CATALOGUE (No. 134) 1895,

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No. 792.—VOL. XXXI., THIRD SERIES.

marriage as an institution seems to serve as a rock on which the stability and prosperity of a nation largely depends.

Thus far I have endeavoured to show that there is a steady demand for a certain flower, and not a proportionately steady supply. I have also advanced points which go to show that this demand is likely to continue so long as humanity shall last. Let me now proceed to give a few practical ideas as to how the demand shall be supplied. I am aware that to a great extent French Orange blossom is used, but I am continually informed by those who are in a position to know that the British-grown article is always preferred, and if possible obtained. Everything therefore seems to look promising for the establishment of a going concern to supply the future brides of Britain with British-grown "Orange flowers."

Hitherto the culture of Orange trees in Britain has not, except in a few instances, been conducted on systematic lines. In many places a few old plants may be met with among mixed collections of greenhouse plants or in vineries. In neither case has any special attention been given them, nor are they regarded as being of much value. In some old gardens the primitive type of orangery, constructed with a ceiling, roof, and high front lights, or to speak more correctly windows, may still be met with, and can only be considered interesting as relics of the past, for it is seldom that healthy Orange trees can be found in them, insufficient light and a low damp atmosphere during the winter months being antagonistic to the attempts to preserve such trees in health and vigour.

In a few places, however, well appointed orangeries may now be seen, where plenty of light and heat are at command, and where the trees are principally grown for supplying freshly cut and luscious Oranges for dessert. Similar types of houses would do perfectly well for the cultivation of Orange blossoms on an extensive scale; indeed, there are many old glass structures which are too lofty for the successful growth of softwooded plants which might be turned to excellent account for the purpose above indicated. This is a point which is well worth the attention of men who have rented private gardens for market purposes. Such cultivators often find to their cost how utterly unsuitable the structures they have to deal with are for the growth of plants and flowers of the superior character necessary to insure a ready and remunerative sale in the open markets, and I am strongly of opinion that they would be taking a wise step were they to convert at least one house into an orangery. No difficulty would, I think, be found in procuring a sufficient stock of trees for a start, as there are plenty of private places where old trees might be bought at a trifling cost, as they are not considered sufficiently ornamental to compensate for the room they require, employers, and therefore gardeners nowadays requiring something that will "make a show." When trees of this description are obtained many of them would doubtless be in a somewhat stunted condition, but if the proper treatment can be given it is not difficult to bring them into a healthy state again. It is only where stunted Orange trees have perforce to be kept in cold dark houses that the difficulty of improving them comes in. In a house devoted entirely to their culture, a hotbed of manure and leaves, or tan, and a few hot-water pipes beneath, might be arranged in the centre of the house. The pots or tubs containing the trees could then be plunged in the bed, and by maintaining a warm moist atmosphere and giving a little shade a vastly improved state of affairs could soon be brought about.

Should a large span-roofed house be at command a row of trees might be planted out along the centre in a properly prepared bed and the sides occupied by plants in pots and tubs. In preparing the central bed the soil should be excavated to a depth of 2 feet or more, according to the width of the border. One foot of rubble placed in the bottom would form ample drainage, the remaining space being filled up with a compost formed of the following ingredients:—The bulk should consist of good fibrous loam, in-

clined to be heavy rather than light; if this is red in colour so much the better. When chopped up roughly to every 3 bushels add half a gallon of crushed bones, the same quantity of bonemeal, 1 gallon of charcoal broken into lumps about the size of marbles, and a 6-inch potful of soot. Mix thoroughly, and if necessary turn several times so as to have it rather dry before being placed in the bed. When this is done some of the fibrous portions should of course be placed over the rubble to keep the soil from clogging the drainage. Before turning the trees out of the pots or tubs a layer of soil of the required thickness ought to be spread evenly over the bed and made moderately firm. None but healthy and well rooted trees should be planted out. The crocks should be removed from the base, and if possible a few roots disentangled and carefully layered in the soil, as undisturbed balls are often the cause of unsatisfactory progress. On the other hand, old Orange trees are rather impatient of having their roots greatly disturbed; the matter, therefore, requires to be conducted with judgment and caution. When filling in the bed the soil should be placed in layers and rammed firmly, especially around the balls of the trees. If the trees are thoroughly moist before being turned out of the pots it is better not to water the bed for a few days, but to rely on frequent syringing and heavy shade to keep the foliage from showing signs of distress.

When the trees become well established the general management would be simple enough, and would consist of keeping up a slightly higher temperature than is as a rule given to Orange trees. During the growing season a night temperature of from 55° to 60° should be aimed at, with a considerable rise during the day from sun heat, with a little air constantly. Daily syringings should also be given, and the application of liquid and artificial fertilisers have proper attention. During the autumn and winter months a rather drier atmosphere ought, of course, to be maintained, and a night temperature of 50° or 55° be kept up. If a large house was divided into two compartments a supply of flowers might be maintained at almost any season of the year by keeping one compartment at a lower temperature during the winter, and thus starting the trees into growth later in the spring.

In addition to the income derived from the sale of the flowers, I am of opinion that a considerable amount might be obtained by the sale of fruits if they were grown to a superior point of excellence. Large English-grown Oranges with a few healthy leaves attached should become a special feature for dessert in the same way that the gigantic Pears grown in Jersey are, and I am informed by a grower of these that none of his produce ever finds its way into a public market, as orders come in faster than they can be executed. But to return to the Oranges. Let us assume that the bulk of the flowers would be picked as soon as opened and disposed of in various ways, leaving a very thin crop to set and develop into fine fruits. In this way specimens of great size could be obtained, and few fruits can approach in point of showiness a thoroughly well grown British Orange. In flavour and lusciousness, too, the imported article, which is usually gathered green, is many points behind. Let it, however, be clearly understood that I do not contend that Oranges can be grown in this country in sufficient quantities to compete with the enormous numbers sent from sunny lands. I have rather attempted to show that we can supply a superior article, place it upon the dessert table in fresh and perfect condition, and thus command the patronage of the wealthy; for it is an axiom in all commercial speculations that anything superior and uncommon will always command a ready sale.

Another department in this Orange industry might be created by devoting low houses or pits to the business of raising and growing young plants for sale. If seeds were sown each year young plants might be raised in quantity to supply stocks for grafting or budding. The seedlings would be large enough for the latter operation in the second year of their growth. A large percentage of the stocks should be budded with the small Tangierine

Oranges, because they make such compact plants, which may be fruited in quite a young state. Plants in 6-inch pots carrying bright golden fruits are exceedingly attractive, and are certain to find a ready sale, and I see no reason why a specialist could not derive a good income from this source alone. When a business on the lines I have endeavoured to depict was once established it would grow in stability each year, for florists often have great difficulty in procuring the Orange blossoms required for wedding orders, and when once they became acquainted with a grower who could supply their wants at all seasons they would of course send direct to that grower.

I do not claim in these short notes to have put before readers of the *Journal of Horticulture* a perfect scheme, but I have endeavoured to give the outlines upon which I am firmly convinced a profitable industry may be built up, and the man who has energy and enterprise enough to accomplish the task will in time reap due reward, and help in some way to secure the continued prosperity of horticulture.—H. D.

HARDY FLOWER NOTES.

THERE comes at all seasons to lovers of hardy flowers times when it requires the exercise of all our optimism to enable us to write in a cheerful strain of the garden and the beauties it contains. These times come oftenest in bad weather, when it seems as if the elements and all the children of Nature vie with each other in depressing effect. Such is the case as I write. Torrents of rain, the accompaniment of severe thunderstorms, have made the garden sodden with wet, and now, to make the matter worse, a steady continuous rain is falling, boding ill for the ripened grain, among which the whirr of the reaper has been heard when the rare opportunity for such work offered. Beyond the garden hedge nothing can be seen but a long stretch of dull grey sand, streaked here and there by only less dull channels of water, and merging into a sea of mist, which shrouds from view the opposite coast of the Solway, with its chequered slopes of dark green wood, or fertile fields dotted with houses.

We know that all this will change, and that the grey sand shall be covered by the rising tide, and that the waters shall sparkle in the sunlight, while the opposite woods and fields shall be bathed in its golden light, and the windows reflect with dazzling gleam the rays of the welcome sun. So we know that dull as is the garden outlook, it, too, shall share in Nature's altered mood, and the many flowers rejoice in the change. Meanwhile let us see if there is naught to dispel this depression save the hope of the future, nothing to show the silver which should form the lining of the grey cloud around. We need not have asked this, as had we been content to keep our eyes from straying beyond the garden's bounds, we might have begun in a brighter strain, for, soaked and dripping as they are, forms of beauty glowing with brightness still appear, which to look on is enough to cheer and delight us.

In weather such as this we seem to see the reason for the presence of so many bright yellow Composite flowers, which at other times we are apt to resent, to some degree at least. Now, if ever, are these Sunflowers welcome with their golden flowers, which look as if they had absorbed the brightness of the sun in finer weather that they might yield it to us now when we have more need. Perhaps the brightest and best for wet weather is *Helianthus rigidus*, still better known as *Harpalium rigidum*, which is very cheery looking with its stiff stems and fine orange-yellow flowers. I am looking forward with some impatience to the flowering of H. Miss Mellish so that I may judge of its value in the border. There is no need for hesitation with regard to its beauty otherwise; as a flower which has passed the Floral Committee of the Royal Horticultural Society, and has been so favourably noticed by that body of good judges of floral beauty, cannot but be worthy of admiration by admirers of flowers. Although *Helianthus rigidus* is a little troublesome in the border on account of its running habit, few plants can be finer at this season than a bed covered with some dwarf carpeter, among which, and through which, this Sunflower can ramble at will.

Looking, too, at some of these fine Phloxes which show their beautiful spikes of flowers through the falling rain, we feel that they also are objects of the greatest delight. The dark purple coloured varieties look dull and cheerless, but the whites and the scarlets are gay and cheerful-looking. They are noble plants when grown in beds as florists' flowers, and receiving

the highest cultivation; but with simpler treatment they are of inestimable value in the mixed flower border when the autumn comes. Of late French raisers have sent some of the best of the novelties, but some of their Scottish rivals appear to be once more working to the front, and it is to be hoped they will not allow their desire to obtain larger pips and finer colours to cause them to neglect the splendid spikes of excellent form, in which some of the French novelties are somewhat deficient.

At a little distance one of the most pleasing plants in the garden has been *Delphinium Zalil*, a comparative novelty, which seems to make but little progress in finding its way into gardens in general. Those who see it exhibited at flower shows—and it is rarely seen even there—can hardly form any idea of its worth as a garden plant. When closely examined it is rather dull in colour, the name of sulphureum, which it sometimes receives, being fairly descriptive of the sulphur-looking hue of its blooms; and it has, moreover, the defect, from the point of view of those who like bright colours, of these being marked with green. Seen, however, in the border among other plants, and when standing a few yards away, this Larkspur never fails to be admired. Some think this new species may have had something to do with the production of the new yellow-flowered *Delphiniums* recently exhibited, whose appearance may be said to form an advent of very considerable importance to all interested in these noble flowers.

They give promise of being the forerunners of a series of distinct breaks in the perennial Larkspurs, and could we have a good perennial red *Delphinium* (for it can hardly be said that either *D. cardinale* or *D. nudicaule* are true perennials) we would have new features in our gardens. Whether or not *D. Zalil* has any share in producing the new varieties, it deserves growth on account of its own merits. For *D. Zalil* we are indebted to Dr. Aitchison, who has done so much in connection with the flora of Afghanistan, and whose description of the effect of this Larkspur as it occurs in its native habitats is very attractive. He says, "This plant forms a great portion of the herbage of the rolling downs of the Badghis, in the vicinity of Gulran it was in great abundance, and when in blossom gave a wondrous golden hue to these pastures." Here it grows rather more than a yard high, and as the blooms on the spikes expand almost together the plant is very effective in a quiet way. The foliage is very pretty also. Whether it will be perennial in my garden remains to be seen, but should it prove so its hardiness is beyond question, young seedlings standing last winter without protection. So far as my experience goes the variations from seed are very small.

Although in some respects the appearance of the *Colchicums* is not particularly welcome, betokening the approach of the dreary season, yet the sudden way in which they often seem to appear is always interesting, and the flowers light up the front of the borders or spaces at the base of rockeries in a welcome way. If one is interested in these Meadow Saffrons the spots where they grow are eagerly scanned for the first appearance, which is marked by the top of the flower beginning to peer through the soil, so that the rapid progress of the flower afterwards is not so much observed. Should, however, we overlook them, some day we are startled to see that their little cups seem to have sprung in some magical way into being. The first to flower in my garden is one I have as *C. Bertoloni*, but which every time I see it makes me wonder if it is correctly named. It hardly seems to correspond with the description given of that species by Mr. Baker in the *Journal of the Linnean Society*, but in such plants as these the distinctions of the various species are often so few and so narrow that one cannot distinguish them with certainty. What I have as *Bertoloni's* Meadow Saffron opens almost white, and passes off a light purple. It is larger than *C. autumnale* and with firmer stalks, so that it is less easily injured by wind and rain. This year the first flower was in bloom on August 13th.

There is a very curious little *Stonecrop* which in its summer rest is an object of much interest to many when its habit of growth is explained. For a month or two it has presented the appearance of thick little club-like grey-brown stems with hair-like appendages of the same colour. The plant seems dead, and some visitors when asked to look at it say it is beyond recovery. "Things are not always what they seem," and now these lifeless-looking shoots are beginning to spring afresh into growth and to shoot out green leaves, and in a short time this withered-looking patch will be all a pretty vivid green. This is *Sedum amplexicaule*, and one can only regret that they cannot depict in words the singular appearance of these little swollen tuberous-looking shoots on the long, thin stems and with the protruding awl-like hairs, and the change which comes over them when they start into growth again. The flowers are yellow, but the interest of the plant consists in its curious habit and its beauty in the vivid green it assumes at the end of autumn. I have three varieties which show little difference. One, which I have as the type, is smaller in all

its parts than one I have as the Italian form, while a third, which I received from a careful botanist and grower of alpine as *S. retroridum*, with, however, a query attached, is even larger than the Italian one. So far as I can see the three are much alike, and on the whole I prefer the smallest one. This *Stouecrop* comes, it seems, "from the Mediterranean region," and in one work of reference it is called an "evergreen" species; why I know not.

We can hardly have too many of the *Gentians*, and *G. asclepiadea*, one of our European species, is so easily grown in the border, and is so pretty as I write, that I feel I cannot do better than to bring it before my readers. Although cultivated so long ago as 1629 it is frequently absent from good gardens, but deserves more attention. It is a mistake to omit old plants of proved worth in favour of newer ones of less merit in many ways, although the desire for "something new" is natural and proper enough when kept within reasonable bounds. A pretty plant is this *Gentian*, with its ovate lanceolate, stem-clasping, pretty green leaves, and its stems growing from 6 to 18 inches high, according to soil and position, and terminated with a cluster of blue flowers, marked inside with white, and bearing others singly in the axils of the upper leaves. The white variety is rarer and is pretty also, but one of the chief charms of the most of the *Gentians* is the beautiful blue colour they give us. *Gentiana asclepiadea* is not very particular as to position, as it thrives well in the full sun, but does not object to partial shade, and an additional merit it has in an exposed position like this is that it requires no support.

Thinking of these and other flowers we thus find so much to cheer and to give true pleasure, that, though the clouds may lower and the rain may fall, brighter thoughts have driven away the dulness of the day, and taught us the old lesson given in the oft-quoted words of Lord Bacon, that a garden "is the greatest refreshment to the spirits of man."—S. ARNOTT.

FLORAL FACTS AND FANCIES.—12.

BOTH indoors and out a position of importance amongst cultivated flowers belongs to *Geraniums* and *Pelargoniums*, though generally they have not the conspicuous beauty of some species. Still, many of their varieties possess attractive flowers or showy foliage, moreover, they are plants which we may have in bloom all the year round. Akin to familiar wayside plants, which have long borne the name of *Cranesbills*, from the beaked fruits or seed vessels, the same peculiarity appears in our garden species, as is indicated by the Latin names, derived from words meaning "crane" and "stork." A musky odour characterises many of the *Geraniums*, agreeable sometimes, in several kinds not at all so, especially to the noses of some persons. It has been stated that to keep flies from swarming into sitting-rooms through open windows in summer a row of *Geraniums* on the sill is effective. Opinions differ about this, but I have proved that the common house fly (*Musca domestica*) does avoid the kinds with a powerful smell, though many flies are indifferent to the plants, and notably the troublesome species, *Stomoxys calcitrans*, much like the house fly, which really does bite or puncture the skin; for the house fly only settles on us to suck up moisture, and never pierces us, its proboscis being too feeble.

Various are the meanings attached to different *Geraniums* and *Pelargoniums*. The old-fashioned scarlet *Geranium* *Madame de Staël* called an emblem of "folly," because it had a showy exterior, but on contact with it the odour excited disgust. Others, however, have regarded this flower as suggestive of "comfort." There is a significance in this, for those of us who have visited the homes of the poor in our cities must have noticed how often a *Geranium* appears amongst a few sickly plants; watched with a care which, if it has a touch of the ludicrous, is also somewhat pathetic. Significant of "true friendship" is the Oak-leaved *Geranium*, and the Ivy-leaved is said to tell of "bridal happiness," so that it may fitly have a place given it amongst the flowers used in wedding decorations. The Lemon-scented *Geranium* is a reminder of an "unexpected meeting," while the silver-leaved suggests a "recall," and the rose *Geranium* serves to convey the idea of "preference." Species with pencilled petals and varied in colour have been regarded as a sign of "ingenuity," in allusion, perhaps, to the gardener's skill in producing them. Then we have a mournful species, *Pelargonium triste*, of dark appearance, fragrant at night, which is representative of "melancholy." Of our wild species, we find that the crimson Herb Robert is associated with "piety," some think because its crimson leaves and stems were worn by one of those Knights of the Cross who went forth to rescue the Holy Land from Paynims in the Middle Ages.

We have arrived at the season when in many a garden the

"Sunflower shining fair, rays round with flames her disk of seed," as Tennyson wrote. It came to us from Peru, where the inhabitants were sun-worshippers, and so they held this sun-like flower in high esteem, using it to adorn their temples. Then in our western lands people took it for an emblem of the Christian faith, since the flower appeared to be always looking heavenward. But the idea that the Sunflower, as a rule, expands its flowers to face the south, has no foundation in fact; this we can easily see by observation where the plants are growing numerously. It is not surprising that so conspicuous a flower should have more meanings than one given to it. Some have called it emblematic of "false riches," and its stately aspect has been suggestive of "haughtiness" to others. Its frequent companion, the showy *Hollyhock*, is supposed to have received from the Chinese its meaning of "fruitfulness," originated by its abundant flowers and seeds. Mr. Tyas states that a figure to represent Nature is sometimes crowned with a wreath of *Hollyhocks*. The name hints at a bygone reverence given to the plant, for it evidently means the holy "hok" or Mallow. The beautiful *Hibiscus* of our houses, which is in the same tribe, sets before us "delicate beauty." The Musk Mallow (*Malva moschata*), a native of some of our woods, is another handsome plant, having large roseate flowers; also it diffuses a musky scent from these, but when placed in a garden its colour often fades, and the perfume disappears. A few exceptional plants do not improve under cultivation. To name one more Mallow, we have an emblem of "beneficence" in the Marsh Mallow, once much grown by villagers. Pleasant to the eye is it, agreeable to the hand, and every part of it is believed to possess good qualities.

Amongst the August flowers the Purple Loosestrife (*Lythrum salicaria*) attracts notice, having flowers of that intense reddish purple which for centuries men sought in vain to imitate, but which modern chemistry has produced. A plant with a strange power to stop contention, such was the belief, even quarrelsome oxen would pull together peacefully if a piece of it was laid on their backs. "Long purple" seems to have been another name for the plant, but the rightful owner of this is presumed to be the Purple Orchis. Some perplexity arises over references to the Loosestrife in old books, because there are other Loosestrifes of the Primulaceous order, their genus being called *Lysimachia*, after *Lysimachus*, a king of Sicily, who is reported to have discovered the excellence of some species. The one that an old poet writes about as "crowned with a royal title" is probably the tall, yellow-flowered, moisture-loving *L. vulgaris*. Several of its varieties are favourites and free growers in gardens; like the purple kind, they are supposed to have soothing qualities. In town and country gardens another of the tribe is very popular—the Moneywort, Creeping Jenny, or Herb Twopence of our forefathers, its golden flowers were suggestive of "treasure" to them. Perhaps we might expect the common Thrift of our borders to be a type of economy, or increase of wealth, and thrive it does even amid London smoke; but the meaning attached to it is that of "cheerful sympathy," because as a wild plant it brightens oft some gloomy cliff with its pink or white flowers. As Chatterton said:—

"This truth of old was sorrow's friend,
Things at the worst will surely mend."

Though belonging to the Thistle brotherhood, the Centauries are admitted to gardens, where their conspicuous flowers of various shades remind us of the centaur Chiron of Greece, who is said to have cured wounds by the juice of one of them; even in some English counties the tribe were long believed effective in removing whitlows and sores. The hard knobs of the wild Black Knapweed were used, it is stated, as a scourge for vagrants or offenders! The blue, occasionally white, *C. Cyanus*, has its special legend; it is named after *Cyanus*, whom the goddess Flora, grieved at his decease, transformed into this plant. Such is the story. German dames are so partial to this flower that they frequently choose it as an adornment for the head, and its growth about corn fields led to its being called the Corn Blue-bottle.

To understand the application of this name, we must remember that the leathern bottles used by field labourers were roundish, and the flower heads of the plant were thought to resemble these. No doubt blue-bottle flies were also named from a likeness between the round body of the insect and the old style of bottle. But when sundry books on flowers say this plant is a symbol of "delicacy," we surmise a mistake; the characteristic belongs rather to the pink *Erythraea Centaurium*, which closes its flowers so readily. The same centaur, Chiron, is credited with the discovery of its excellence as a bitter tonic, though the family of which this is a member (the *Gentians*) are named from a king (*Gentius*), and form another royal brotherhood—types of "intrinsic worth." One of the handsomest of them is the dwarf *G. acaulis*; its deep blue bells, 2 inches long, are an ornament to borders, as are others of the group.—J. R. S. C.



AUTUMN TREATMENT OF ORCHIDS.

ALREADY the days are shortening rapidly, and Orchids of many kinds are nearing the end of the season's growth. In the warm house *Dendrobiums*, *Catasetums*, and other heat and sun-loving Orchids are beginning to take on the hard and ripened look that comes with the end of summer. A great deal of care is now needed in all operations appertaining to culture, as watering, shading, and ventilating. Perhaps the latter is the most important detail of all, a free circulation of air by night and day being now an absolute necessity.

All Orchids do not behave alike, it goes without saying, but there are few, very few species that are not better for a certain amount of ripening, or more properly consolidating. Take a *Vanda* or an *Aërides*, for instance, or even a *Phalænopsis*. Although these have no pseudo-bulbs to finish up or a new growth of any kind to complete, as in the case of *Cypripediums* or a *Masdevallia*, yet an observant cultivator will never fail to notice a change in the growth at this season or a little later. To those who look below the surface it is just as plain when these distichous-leaved kinds are going to rest as in the pseudo-bulbous species, and just as easy to see what is required by them.

Unfortunately, this faculty of observation is not exercised enough by growers in general, little things apparently not being noted at the proper time, and left until too late. With regard to giving air at night, it is of the utmost importance that the temperature is kept up, for although a few degrees lower will not harm plants that are fully grown, there are usually others half finished, or perhaps only just starting, that must not be checked in any way. For instance, *Dendrobium superbum* is with me not half made up, while several plants of such as *crassinode*, *aureum*, and *nobile*, are now quite complete. *Cattleya Gaskelliana*, *C. gigas*, and many *Lælias* now require to be kept dormant, while *C. Mossiæ* is still growing freely, as are *Lælia purpurata*, and several others.

Of course the first named might be taken to a cooler or drier house, but this is not always convenient or advisable, as plants kept in the same house all through the year are more constant in their time of flowering, whereas if taken to a cooler house the check given sometimes throws them behind. I had an instance of this with *Cattleya Trianae* and *Mossiæ* two years ago, and I think I mentioned it at the time in the *Journal of Horticulture*. Of course, there is not much harm done by removing any that from past experience one has found difficult to manage in any other way, but, as a rule, if once the plants get into a regular routine of growth, not much trouble will be found in keeping them dormant at the proper season.

With *Dendrobiums* the case is different, unless, indeed, this genus is grouped all together in our houses. If all are grown in the East Indian house in company with other heat-loving genera, then they must be removed, for the winter temperature required by a *Phalænopsis* would be far too high for the majority of *Dendrobiums*. These, then, we take to a cooler and drier house directly the new pseudo-bulbs are matured, giving them a light and airy place to thoroughly harden and prepare them for winter. The Australian *Dendrobies*, as a rule, also *D. chrysanthum*, are, however, growing through some part, at any rate, of the winter, and of course are not taken out of the East Indian house.

Some Orchids, again, are removed for a time, but replaced on the approach of cold weather, and amongst these may be mentioned *Thunias* of various kinds, several of the Mexican *Lælias*, *Cypripedium inigne*, and a few others. The rest are left in the house wherein they have been growing, and by judicious arrangement and watering induced to rest or kept in growth as may be necessary. *Vanda cœulea* requires great care now; it must not be dried at the root, for the spikes are forming, and yet it is very important that anything like excitement must be carefully guarded against. It is the same with many of the cool *Odontoglossums* and others. No drying system can possibly be successful, yet a certain check to growth must of necessity be given.

It is very unsatisfactory to have the spikes showing at the same

time the plants are beginning to grow, and all that are finished should therefore be kept to a certain extent dormant. I always make it a rule to look over the plants frequently, and place all such as near the ventilators as possible, damping less in their immediate vicinity. The shading will, of course, have to be diminished on all the houses, not all at once, but gradually, and it is as well to remember that the sunshine in the morning when the ventilators are open does much more towards ripening growth than in the afternoon when the houses are closed and more moisture is afloat in the atmosphere.—H. R. R.

MR. A. F. BARRON AND HIS FRIENDS.

It is impossible to ignore the fact that many of Mr. Barron's friends, and they are neither few nor unimportant, are considerably disturbed by recent events. While no exception appears to be taken, as it could



FIG. 28.—LÆLIO-CATTLEYA CHARLES DARWIN. (See page 206.)

not well be, to his retiring allowance, the methods adopted of appointing a Committee of Inspection of Chiswick, without, it is understood, consulting the Garden Committee, is disapproved, and it is thought that the decision arrived at savours of a reflection on this Committee, under whose instructions the Superintendent has presumably acted in the conduct of the Gardens. This feeling is the outcome of an impression that the Gardens are not in the condition they should be. The question of condition is obviously a question of the means afforded in the form of labour for their keeping. All persons who care to do so can see them on the occasion of the coming show, and it is certain they will then be closely "inspected." We understand that a meeting was held at the Windsor Hotel on Tuesday, 27th inst., convened, it is said, by Mr. Wm. Marshall, and presided over by Dr. Maxwell T. Masters, for considering the question of a testimonial to Mr. Barron, and that a Committee was appointed, which is to meet at the Windsor Hotel on the Chiswick show day. We are requested to state that the proposed meeting of the Fruit Committee at Chiswick on the 10th inst., for considering some form of recognition of the services of its Secretary, is quite distinct from, though not in any way opposed to, the Windsor Hotel meeting above referred to. Just as we are going to press we are requested to insert the following notification.

A representative meeting of horticulturists was held at the Hotel Windsor, Victoria Street, S.W., on Tuesday afternoon, Dr. Maxwell

T. Masters, F.R.S., presiding, to promote a public testimonial to Mr. Barron, as a means of expressing in a tangible form the feelings of warm sympathy that are universally felt for him under the unfortunate circumstances of his dismissal from Chiswick, and in recognition of the long and honourable services which he has rendered to the Royal Horticultural Society as Superintendent of its gardens and exhibitions, and to horticulture generally. It was unanimously resolved that a testimonial fund should be raised, and a general committee was appointed, with power to add to their number, Mr. William Marshall, Auchinraith, Bexley, Kent; and Mr. B. Wynne, 1, Danes Inn, Strand, W.C., jointly undertaking the secretarial duties. It is proposed to elect a President and Treasurer at the next meeting on September 10th, and in the meantime the Secretaries will be glad to receive the names of gentlemen willing to act on the Committee, or to otherwise aid in the movement.

CLIMBING CANADIAN WONDER BEAN.

MR. WARD is perfectly justified in referring to the height to which the climbing French Bean which originated with him will attain to under his high cultivation. I have seen it at Longford Castle as he mentions. It was just this point which left in my mind the barest shadow of a doubt as to whether Mr. Ward's selection and Sutton's Tender and True were identical or not, although it was almost impossible for me to arrive at any other conclusion than that mere climbing forms of the same Dwarf Bean must of necessity be alike in all respects. It was because of that belief I, in the face of strong contention to the contrary, almost alone held that they must be and were alike.

As readers will have seen from the report of the proceedings of the Fruit Committee at Chiswick on the 16th inst., where both selections were growing in one row and under precisely the same conditions, it was unanimously agreed that the two were identical. That settles the matter and admits of no disputation. All trials are honestly and fairly conducted at Chiswick, and the conclusion arrived at is all the more noteworthy because the members who now, after seeing the forms growing together, and unanimously rescinded, as it were, a former conclusion, were amongst those who at the same place last year in the belief that they were distinct from the other, voted a first-class certificate under the name of Veitch's Climbing French Bean. How forcibly after all does this fact serve to justify the oft decision of the Fruit Committee at the Drill Hall that certain things be sent to Chiswick for trial before any judgment is given. Still farther, how strongly does it emphasise the great necessity there is, let what changes may come, that Chiswick shall be severely retained as a valuable and an impartial trial garden for the Royal Horticultural Society. I would add it was ascertained by the Committee that the stocks of these Beans were obtained direct from the firms sending them out.—A. D.

AT page 182 of the *Journal of Horticulture*, in the second paragraph under the heading of Chiswick (Fruit Committee meeting) it is stated that "Veitch's Climbing French and Sutton's Tender and True" Beans, both growing in one row, had the certificates of merit confirmed, and that at the same time the "Committee dealt with the question of identity, and that after minutely examining growth and pod, also having the latter cooked, also inspecting the ripe seed, the conclusion was unanimously arrived at that they were identical, and that the Committee declined to determine as to which name had the commercial right of priority."

In reference to the above subject, I should like to say that the decision of the Fruit Committee (the correctness of which I do not for a moment question) raises a very delicate question; in fact, a series of—shall I say serious?—questions, inasmuch as the Bean which the Fruit Committee on the 16th inst. decided to be identical with Tender and True was sent to Chiswick for trial, together with a full description of its habit, in April, 1885 (six years before "Tender and True" was submitted). The raiser and sender at the time received the "official" receipt, signed by the Chairman and dated, I believe, April 9th, 1885, this being the only communication he has ever received from the R.H.S. in reference to his "Climbing Canadian Wonder Bean" (now Veitch's Climbing French Bean).

As it was not mentioned in the autumn report of novelties tried at Chiswick in 1885, the question very naturally, and justly so, arises as to what became of the "Climbing French Bean" sent to Chiswick for trial in April, 1885, and ten years later pronounced by the Fruit Committee of the R.H.S. to be identical with one (Tender and True), to which that body had granted a "first-class certificate" at Chiswick, September 3rd, 1891? It appears that to others are left the task of determining to which name the commercial right of priority belongs. This is an important question, but, nevertheless, it is obviously one that admits of an easy, just, and conclusive answer—an answer that will be found registered in the counterfoil of the record of seeds received for trial at Chiswick in April, 1885. Herein will be found the name of "Climbing Canadian Wonder Bean"—a fact that will conclusively settle the question of "commercial right of priority." For ten years have I refrained from communicating the above mentioned facts to the horticultural Press, and had it not been for the turn which events have recently taken the probability is that I should never have referred to the matter in print.—H. W. WARD, *Longford Castle, Salisbury.*



EVENTS OF THE WEEK.—The chief event in the coming week will be the early exhibition of Chrysanthemums, held at the Aquarium on Tuesday and the two following days, in connection with the exhibition of Dahlias and Gladioli.

— WEATHER IN LONDON.—With the exception of an occasional shower, bright warm weather has prevailed during the week, and continued to the time of our going to press.

— THE POTATO CROP.—There is every prospect of the Potato harvest in the Fen district being a good one. The crops have been much benefited by the recent rains, and the fear that at one time prevailed, that the crop would be light in consequence of the drought, has now been dispelled. In the Marsh district, where a large area of land is planted with Potatoes, the crops are especially luxuriant and very forward.

— FAREHAM.—The Fareham Horticultural Society held its seventh annual show in the beautiful grounds of Roche Court on August 23rd. The weather proving highly favourable the show, on the whole, was a success. Though there was a falling off in plants in the open classes there was a decided advance in the amateur and cottager section, showing the Society is still progressing. The competition in the plant tent was very keen. The fruit tent was well filled as usual. Groups of plants not for competition were sent from W. H. Dean, Esq., J.P., C. E. B. Long, Esq. (gardener, G. Burton), A. Barfield, Esq., and Miss Peal.

— HAILSTORM AT HARPENDEN.—A terrific hailstorm occurred at Harpenden, Herts, recently, doing an immense amount of damage to property, some of the hailstones being 2 inches across. Mr. Phillips, owner of a number of glass houses, had one side of all of them completely riddled, hardly a sound pane of glass remaining; while Mr. Purrott, who owns about 104,562 square feet of glass, had also a great amount of it broken and much damage done to Grapes, Cucumbers, and other stock. All the glass broken was 21 oz. Both nurserymen had wisely insured in the Nurserymen's Hailstorm Insurance Corporation of 1 and 2, King Street, Covent Garden.

— POINSETTIA ROOTS DYING.—I have found not only the roots of Poinsettias to suddenly die off, but also those of Solanums, Pelargoniums, and Hyacinths. I have always been careful in giving these plants any strong chemical manures, but I have seen other plants do well which have had much more manure in the waterings given than my plants. When I have found the roots decayed as described after careful watering with clean water only the plants have made new white roots, but of course they in the meantime receive a severe check. I should like to see the opinions of other growers as to the cause. Over-watering is thought by some to be the cause, but I do not consider it to have been the cause in several instances I have seen.—W. B. S.

— PETERSFIELD SHOW.—The annual show of the Petersfield Society was held last week in the recreation grounds overlooking the Heath lake. For several years the weather has been very adverse, but this year the day was bright. The entries were considerably in excess of previous years, and in every respect the exhibits were the best hitherto staged. In connection with the show an exhibition of art and industrial work was held, which met with most encouraging success. A feature at this show is the groups, and specimen stove and greenhouse plants were well represented. Fruit, as usual, was good, especially black Grapes, the competition very keen in table decorations for ladies. A fine group, not for competition, sent by L. T. Cave, Esq., was much admired. The silver medal for the best collection of fruit was won by Mr. R. T. Cross. Messrs. Cheal & Sons, Crawley, exhibited a fine collection of Show and Cactus Dahlias; Messrs. G. Jackman and Son, Woking, four boxes of good Roses; and Mr. B. Ladhams, Shirley, a fine display of herbaceous blooms. The show of vegetables by cottagers and amateurs, it is said, cannot be equalled at any show in Hampshire. The soil is a light rich loam. The President (the Earl of Selborne) and Committee and the Hon. Sec. (Mr. H. Woods) may be congratulated on the way this show was carried out.

— **BOCCONIA CORDATA.**—One of the most conspicuous and effective plants growing in the new hardy herbaceous garden at Madresfield Court is this distinguished-looking flower. Its Oak-shaped glaucous green-hued handsome foliage and pinky-white flowers afford a pleasing contrast to the general appearance of the rest of the denizens of this border.—W. G.

— **THE BLACK ROT OF THE GRAPE VINE.**—This disease, scientifically known as *Lestadia Bidwelli*, is spreading so rapidly in the vineyards in the south and south-west of France as to be causing considerable anxiety to the owners. Already much damage has been done, and, apprehensive of still more serious results next year, M. Gadaud, Minister of Agriculture, has issued an official circular, advising the destruction by fire of Vines that are suffering from the disease.

— **PRESERVATION OF FRUIT.**—Experiments are still being tried in preserving fresh fruit in borax. It has been found perfectly successful with Cherries, and is now being tried with vegetables. It is anticipated that should results be favourable a borax bin will form part of the household equipment of every family in which fruit, vegetables, and other perishable forms of food can constantly be kept. Borax can be used over and over again, so that economy is secured in a double fashion.

— **CAMBRIDGESHIRE FRUIT.**—The Green Gage harvest, which is on the eve of commencing in Cambridgeshire, is said to promise well. A drive through some plantations a day or two ago in the neighbourhood of Histon revealed, says a contemporary, numbers of heavily laden branches bending to the ground with their weight of fruit. Fruit growing has largely increased in this district of late years, and within ten miles of Histon railway station there are now some 3000 acres of fruit, about 2000 of which have been planted within the last twenty years. Some growers boil their fruit into jam on the spot, others send it to market.

— **SHIRLEY GARDENERS' ASSOCIATION.**—The monthly meeting of this Society was held on the 19th inst. at the Parish Room, Shirley, Southampton, under the presidency of Mr. B. Ladhams, F.R.H.S., the Lecturer on this occasion being Mr. J. Miles, gardener to W. Perkins, Esq., J.P., Portwood House. Practical hints were given by Mr. Miles on the time to gather fruit and the most convenient methods of doing so. The Lecturer gave a description of his fruit room, 40 feet by 12, and in doing so remarked on the ventilation and the temperature, which, he said, needed to be kept as near 40° as possible. He touched lightly on the debatable matter of colouring, but said he had this year colour on specimens of Lord Suffield. There was a lively discussion on packing fruit for transit, and at the close a hearty vote of thanks was accorded the Lecturer.

— **ENGLISH FRUIT EATERS.**—Within the past ten years English fruit eaters have developed an enormous appetite for Bananas. Dr. Morris, Assistant Director of Kew, in a very interesting and valuable article on the plants and gardens of the Canary Islands, just published, tells us that the Bananas nearly all come from the Canaries or from Madeira, though curiously enough the variety almost exclusively cultivated is a Chinese plant. This, he says, is a shorter and stouter plant than the tropical Banana, and often bears from 150 to 200 "fingers" in a bunch. In 1893 no less than 217,095 bunches were exported from Grand Canary alone. Most of them came to this country, and no inconsiderable portion of them are consumed in London, where they sell at the fruit shops at about 1d. a "finger." So that a single bunch of fruit in the Canaries may often represent a retail value of 20s. or 21s. in the London markets.

— **TOMATOES IN THE CANARIES.**—In the same article Dr. Morris gives some very interesting information about Tomatoes, which are an even more important export from the Canary Islands, though of very recent date. The total exportation is supposed to be now about 150,000 cases, or something like 2700 tons of fruit. It is grown, packed, shipped, and delivered in London at an actual cost of 2d. a pound, and as it comes into the market at a time where there are no English Tomatoes to be had, somebody must be making a good thing out of it, though from Dr. Morris' account of the business it probably is not the Canarian growers who are making rapid fortunes. Strange to say, they get their seed from England. It is distributed among them on their undertaking to sell their produce at a certain rate per cwt. So far from the enormous imports from the Canary Islands injuring English growers, it is considered to be distinctly advantageous to them by fostering and sustaining a taste for the fruit at a time of year when it might otherwise die down and be supplanted by something else.—("Daily News.")

— **THE Duke of Norfolk** is making arrangements for a very large addition to the number of allotment gardens on his estate at East Bank Road, Sheffield. There are on the Duke's Sheffield estate about 1000 allotments, and there are applicants for many more. The tenants, needless to add, take a great interest in them.

— **DEATH OF MONS. J. VESQUE.**—We regret to have to announce the death of M. Julien Vesque, one of the most accomplished botanists of France. M. Vesque paid great attention to physiological botany in its application to agriculture and gardening. The relation of minute structure to function and the adaptations to altered conditions were studied by him with success.

— **HIBISCUS SYRIACUS.**—At the present time this plant has a conspicuous effect growing in one of the mixed shrub borders in the Worcester Nurseries. It is covered with a profusion of rosy-purple double flowers, and which much resemble double Balsams. It is rendered additionally interesting and useful from the fact that at this season of the year there are comparatively few hardy shrubs in flower. The plant in question is about 5 feet high, and proportionately bushy.—W. G.

— **THE NATURAL HISTORY OF PLANTS.**—The fifteenth part of this monumental work appears with an intimation that the series will be completed next month, and that the work will then be issued by Messrs. Blackie & Son as a whole at the price of 50s. in cloth, or 63s. in half morocco. The present volume treats chiefly of the distribution of plants and the various methods of dispersal of their seeds by wind, water, or animals. The same popular style of exposition which characterised the earlier numbers is maintained, and a mass of interesting peculiarities of plants in this particular presented such as are not usually to be found in the ordinary text books of botany.

— **ACCIDENT TO MR. ELPHINSTONE.**—All readers of the *Journal of Horticulture* will be glad to learn that the talented gardener at Shipley Hall, who recently met with a sad accident, is progressing favourably. He was in the act of opening a large bottle of liquid ammonia, when the glass stopper gave way, and the contents of the bottle spurted up into his face. He suffered intense agony for some days. Fortunately his eyesight will not be permanently injured; he was confined to a dark room for ten days. I am glad to hear that he got out on Saturday, under a large umbrella, for a few minutes, and I trust he may soon be restored to his usual health and sight again. It was, as everyone may imagine, a dreadful shock to his system.—WILLIAM INNES.

— **BOUGAINVILLEA SPLENDENS.**—This species is a very valuable greenhouse climber, superior in many respects to the old and well-known *Bougainvillea glabra*. It is of a bushier and more compact habit, and the foliage is a richer and deeper green. The inflorescence, a large, leafy panicle, is larger and more showy than that of the *B. glabra*, with numerous bright crimson bracts and tubular yellowish flowers. *Bougainvilleas* do well either in pots or when planted out in a cool greenhouse in a well-drained border in rich loam of open texture. Trained under the rafters or on the wall of a conservatory, they are very floriferous and beautiful. Whether planted out or pot-grown, a partial rest should be given during the winter months. This, says a writer in the "Garden and Forest," will ripen the wood and insure a profusion of flowers the following season. *B. splendens* is easier to propagate than most other species. Cuttings of young almost ripe shoots will root in about three weeks in a slight bottom heat.

— **A CURIOUS SEED TRADE CASE.**—On Wednesday of last week a Mr. Shephard, of Stockbridge, Hants, summoned the well-known seed firm of Toogood & Sons before the Southampton Justices, on a charge of infringing the Trade Marks' Act, by falsely selling certain Kale seed as Shephard's Kale, which the complainant regards as his trade mark. Conflicting evidence was given. The plaintiff contended that the Kale was of his own special originating, and that his method of preparing his seed for sale was a secret; also, that seed labelled Shephard's Kale, purchased from the defendants, was of inferior quality. The latter pleaded, in relation to the sale under defendant's name, that they only acted on the custom of the trade, which sold everywhere, for instance, Wheeler's Imperial or Ellam's Early Cabbages, &c., under those well-known appellations; also, that the Kale seed was what it was represented to be. The Justices have adjourned further hearing of the case to September 11th, when it is expected much expert evidence will be called. The matter is one of the gravest importance to the seed trade at large, and it is no matter for surprise to learn, should the decision be adverse, that appeals will be made to higher Courts.—D.

— **GALTONIA CANDICANS.**—When on a recent visit to the extensive nurseries of Messrs. Smith & Co., St. John's, Worcester, I noticed among the large stock of hardy herbaceous flowers an imposing array of *Galtonia candicans*, and its pure white pendent flowers made a striking effect, especially in connection with a background afforded by a hedge of the American *Arbor Vitæ*, *Thuia occidentalis*. Considering its hardiness, free flowering, and altogether unique appearance, the wonder is that it has not been accorded a wider recognition amongst growers. Planted freely in groups—as nearly all herbaceous border plants should be—this Lilywort is most effective.—W. G.

— **AUSTRALIAN FRUIT.**—At a time when fruit was considered to be a drug in the Bairnsdale district, says the "Australasian," and when some growers declared that they could not give theirs away, and that the industry had been overdone, Messrs. Cameron & Cameron decided to send an experimental shipment of Apples to London. They made up thirty cases of Rymers from their own orchard, and sent them through the Direct Orchard Supply Company to Messrs. Duthort & Co., Covent Garden, by the s.s. "Ophir." The account sales gave the gratifying news that the Apples had realised an average of 12s. 6d. per case. After deducting all expenses a profit of 6s. 9d. per case was made out of the shipment. To the growers this means a splendid result, being a return equal to £65 per acre. With an orchard in full bearing it would be equal to a return of over £100 per acre. The expenses of the shipment were £10 17s. 6d., the receipts for the first twenty-nine cases were £18 2s. 6d., the bonus £2 18s.

— **POTATO CULTURE UNDER GLASS.**—This industry is undergoing considerable development in Jersey. In the first week of the Jersey Potato harvest, 25 tons were sent from the island, and, says a contemporary, in the second week 40 tons were exported, the average price of the first week's shipment being £45 per ton, and of the second week's shipment £39 per ton. In the third week Potatoes from the earliest slopes with a sunny aspect came into the market, and sold at the very satisfactory price of £32 10s., the average realised for 660 tons. Potatoes under glass pay very well at £30 a ton, if not at £20, as they do best in unheated houses, and Tomatoes are set between the rows to stand after the Potatoes have been dug. Indeed, forced Potatoes, although they sometimes sell at 1s. a pound in January, do not pay so well as those raised in cool houses, the yield being much smaller, and the expense much greater. The late Mr. Bashford, who was the most extensive grower of Potatoes under glass in Jersey, estimated his average yield at the rate of 11 tons an acre.

— **WAKEFIELD PAXTON SOCIETY.**—At the meeting of the members of this Society, held on the 17th inst., Major Taylor, J.P., the President, was in the chair, and Lieutenant H. S. Goodyear occupied the vice-chair. There was about an average attendance. The essayist was Mr. J. G. Brown, Curator at the Outwood Cemetery, for many years head gardener at Hatfield Hall, and one of the Vice-Presidents of the Society. Mr. Brown's subject was "The Pea," and on the table were several dishes of fine specimens. Mr. Brown read a most interesting and thoroughly practical paper, in which he pointed out several of the best varieties of Peas, and clearly and fully explained how to successfully grow both early and other sorts for a succession. A long and very interesting discussion ensued on the paper. Amongst the varieties of Peas which were most highly recommended were the following:—William Hurst, English Wonder, American Wonder, Duchess, and Sharpe's Queen. A vote of thanks to Mr. Brown closed the meeting.

— **A FLORAL STATION.**—Besides its well-built and well-paved streets, its sea banks, its neat park near the Aquarium, and its exceptionally well-gardened Northumberland Park, Tynemouth has now also one of the prettiest stations on the North-Eastern lines. The Directors have furnished a light and airy structure, and it has been adorned florally by the station master (Mr. Lee) in a way that makes the interior most attractive. It is to be questioned whether anywhere else so large a station is to be found so well off in this respect. Mr. Lee has, with great taste, overcome the difficulty of lengthened space, and has at several parts produced, by pendent plants, flowering shrubs, and a liberal employment of creepers, effects that are grateful and refreshing. There is especially a fine bit of grouping near the stairs leading from the booking offices to the Blyth and Tyne lines; the platforms everywhere have their quota of flowers and plants, and the neat design on each bank of the station bearing the name "Tynemouth" is one of the tastiest things that has been effected so far in the North. The latest addition is a remarkably fine rockery, with many flowers in bloom, erected at the west end of the station. Tynemouth is fortunate in having so skilful a horticulturist as its station master.—("Newcastle Daily Chronicle.")

— **MONTBRETIA CROCOSMÆFLORA.**—When at Madresfield Court near Malvern, my attention was drawn to a mass of the above growing in a sheltered spot at one end of the new hardy herbaceous quarter. Some idea may be formed of the splendid display when one is informed that the larger mass of plants occupy a space of about 12 feet long by 5 or 6 feet wide, whilst a smaller mass occupied a space of about one-third less, and both aglow with hundreds of spikes of orange-scarlet flowers. Mr. Crump, who is justly proud of the glorious display, informed me that the Archbishop of Canterbury recently visited Madresfield Gardens, and was so enchanted by the scene produced by the group in question that he could hardly be prevailed on to quit it.—W.

— **OIL FROM FLOWERS.**—The oil obtained from Violets is green in colour, and its odour is so penetrating as to cause headache. The perfume is rendered agreeable by much dilution. The yield is small, and is consumed in the manufacture of the finest perfumery. Ylang-ylang is from the flowers of a tree that grows in the Philippine Islands. The oil has an exquisite odour, and was formerly held at an enormous price. Orange flower oil, known commercially as "neroli," is also very costly. Perfumers employ it considerably. Also they utilise an oil from the flowers and leaves of the Myrtle. Lavender oil, distilled from the blossoms of that plant, is an ingredient of expensive "waters" and soaps. Many kinds of flowers not now used for this purpose, such as the Hyacinth and Mignonette, would afford valuable oils.

— **THE ANNUAL VINCA.**—This, says an American contemporary, is a plant that is not made as much of as might be done with advantage. There are three varieties—namely, the type, which has rose purple flowers, one with pure white flowers, and another having white flowers with a red eye. Except in the colour of their flowers all are identical, and the one is as easily raised as the other. They are of neat bushy habit, 18 inches or so high, and bloom uninterruptedly from June till frost. They are fine for cutting for table flowers, and in the beds have not the formal appearance that bedding plants generally have. We sow them early in the spring—say February, in a warm greenhouse—for coming as they do from Madagascar they like warmth. They ripen seeds abundantly, and self-sown seedlings come up freely in June where the old plants were grown, but they are too late to do much good. Better raise them indoors and early. The plant is not an annual, but merely grown as such.

— **ADDITION TO THE LINCOLN ARBORETUM.**—The formal ceremony of opening the new portion recently added to the Lincoln Arboretum took place on Wednesday afternoon, August 14th. The piece of land, about an acre in extent, was purchased by the late Mr. Nathaniel Clayton, to prevent the building of houses overlooking the mansion and grounds known as Eastcliffe, and last year was presented to the Corporation by Mr. N. C. Cockburn, his grandson, on the understanding that no building, unless it be a lodge, should be erected thereon. The land has been handsomely laid out with flower beds and trees. Inside the entrance gate is a granite slab setting forth that the land was the gift of Mr. N. C. Cockburn. The cost of the work is about £1000. At the opening ceremony Mr. G. H. Pacy, Chairman of the Arboretum Committee, presented the Mayoress, Mrs. A. W. Hall, with a silver-gilt key, which fits the lock to the entrance gate. She then declared the new portion open, and votes of thanks to the donor of the land, to the Mayoress for her services, and to Mr. H. E. Milner of Westminster (who furnished the design), were passed.—("The Yorkshire Daily Post.")

— **SHANKLIN, ISLE OF WIGHT, SHOW.**—The sixteenth annual summer show of this Society was held in the beautiful grounds of Rylstone, the residence of Mons. Sparteli, on August 22nd. The show was one of the best the Society has ever held. The three tents were well filled. Mr. Scal, gardener to Mons. Sparteli, was first for a group, and also for six Ferns. One specimen Fern and Begonias Mr. C. H. Snook, gardener to Madame Scaramanga, showed well. Collections of stove and six well-grown Ferns, Begonias, and Coleus Mr. T. Altriss, gardener to Miss Cass, staged well grown and neat table plants, Zonal Pelargoniums and Cockscombs. Amongst other exhibitors Messrs. Morritt, Preece, Pinchon, and General Harpur showing good collections of vegetables. The championship belt, open to Hants, Wilts, and the Isle of Wight, presented by Messrs. H. Cannell & Sons for the best collection of fruit and flowers, open to amateurs and cottagers, was won by the Shanklin Society. H.S.H. Princess Herman of Saxe-Weimar and Princess Olga visited the show. Miss Carter presented a shower bouquet to H.S.H. Princess Herman. Mr. M. Silsbury exhibited two seedling Chrysanthemums, named Emily Silsbury, after the style of M. Thérèse Rey.

SHREWSBURY HORTICULTURAL SHOW.

AUGUST 21ST, 22ND, AND 23RD.

AS was briefly indicated last week the show held on the dates named was a brilliant success. It was fitting that it should be so, as it might be regarded as the celebration of the majority of the Society, this being the twenty-first exhibition under the present management. Naturally there have been changes in the Committee during that time, but the two Hon. Secretaries, Messrs. Adnitt and Naunton, who have made themselves famous in the horticultural world, happily remain at the helm, and judging by their active, business-like movements and the ease with which they discharge their multifarious duties, they seem equal to all demands in the same direction for a generation to come. That they are masters in the art of show preparation and routine is indisputable. They appear to have taken in hand what was at the time a collapsed society, and with the aid of earnest and able coadjutors determined to resuscitate it. That they based their action on sound lines is certain, and on those lines they have continued with results which, viewing all the circumstances of the case, may be fairly described as unexampled, for here in a town of some 30,000 inhabitants has been established the most extensive and complete shows of horticultural produce in Europe, if not in the world.

The time of year is probably the best that could be chosen for securing the most varied display. Specimen and decorative plants can be had easily in the summer, especially Orchids, and in the cut flower department Roses then make a show in themselves; but it is not until later that fruit and vegetables can be brought out in full force, and while plants can be had late as well as early in the season, the autumn months bring innumerable bright border flowers—Dahlias, Asters, Gladioli, and a multitude of others, affording the greatest number of persons opportunities for competing, whilst substantial prizes are bound to bring out the best of everything in season that can be produced by cultural skill. This the Shrewsbury managers found out long ago, and hence the firm, clear, settled policy of generosity that was adopted and which, steadily pursued, has raised the shows to the commanding position. The prizes brought the produce, the great displays became the centre of a gala day, this brought the people and the people brought the money, and thus has the Society become so rich and strong as to be able and willing to dispense nearly £4000 in improving the grounds in which the shows are held, and assisting other worthy objects and organisations in the town.

It may be said that this could not have been accomplished by the horticultural show alone. It could not; but care has always been taken that the music and other features of attraction should be of the highest order that money could procure, and thus it has become the custom—not for the multitude of workers only, but equally so for those who, in hackneyed parlance, are known as the “best people” in the district—the clergy, gentry, professional men, and their families—to assemble for a few hours of genuine pleasure and healthful wholesome enjoyment. “Then it is not the flower show that is the first attraction,” some strict horticulturist may ejaculate. Let there be no mistake about this. The products exhibited are absolutely the first source of attraction, and the fact is pressed with a pressure that can be felt on those who try to take a few notes in the tents half an hour after the judging is completed. The marquees are crowded with visitors at once, and remain crowded all the time. It was a sight to see the throng on the first (half-crown) day, taking at the entrance £727, while £500 worth of tickets had been sold three days previously. It was as assemblage such as the Royal Horticultural Society would be proud to see in the Temple Gardens on the occasion of one of their brilliant May shows. They came to see the horticultural exhibits, and could return after seeing them if they chose, or remain to hear the Guards full bands, and see what else might be provided. They mostly remained. So it was on the second day, when some 50,000 persons entered the ground, and crowded every tent—not a noisy reckless rabble, but as well dressed, orderly, and appreciative assemblage as anyone could desire to see, and, as a result, the visitors brought and left more than £2000 behind them. That is evidence of the attractive force of the last and greatest event at Shrewsbury.

Let us glance at the exhibits. Though, as stated last week, there were 2740 entries, the tents were cleared shortly after ten o'clock, and the twenty-two Judges completed their work in about two hours, and at twelve o'clock visitors commenced pouring in. Only the leading features of chief general interest can be noted, and possibly some of these may be overlooked in the bewildering array of produce and people.

PLANTS AND GROUPS.

The large marquee in which the splendid specimens and beautiful competitive and other collections were arranged was crowded to its utmost capacity. Had a covered space been provided of at least twice the extent, and the contents been arranged in gardenesque style, as on the Continent, a floral spectacle of great magnificence would have been produced, though, as it was, it was highly imposing.

Group of Miscellaneous Plants Arranged for Effect, 300 square feet (five entries).—These are always a leading feature at Shrewsbury, and some splendid groups were in competition on the present occasion; in fact, the best we have seen here. The first prize, £20, was worthily awarded to that well-known exhibitor, Mr. Cypher, for a well arranged, light, and graceful combination of fine-foliage and flowering plants, including some grand Orchids, the most pleasing association of flowering and foliage plants we have seen for some time, and almost, if not quite, every plant visible. Second, £16, Mr. Edmunds, gardener to the Duke

of St. Albans, Bestwood, Nottingham. This exhibitor has arranged many grand groups this season, and has been many times to the front; his group was a magnificent one, but a trifle heavy, the former's Orchids and brighter arrangement gave him the verdict by a few points. Third, £14, James Marriott, Esq., of Coventry (gardener, Mr. Finch) was third for a group that was highly meritorious, but it lacked the finish throughout of the second group. This exhibitor seems to start well, but does not finish so well as he might by the exercise of a little more care. Perhaps he is short of time. Fourth, £12, C. H. Wright, Esq., Oswestry (gardener, Mr. Roberts), and a good fourth, too. The judges had some difficulty here, but not many experienced judges would question their verdict. An extra prize was awarded to Messrs. Jones & Sons, Shrewsbury, who were the other exhibitors, but were fairly outplaced by the other magnificent groups.

Twenty Stove and Greenhouse Plants, Twelve in Flower.—There were only two exhibitors, the old rivals, Messrs. Cypher and Finch, again meeting, both showing noble specimens of both foliage and flowering plants, the first prize, £25, going to Mr. Cypher. The following were his principal plants:—*Cycas circinalis*, *Kentia Fosteriana*, *K. australis*, *Latania borbonica*, *Crotons Queen Victoria* and *Sunset*; flowering plants—*Erica Eweriana*, *E. obbata*, *E. Turnbulli*, *Bougainvillea glabra* and *B. Sanderiana*, *Clerodendron Balfourianum*, *Ixora Williamsi*, *I. Duffi*, *Statice profusa*, *Rondeletia speciosa major*, *Allamanda nobilis*, *Phenocoma prolifera*. Seldom have we seen such a fresh and beautiful exhibit. Mr. Finch, gardener to J. Marriott, Esq., Coventry, though second, won £20, his principal flowering plants being *Erica Marnockiana*, a perfectly flowered specimen, fresh and good; *Dipladenia amabilis*, *Allamanda grandiflora* and *Hendersoni*, *Ixora Williamsi*, *Statice Buckeri*; his foliage plants were almost duplicates of the first prize exhibit, but he was beaten by Mr. Cypher by several points.

With six flowering plants Mr. Finch turned the tables on his formidable rival by a very few points, both showing clean and good plants. Second, Mr. Cypher; third, Mrs. Juson, Shrewsbury (gardener, Mr. Farrant). In the class for six stove and greenhouse plants, open to Salop only, Mr. Lambert, gardener to Lord Harlech, Oswestry, was first with a creditable half dozen. Second, Mr. Farrant; third, Mr. Burr of Shrewsbury.

Ferns were fresh and good. For six exotics the first position was won by Mrs. Slaney of Wellington; second, Mr. Roberts, Halston Hall; third, Mrs. Juson, Shrewsbury. *Crotons* formed a new class, and grand, well coloured specimens were exhibited by Mr. Cypher, fairly outmatching the second prize plants of Mr. Finch. There were only these two in competition, and we think the class ought to be better patronised. A well flowered *Dipladenia amabilis* from Mr. Lambert easily scored for him the first prize for the best specimen flowering plant, open to Salop only. The class for six Orchids in flower only brought two entries, Mr. Cypher being easily first; Colonel Lloyd, Aston-Hall, Oswestry, second. This gentleman was, however, first with four Orchids (Salop only); second, A. E. W. Derby, Esq., Little Ness. It is strange that the competition in Orchids is so poor at Shrewsbury. True, it is not the best Orchid season; still, the prizes are worthy of more attention. Six *Dracaenas*.—A good half dozen from Mr. Lambert were deservedly placed first; Mrs. Watkins, Shelton Hall, second; Mr. Edmunds, Bestwood, third, with smaller plants fairly coloured, but lacking the brightness and size of the former.

Caladiums were well shown, a half dozen from J. R. Greatorex, Esq., Mytton Hall, winning the premier prize. *Coleuses* were represented by fine pyramids, especially from A. Myers, Esq., Shrewsbury, who was easily first, as he was also with both double and single *Zonal Pelargoniums*. Mr. Scott was the best exhibitor of *Fuchsias*—not large—free, healthy, and well flowered. *Begonias* were not of high excellence, the best coming from the gardens of the Hon. W. H. Herbert, and well won the first prize. The prizewinning six *Gloxinias* were exhibited by Miss Cooper of Shrewsbury.

The classes for table plants were very strong. A good dozen from Miss Wingfield was first, Mr. Edmunds close second, Col. Page, Cardiff, third. Fifty miscellaneous plants in 5-inch pots, not less than thirty in bloom, is always a well-contested class. First, Mr. Burr; second, Jones and Sons, Shrewsbury; third, Hon. H. Herbert, with interesting and diversified collections. For twenty-five plants, first, W. J. Scott; second, Mrs. Wace; third, Mrs. Watkin. These classes are worth noting by other societies, as they afford many persons an opportunity of exhibiting who have not the convenience for growing large plants.

CUT FLOWERS.

The display in this section was of great magnitude and excellence, the several collections producing a beautiful effect in the capacious marquee in which they were arranged. The leading class was entitled a “Display of Floral arrangements in a space of 12 feet by 5 feet 6 inches, a few small plants allowed for effective staging. Any design in flowers admissible entirely at the discretion of the exhibitor.” The dimensions had reference to the length and width of the tabling, but the back, raising to a height of some 6 feet, and with the tables covered with velvet cloth (except in one instance) was furnished also with various floral designs. Three out of the four exhibits were extremely beautiful, and the fourth by no means inferior. At the first glance Mr. Chard's light and lofty arrangement caught the eye, but on closer examination his individual exhibits were seen to be less both in number and variety, also in some cases quality than the others, which were also tastefully arranged, so he had to fall into the third place. Messrs. Perkins & Sons, Coventry, and Messrs. Jones & Sons, Shrewsbury, being placed first and second respectively; Mr. Gunn being fourth. Almost every imaginary

design in which flowers are employed for special purposes was represented, and many deft fingers must have been engaged in their production. Had the leading condition been a "group arranged for effect" Mr. Chard might have stood higher, but it was not; the leading idea, and a very good one, was excellence in floral arrangements, with a few plants allowed, taste having to be considered in the staging. The four judges appointed to adjudicate were unanimous in their decisions, and they never before had three such beautiful exhibits of the same nature to judge. The prizes were £12 10s., £10, £7 10s., and £5, and were well deserved by the competitors.

The prizes of £5, £4, and £3 for two bouquets were good, and the competition was really closer than in the previous class. It was not until the two Duke's gardeners—Sutherland and Westminster—were asked to say which pair they would prefer handing to the respective Duchesses for presentation for the purposes indicated that the decision was arrived at. They preferred the bouquets of Messrs. Jones & Sons, even though the wiring of two or three blooms was rather too obtrusive in one of them. The other judges concurring, Messrs. Perkins & Son had to take the second place with very beautiful but fully large examples. Mr. Chard third. It is no easy task to win anything at Shrewsbury. In another class of the same kind Messrs. Pope & Sons, C. H. Kenrick, and F. H. Norris, all of Birmingham, secured the prizes in the order named.

Passing some minor classes we came to collections of flowers arranged in certain stipulated space—to wit, Gladioli, 12 by 5 feet; Roses, 8 by 6 feet; Dahlias, 10 by 6 feet; hardy border flowers (annuals, bulbous and tuberous-rooted plants, also shrubs excluded), 15 by 6 feet; hardy bulbous and tuberous-rooted border flowers in variety, 12 by 6 feet; and Carnations and Picotees, 10 by 6 feet, with competition in all of them, the effect in the aggregate may be as easily conceived as described. It was splendid, and all that can be said *beyond* is that the prizes of £5 to four, and in some cases to three in each class, were won by the following exhibitors in the order of their names:—Gladioli, Messrs. Harkness and Sons, Bedale; and Mr. Robert Morrow, Leominster; Roses, Mr. R. Crossling, Penarth; and Mr. E. Murrell, Shrewsbury; Dahlias, Messrs. Keynes, Williams & Co., Messrs. Pope & Sons, and Messrs. Jones & Sons; hardy border flowers (bulbous and tuberous rooted excluded), Messrs. Dickson, Chester; Messrs. Harkness & Son, and Mr. W. F. Gunn, Alton, Birmingham; hardy bulbous and tuberous-rooted flowers, first and second as in the preceding class, third Messrs. Barr and Son, Covent Garden; Carnations and Picotees, Mr. M. Campbell, Blantyre, and Messrs. Laing & Mather, Kelso.

Various kinds of flowers were shown in stands, and in some cases, as in Dahlias, Asters, Marigolds, and border flowers, the competition was keen; but it can only be said that the prizes for twenty-four Roses went in the open class to Mr. Crossling, Messrs. Proctor & Son, Chesterfield; and Messrs. Perkins & Son, Coventry, respectively; for twenty-four Dahlias to Mr. S. Mortimer, Rowledge, Surrey; Messrs. Kimberley and Son, and Messrs. Keynes, Williams & Co.; for eighteen Gladioli to Messrs. Harkness, Mr. Shaw, Kidderminster; and Mr. R. Morrow; for twelve Carnations, also for twelve Picotees, to Mr. J. Edwards, Manchester; Mr. M. Campbell, and Messrs. Proctor & Son; for twenty-four Asters to Mr. Cook, Shrewsbury; and Mr. Morrow. It should be added that Mr. Mortimer staged a large collection of Dahlias not for competition. We did not observe any special award, but two seedlings, one similar to, but not the same as, Mrs. Gladstone, were recommended to be placed before the National Dahlia Society for examination.

FRUIT.

Twenty-nine classes were provided for fruit, and substantial prizes being offered, the competition was very keen throughout. The Judges would have willingly awarded more prizes had it been in their power. Never before has such a magnificent display of fruit of such high excellence been seen at Shrewsbury.

Special Class.—In the first class devoted to fruit we had a new departure, which was suggested by the late Mr. W. Dean of Birmingham. It was for a collection of twenty-four varieties of fruit, to be staged in a space of 10 feet by 4 feet 6 inches, Lycopodium and other trailing plants, Ferns, and foliage being used for effect, tasteful arrangement being considered by the Judges in addition to the quality of the fruit. Four prizes were provided, the first being £20. There were only four exhibitors, and these each secured, as he deserved, a prize. The coveted position, as stated last week, was won by Mr. J. H. Goodacre, gardener to the Earl of Harrington, Elvaston Castle, Derby, with a tastefully arranged collection. Small graceful plants of Ferns, Palms, Pandanus, and Crotons, were slightly raised along the back, and interspersed between were some of the larger kinds of fruit, while in the front the different varieties were arranged on a groundwork of Moss with tracings of Smilax.

The fruit was of high quality, and consisted of the following varieties:—Two bunches Foster's white Grape, two large bunches of Gros Guillaume, two Muscat of Alexandria, two Morocco, Hero of Lockinge and The Countess Melons (both fine examples), two Cayenne Pines, Lady Sudeley Apple, Moorpark Apricot, Jargonelle Pear, Barrington Peach, Victoria Nectarine, Kirke's Plum, Brown Turkey Fig, Princess of Wales Peach (very good), Elruge Nectarine (beautifully coloured), Hemskirke Apricot, Pineapple Nectarine, Royal George Peach, Washington and Goliath Plums, Williams' Bon Chrétien Pear, and Powell's Apricot.

The second prize was awarded to Mr. J. McIndoe, gardener to Sir J. W. Pease, Bart., Guisborough, York, who was a close second. His fruit was of exceptional merit. He staged two bunches of Muscat of Alexandria Grapes, two Gros Maroc, two Golden Queen, a large bunch of Bananas, Best of All and Noble Melon, Violette Hative,

Stirling Castle, and Alexandra Noblesse Peach, Spencer Nectarine, Clapp's Favourite, Doyenné Boussoch, and Souvenir du Congrès Pears, Victoria, yellow Magnum Bonum, and Green Gage Plums, large Early St. Ambrose Apricot, Brunswick and Negro Largo Figs, and Lady Sudeley Apple. Coloured foliage was used in this collection.

Third, Mr. J. Edmunds, gardener to the Duke of St. Albans; Peaches and Nectarines were exceptionally good. A number of baskets were used, which gave this collection a rather heavy appearance. The fourth prize was taken by Mr. J. Mowell, gardener to H. Pitt, Esq., Abergavenny.

Collections.—In the class for eight dishes of fruit, Pines excluded, there were ten entries. The premier position was easily taken by Mr. J. McIndoe, who staged perfect examples. One large Melon, two bunches of Muscat of Alexandria Grapes, and two of Gros Maroc, Negro Largo Fig, Souvenir du Congrès Pear, Stirling Castle Peach, Lady Sudeley Apple, and Elruge Nectarine. Mr. J. H. Goodacre was second, his best fruit being Muscat of Alexandria and Alnwick Seedling Grapes, The Countess Melon, and Royal George Peach. Third, Mr. Bannerman, gardener to Lord Bagot; Peaches and Nectarines being very good in his collection. Fourth, Mr. E. Gilman, gardener to the Earl of Shrewsbury.

In the corresponding class, open to the county of Salop only; Mr. C. Bellis, gardener to Sir C. S. Rouse Boughton, Downton Hall, Ludlow, was again first. His collection consisted of Buckland Sweetwater and Black Hamburgh Grapes, Pineapple Nectarine, The Countess Melon, Barrington Peach, Moorpark Apricot, White Marseilles Fig, Morello Cherries, and Oullins Golden Gage Plum. Mr. C. Roberts, gardener to C. H. Wright, Esq., Oswestry, second; Alexander Noblesse Peach, Pitmaston Orange Nectarine, and Williams' Bon Chrétien, being very good. Third, Mr. Jno. Langley, gardener to the Rev. F. M. B. Owen, Tedsmore Hall. Fourth, Mr. S. Bremmell, gardener to H. H. France Hayhurst, Esq., Wellington.

Grapes.—In the class for six bunches of black Grapes, two bunches of three varieties, prizes of £10, £7 10s., £5, and £2 10s. were provided, and brought out a large number of competitors with fine produce. The first prize was well won by Mr. J. Craven, gardener to J. Grant Morris, Esq., Allerton Priory, Liverpool, with bunches of exceptional merit, Black Hamburgh, Madresfield Court, and Black Alicante being the varieties staged. Mr. J. Barker, gardener to J. W. Raynes, Esq., Rock Ferry, was second with Black Hamburgh, Mrs. Pince, and Madresfield Court, the latter being splendid bunches, heavy, well shaped, large berries, and well finished. Third, Mr. T. Lambert, gardener to Lord Harlech, Oswestry, who staged Gros Maroc, Madresfield Court, and Alnwick Seedling. Fourth, Mr. Bannerman.

For the class for three bunches of Black Hamburgh Grapes Mr. E. Silk, gardener to F. M. Franklin, Esq., was first, Mr. J. Craven second, Mr. O. Bennion third. For any other variety of black Grapes, three bunches, Mr. J. Barker was first with Madresfield Court, Mr. J. Craven second; Mr. G. Davis, gardener to Rev. F. Alderson, Oswestry, third. There was a large number of entries in the class for four bunches of white Grapes. Mr. Craven was first with good bunches of Buckland Sweetwater and Muscat of Alexandria. F. M. Franklin, Esq., was second with Muscat of Alexandria and Pearson's Golden Queen. Mr. J. McIndoe third, who staged Golden Champion and Muscat of Alexandria.

For three bunches of white Muscat Grapes Mr. Craven was again first, with large, well shaped bunches. W. H. Verdin, Esq., second, with much smaller bunches, but splendidly finished. Mr. Meakin third. For three bunches of any other white Grapes, Mr. E. Silk was first with heavy bunches of Pearson's Golden Queen; Mr. J. Craven second; Mr. McIndoe third.

Four classes for Grapes were open to the county of Salop only. With two bunches of Black Hamburgs the Rev. F. Alderson was first; C. H. Wright, Esq., second; and G. Burr, Esq., third. In the corresponding class for two bunches of any other black, Mr. T. Lambert was first; Mr. Jno. Langley, gardener to the Rev. T. M. B. Owen, second; Mr. S. Bremmell, third. In the class for two bunches of white Muscats, Mr. T. Lambert was again first; Sir C. H. Rouse Boughton, Bart., second; Mr. R. Darby, third. In the corresponding class for two bunches of any other white, Mrs. R. Darby was first; Rev. F. Alderson second; Sir C. H. Rouse Boughton, Bart., third. Two classes were also provided for amateurs, two bunches of black and two of white, S. N. Hale, Esq., first; G. Burr, Esq., second, for black. G. Burr, Esq., first; and J. Barker, Esq., second, for white.

Other Fruits.—Some excellent dishes of fruit were staged in the two classes for Peaches and Nectarines. For six Peaches, Mr. J. Harris, gardener to Lady Henry Somerset, was a good first, with perfect examples of Barrington; Sir G. T. Meyrick, Bart., Anglesea, being a close second, with fine, well coloured fruits of the Nectarine Peach; W. H. Verdin, Esq., third. For six Nectarines, G. F. Kynnersley, Esq., Ironbridge, first; Mr. T. Bannerman, second; Mrs. Meakin third. An extra prize was given to Mr. J. Wallis, gardener to R. Sneyd, Esq., Newcastle, Staffs. For six Apricots, Mr. S. Bremmell was first, with even, well coloured examples of Moorpark; Mr. Davis, gardener to W. E. King, Esq., Bodenham Manor, second; A. E. Darby, Esq., third.

Two classes were devoted to Plums. For twelve green or yellow, T. Meares, Esq., was first; R. L. Kenyon, Esq., second; and W. H. Verdin, Esq., third. For twelve purple or red, Mr. J. McIndoe was well first with quite ripe examples of Kirke's; Rev. T. M. B. Owen second; Mrs. Wingfield third. There were numerous exhibits in the two classes for Melons. For green flesh, Mr. J. H. Goodacre first; Mr. J. Craven second. For scarlet flesh, Mr. Craven was first, and Lord Berwick second. For a dish of Cherries, H. Pitt, Esq., Abergavenny,

was a good first with very large fruit; T. Meares, Esq., second; Mr. J. H. Goodacre third. In the class for six dishes of hardy fruits, Apricots, Peaches, Nectarines, and Plums excluded, open to the county of Salop only, T. Meares, Esq., Clive Hall, was first; Colonel R. T. Lloyd second; J. B. Wood, Esq., third. Classes for hardy fruits were also provided for amateurs.

VEGETABLES.

Whilst there may be divers opinions as to whether vegetables were seen at this great show in their highest excellence, at least there could be no question as to their quantity, for they were legion. Generally the tendency here seems to be in favour of size tending to coarseness, which is, of course, chiefly due to the annual judging, because it is evident that exhibitors soon learn to cater for the prevailing judging tastes, and give size the preference to what is commonly termed quality. Yet even at Shrewsbury it was easy to find that there was some occasional gleams of sanity in regard to quality, as now and then what would generally be regarded as quality apart from mere size came to the front, but then again there would be a lapse to the other aspect, so that it was difficult sometimes to determine just which element most widely dominated. Whenever the long-delayed Royal Horticultural Society's code of judging is complete and published, perhaps then if studied and made a guide to show awards, some approach to national consistency in judging may be possible.

The premier class was one for twelve distinct vegetables, in the schedule misnamed "varieties," but, of course, should be and was by all competitors read as "kinds." There were four collections, the first place being taken by that well-known exhibitor, Mr. Wilkins, gardener to Lady Theodora Guest, Henstridge, Dorset. This grower had huge and rather burst Cauliflowers, fine Ailsa Craig Onions, Pink Perfection Celery, Globe Artichokes, large Intermediate Carrots, Runner Beans, Satisfaction Potatoes, Telegraph Cucumbers, not very handsome; Duke of Albany Peas, Regina Tomatoes, rather large Beet, and Colossal Leeks. Mr. W. Pope, gardener to the Earl of Carnarvon, Highclere Castle, was second with a collection of distinctly high merit and evidencing superior quality. He had the best six Cauliflowers in the show—firm, white, solid, and of medium size; capital Student Parsnips, good Intermediate Carrots, clean Satisfaction Potatoes, Duchess Peas, Pink Perfection Celery, superb Cranston's Excelsior Onions, handsome Pragnell's Beets, good Ne Plus Ultra Runner Beans, Colossal Leeks, Polgate Tomatoes, and nice Telegraph Cucumbers. Mr. R. Milner, gardener to Miss Talbot, Penrice Castle, was third.

A similar class, confined to the County of Salop, brought seven entries, the best collection being that from Mr. J. Birch, gardener to Mrs. Watkins, Shelton Hall. He had huge red Celery and Beet, small Cucumbers and Tomatoes, rather poor Potatoes, good Carrots, Turnips, and Onions, very good Peas, but rather coarse Cauliflowers. Mr. R. Townsend, gardener to Colonel R. T. Lloyd, Oswestry, was second with a collection of appreciable merit; Mr. J. Abbott, gardener to Mrs. Guise, Hadnal, was third.

In collections of Potatoes there were sixteen half dozens of dishes in the larger class, Mr. Pope being first with clean bright samples of Sutton's Prizetaker and Reading Russet (coloured), Supreme, Windsor Castle, Satisfaction, and White Kidney (whites). Mr. Hathaway, gardener to the Earl of Lathom, Ormskirk, was a very close second with good Chancellor, Satisfaction, Scarisbrick Favourite, and General Roberts (whites), Edgcote Purple and Peerless Rose, otherwise Mr. Breesee (coloured); Mr. F. Dobson, Keele, Newcastle, was third. He had Satisfaction, International, Colonel, Lady Truscott, Peerless Rose, and Vicar of Laleham. With three dishes, there being eighteen entries, Mr. Pope was again first with Supreme, Windsor Castle, and Satisfaction; Mr. Hathaway being second, having Webb's white round Goldfinder (fresh); and Mr. Cumberbatch, Silverdale, Salop, was third.

In the class for one dish only there were thirty-six lots. Mr. Wilkins came first with very large smooth Satisfaction; Mr. Hathaway, with the same variety still larger; and Mr. Pope was third with rounder and handsome samples, smaller, yet in the South would be esteemed fully large.

Tomatoes were good, Mr. Wilkins coming first with handsome Sensation of the Perfection class, Mr. J. Cooke, Corner Farm, coming next with the same, Mr. Waite, gardener to the Hon. Col. Talbot, Esher, being third with smaller but attractive samples of the same variety. These were in Messrs. Webb & Sons' class, whilst in the Society's class Mr. Craven, gardener to J. G. Morris, Esq., Liverpool, was first with handsome Sutton's Perfection, Mr. Wilkins coming second.

Peas were in great force and excellent, the best dish of Ne Plus Ultra coming from Mr. Jones, gardener to G. C. Shorting, Esq., Broseley, and Mr. J. Roberts, gardener to W. E. Oakley, Esq., Tany-bwlch, was second with a fine podded form named Alderman, Mr. Townsend coming third with young pods of the same variety. With Dwarf French Beans Mr. Waite was first out of thirty dishes with handsome Canadian Wonder, and of Scarlet Runners, of which there were thirty-six dishes, Mr. E. Walker, Whitechurch, was first with good Ne Plus Ultra. Cucumbers were very inferior, though there were sixteen bracc shown. The first prize was taken by Mr. Lawley, gardener to Mrs. Darby, Baschurch, with a dark unnamed variety.

There were seventeen lots of three Cauliflowers, Mr. Birch being placed first, Mr. Roderick, gardener to A. M. Biddulph, Esq., Chirk Castle, second, and Mr. Huxter, gardener to J. B. Wood, Esq., Ludlow, third, all having Autumn Giant. Of Celery there were twenty-four lots of three stems, Mr. J. Abbot having the best in massive Giant White, and Mr. Birch was second with Giant Red, Mr. Roberts coming third with smaller White Plume. There were sixteen half dozens of Parsnips; those placed first long and narrow, being about 2 feet to the

points, came from Mr. J. Edwards, gardener to W. St. J. Hazeldine, Esq., Shrewsbury, Mr. Birch having the second, also very long.

There were twenty lots of Carrots, Mr. Birch being first with rather large and long New Intermediate; Mr. Hathaway coming second, and Mr. Risebrow, gardener to Col. Kenyon, Slaney, third, all with the same variety. Generally these Carrots showed a tendency to become rivals of the Long Surrey rather than to be true Intermediates. Of Turnips there were twenty-three lots, the best clean Snowball coming from Mr. Townsend, and Mr. Bellis, gardener to Sir C. H. Rouse Boughton, Ludlow, whilst the third prize was awarded to a very clean, deep-coloured sample of Golden Gem from Mr. Hathaway, but they had very concave bases.

We need not refer to the amateurs' vegetables, which were very good, or to those from cottagers, of which there were immense quantities, so many as sixty-three dishes of Runner Beans being shown in the single dish class. Some of the samples were very good indeed, others large and coarse. In certain cases the judging here was erratic, as, for instance, in Shallots, the large red big samples were selected for the first, third, fifth, and sixth prizes, whilst singularly clean and handsome proper Shallots, about half the size, came second and fourth. There ought to be two classes for Shallots. In the class for three Cauliflowers, heads relatively small, clean, and solid were first, third, and sixth, and quite big heads came second, fourth, and fifth.

Special Prizes.—There was a large entry for Messrs. Sutton and Sons' class for nine vegetables, the firm offering £15 in six prizes, bringing twelve entries. Here Mr. Hathaway was first with Mammoth Cauliflowers, Sulham Prize Celery, New Intermediate Carrots, Ailsa Craig Onions, Ne Plus Ultra Runner Beans, Satisfaction Potatoes, Matchless Marrow Peas, Prizetaker Leeks, and Perfection Tomatoes. Mr. W. Pope was second, having Progress Cucumbers, Mammoth Cauliflowers, Ailsa Craig Onions, Solid White Celery, New Intermediate Carrots, Duke of Albany Peas, Supreme Potatoes, and Perfection Tomatoes. Mr. Waite was third; Mr. W. Leith, gardener to J. R. Greatorex, Esq., Mytton Hall, fourth; Mr. Wilkins fifth, and R. Milner sixth.

Nine exhibitors competed for Messrs. Webb & Sons' prizes for a class for eight vegetables, Mr. Wilkins coming first here, having huge Giant White Celery, Autumn Giant Cauliflowers, Intermediate Carrots, Ailsa Craig Onions, Duke of Albany Peas, Sensation Tomatoes, Satisfaction Potatoes, and Giant Runner Beans. Mr. Pope was second, having almost similar kinds, and Mr. Hathaway third.

Messrs. Jas. Carter & Co. offered prizes for Runner Beans, Mr. Craven taking first place. For a single Melon of their sending out Mr. Waite was first with Holborn Favourite, and for prizes for four dishes of salad, Mr. Empson, gardener to Mrs. Wingfield, Amphill House, was first, having good Perfection Beet and Model Cucumbers, Curled Endive, and Cabbage Lettuce. Messrs. Waite and Wilkins were second and third.

Mr. E. Murrell's class for eight vegetables, four competitors, Mr. Birch was first. Mr. C. Bellis was the only exhibitor in Messrs. Pritchard and Son's class for six vegetables. Mr. Pope had the best three lots of Onions, in fine bulbs of Lord Keeper, Ailsa Craig, and Royal Jubilee, Mr. Wilkins being second. Mr. Crews offered prizes for single Onions, Mr. Wilkins taking 21s. with a fine Ailsa Craig. Mr. R. Sydenham gave a large number of money prizes as extras in twelve single dish classes, and Messrs. Clibran & Sons had special classes for Tomatoes and Cucumbers.

SPECIAL AWARDS.

Miscellaneous exhibits were of great excellence, and well merited the honours bestowed. Messrs. James Veitch & Sons has a grand exhibit of new Caladiums, Cannas, and new forms of Streptocarpus, with splendid Nepenthes (gold medal).

Messrs. Birkenhead & Sons arranged one of the most extensive and diversified collections of Ferns they have ever exhibited—a highly meritorious display (gold medal).

Messrs. Pritchard & Sons had an immense and varied assortment of plants and flowers, all in excellent condition (gold medal).

Mr. H. Eckford exhibited an extensive collection of Sweet Peas, tastefully displayed in a great variety of attractive colours (gold medal).

Mr. James Roberts, Gunnersbury House, exhibited the collection of Cape Pelargoniums which he has grown so well for Mr. Leopold de Rothschild, some of the fan-shaped plants being 8 feet in diameter—altogether about fifty plants, and a great contribution to the show (gold medal).

Messrs. W. Clibran & Son, Altrincham, staged a collection of Cactaceous plants, the varied and grotesque forms of which attracted much attention (silver-gilt medal).

Silver medals were unanimously adjudged to Mr. B. R. Davis, Yeovil, for a beautiful assortment of tuberous Begonias in high-class varieties of varied colours; to Messrs. Richard Smith & Sons, Worcester, for a large and well selected assortment of stove and greenhouse plants; to Mr. Biddles, also to Mr. Hewitt, for excellent collections of border flowers; to Mr. Murrell, also to Mr. Myers, for fine assortments of Begonias and Cannas; to Messrs. Cutbush & Sons for an imposing stand of plants and flowers; also to Messrs. John Cowen & Co. for a charming group of Tea-scented Roses, the plants being admirably grown in small pots and flowering profusely.

A certificate was awarded to Mr. W. Empson, gardener to G. Wingfield, Esq., for the new Grape Mrs. Wingfield; also to Mr. W. Palmer, Andover, for Palmer's Triumph Tomato.

Such is a record of some at least of the prizewinning exhibits of this great show. The weather was fine throughout, and this naturally contributed to the enormous attendance. The financial results are unexampled, the receipts from all sources exceeding £3900.

LILIUM JAPONICUM COLCHESTERI.

AT a recent meeting of the Royal Horticultural Society held at the Drill Hall, Westminster, some magnificent specimens of this Lily were staged by Messrs. R. Wallace & Co., Colchester, and attracted a great amount of attention and admiration. This is said to be synonymous with *Lilium odorum*, which was introduced into this country in 1804, and such being the case, it is difficult to see the object of the newer name of *L. j. Colchesteri*. In Dr. Wallace's "Lilies and Their Culture" the flowers are described as "sweet scented, usually solitary, white on the inside, and more or less tinged with purple on the outside; perianth, 5 or 6 inches long, broadly funnel-shaped, gradually widening from the base to the neck, where it is from 15 to 18 lines in diameter." The blooms, as may be seen by the woodcut (fig. 29), are very handsome, and it is evidently a *Lilium* that is worthy of far more extended culture, thoroughly deserving of the first-class certificate accorded to it.

ROYAL HORTICULTURAL SOCIETY.

DRILL HALL.—AUGUST 27TH.

THE meeting of the Committees at the Drill Hall on Tuesday did not bring together such a large display of flowers as might have been expected, but doubtless many exhibitors are now holiday-making. Asters and Gladioli with other hardy flowers were splendidly staged in the floral section, while fruit made a handsome display. Orchids were not at all numerous.

FRUIT COMMITTEE.—Present: P. Crowley, Esq. (in the chair); and Rev. W. Wilks, H. J. Pearson, T. F. Rivers, J. H. Veitch, G. W. Cummins, T. J. Saltmarsh, G. T. Miles, W. Farr, G. Norman, G. Reynolds, F. Q. Lane, H. Balderson, C. Herrin, J. Willard, A. Dean, G. Fyfe, and J. Wright.

Several examples of fruit, more or less meritorious, were placed before the Committee for examination, and interesting collections were staged in the hall. Messrs. Veitch & Sons, Chelsea, sent a bearing branch of *Reine Claude du Comte d'Althar* Plum (Count Althann's Gage). This is a fine form of the Green Gage, reddish purple with yellow dots, ripening in September. The fruits before the Committee were not ripe. Messrs. Veitch also sent fruits of the *Transparent Crab*, reddish gold in colour, very ornamental as well as useful for certain culinary purposes. This is a very old variety, and was granted an award of merit. From the same firm came fruits of *Comtesse de Montijo* Peach, having somewhat the appearance of *Grosse Mignonne*, but not equal to that fine old Peach in flavour; also fruits of *Temple's No. 1* Apple. They were of good size and very highly coloured. This is a very showy Apple, which may be expected to cook well while passable for dessert. If the tree is a good grower and free bearer the variety would be likely to prove good for supplying tempting-looking fruit for market. Particulars were requested as to its origin, growth, and fertility as points for consideration in view of a possible award; fruits of *Beauty of Moray* were placed on the table. It is a good sized symmetrical Apple, like *Seaton House* in appearance, yet not identical with it.

Messrs. Bunyard & Co. sent fruits of *Williams' Favourite* Apple, a deep red conical early Apple, very sweet, tender, and handsome. Mr. Rivers, who has grown this Apple for many years, described the tree as a good grower, free bearer, and very ornamental. He recommends it as a garden Apple. An award of merit was accorded.

Messrs. Cannell & Sons sent large handsome fruits of the King Tomato. In accordance with the usual practice the variety was recommended to be tried at Chiswick. Mr. W. Rapley sent fine fruits of Sutton's Perfection Tomato, grown out of doors at Harrow Weald House (vote of thanks).

From the gardens of Right Hon. Sir T. D. Acland, Killerton, Devon, came a dish of a seedling Peach like *Royal George*, but a clingstone, and no award was made. Mr. A. Bishop sent a seedling Nectarine from Westley Hall, Bury St. Edmunds. It was supposed to have resulted from Goldoni and Victoria. Its flavour was affected by the packing material—hay—and no award was proposed. Mr. W. Potten, Camden Nurseries, Cranbrook, sent fruits of a large form of the Siberian Crab, but the variety was not thought to possess special merit. Several new Melons were tasted, but though some of the fruits were handsome, not one possessed dessert qualities entitling to any award.

Handsome fruits of the Frogmore Prolific Cucumber were sent from the Royal Gardens. Mr. F. K. Eames, Twickenham, also sent a large Cucumber. As a Cucumber trial has been proposed at Chiswick, both varieties were recommended to be grown there, with others, for comparison and testing their merits.

Mr. G. Wythes sent plants of Syon House Prolific Dwarf Kidney Bean. Through some mistake this variety was not included in the Chiswick collection, and no award could be made under the circumstances. The plants were bearing abundantly. Mr. A. G. Hooking, The Gardens, Almondsbury, Gloucestershire, sent bearing haulm of Hooking's Prolific Kidney Bean—a running form and very prolific, with striped pods when old, green when young. Referred to Chiswick for trial; as also was a fine looking Pea, of which well-filled pods were sent by Mr. F. McCure from Hartley Grange, Winchfield.

Among the collections of fruit sent Messrs. Veitch & Sons staged eighty-five dishes, including Plums, Pears, and Apples—a beautiful display of good typical fruits of the several varieties (silver-gilt Knightian medal). Mr. Owen Thomas sent a collection of thirty-six

varieties of Plums from Frogmore—excellent fruits and an interesting contribution (silver Knightian medal). Messrs. S. Spooner & Sons, Hounslow, sent fifty dishes of Apples and Plums (silver Banksian medal); and Mr. J. Miller sent Apples, Figs, and Melons from Ruxley Lodge (vote of thanks).

FLORAL COMMITTEE.—Present: W. Marshall, Esq. (in the chair); with Messrs. Owen Thomas, J. Fraser, J. Laing, C. T. Drnery, H. Herbst, R. Owen, G. Stevens, J. W. Barr, G. Nicholson, C. E. Pearson, G. Gordon, H. S. Leonard, H. Cannell, J. D. Pawle, H. Bennett Poë, H. Turner, G. Paul, C. Blick, and H. B. May.

A bright feature in the show was a large and varied display of Gladioli spikes exhibited by Messrs. Kelway & Sons, Langport, which occupied a large extent of tabling. The flowers all showed unmistakable signs of high culture, being of good substance, and very distinct. Amongst others particularly worthy of mention were *Morse*, *Dolops*, *Onabus*, *Donatus*, *Geta*, *Orasus*, *Opiter*, *Gildo*, *Kate Kove*, *Helotes*, *Dorus*, and *Brantford*, all of which were well clothed with flowers of great beauty (silver-gilt Flora medal).

The large bank of Asters in pots staged by Messrs. Jas. Veitch and Sons, Chelsea, was much admired, as the display was formed of well flowered plants in great variety. Many distinct shades of colour were noted, and amongst others worthy of mention were a basket of rose bedding Aster German Emperor in a variety of colours; *Triumph*, fiery scarlet, together with many shades of *Pæony*-flowered *Perfection*, dwarf *Chrysanthemum* flowered, rose flowered, *Pompon* imbricated, and others (silver Flora medal). Very attractive also was the display of Asters from the Orpington Nursery of Messrs. Dobbie and Co., Rothesay. Careful attention has evidently been given by the firm to the cultivation of this flower, with the result that many fine forms were exhibited, conspicuous amongst which were the fine *Giant White Comet* Aster *Princess Mignon*, together with varied groups of *Victoria Quilled Globe*, *Comet*, and *Pæony*-flowered (silver Banksian medal).

Dahlias were tastefully exhibited by Mr. Charles Turner, Slough. Amongst the Cactuses, *Leonora*, *Atalanta*, Mrs. Charles Turner, *Endymion*, and *Beatrice* were effective; *Marjorie*, *Dante*, *Mabel Stanton*, and *Barbara* being the best Show varieties; whilst *Pompons Purity*, *Ida*, *Pearl*, *Raphael*, *Nora*, *Douglas*, *Jessica*, *Vulcan*, and others made up a pleasing display. Mr. G. Harris, Orpington, sent *Fancy Dahlias Beauty of the Grove*, *Sepoy*, *Mabel*, and double *Yeoman*. Mr. Mann, gardener to C. F. Thompson, Esq., Cardiff, sent a collection of Gladioli spikes and flowers of yellow *Dahlia Taffy*. Messrs. J. Peed & Sons, Norwood, sent flowers of *Pompon Dahlia Tom Peed*. From the Royal Horticultural Society's Garden at Chiswick came a group of *Saxifraga sarmentosa* tricolor *superba*, a pretty and distinct form, admirably grown in shaded and rather damp corner of the greenhouse. A collection of hybrid *Fuchsias* came from Mr. Philip May, West Malling. A bright and effective display of hardy herbaceous flowers came from the nursery of Mr. Pritchard, Christchurch, and amongst others were noticed *Lilium tigrinum plenum*, *Coreopsis lanceolata*, *Funkia lancifolia*, *Aconitum autumnale*, *Montbretias Solfaterre* and *Pottsi grandiflora*, *Anemones japonica elegans* and *Whirlwind*, *Tritoma Pfitzeri*, and *Scabiosas caucasica* and *caucasica alba* (silver Banksian medal). Mr. J. Ouvrard, Kilburn, sent a group of foliage plants, which included well grown specimens of *Phrynium variegatum* and *Maranta major* (bronze Banksian medal).

Messrs. Hugh Low & Co., Clapton, staged fine specimens of *Alocasia Lowi grandis*, and also plants of *Ericas cerinthoides coronata*, *verticillata major*, and *mammosa*. Messrs. Paul & Son, Cheshunt, were represented by a fine collection of *Phloxes* and hardy herbaceous flowers. The former made a pleasing display, and were composed chiefly of *Granville*, *John Forbes*, *Delicata*, *Etna*, *Iris*, *Le Soleil*, *African*, *Aurore*, *Molière*, and *Augusta Rivière*. Amongst the latter were noticed *Rudbeckia purpurea*, *Coreopsis lanceolata*, *Gaillardia grandiflora*, *Anemone japonica*, *Arnebia echioides*, *Boltonia incisa*, *Clematis Davidiana*, *Ceanothus pallidus*, *Acacia neo-mexicana*, *Kerria japonica*, *Crassulas rubicunda* and *Cooperi*, *Hydrangea paniculata*, and *Althæas* in variety (silver Flora medal).

A large amount of space was occupied by the diversified collection of hardy flowers exhibited by Messrs. Barr & Son, Covent Garden; like all exhibits of this well-known firm, variety was a great point, and many forms of Asters, Dahlias, Pentstemons, Lilioms, and Gladioli were included in the display. Many other hardy flowers were present, including *Antirrhinum Queen of the North*, *Hyacinthus candicans*, *Helianthus Soleil d'Or*, *Gaillardia grandiflora hybrida*, *Rudbeckia speciosa*, *Anthemis Canary Bird*, *Heliopsis scabra*, *Eupatorium Fraseri*, *Lobelia Milleri*, and *Montbretia pyramidalis* (silver Flora medal).

The exhibit of Messrs. H. Cannell & Sons, Swanley, formed a notable feature, composed, as it was, of a small but effective group of sturdy, well-flowered Begonias; a fine collection of Cannas, which included good flowers of *Sunset*, *Glow*, *Aurore*, *Progress*, and *Colibri*; a group of twenty-four distinct Cockscombs, all exhibiting signs of good culture; a diversified display of Cactus Dahlias, including Mrs. H. Cannell, *Lady Primrose*, *Lilacina*, *Robert Cannell*, *Germania*, *Red Dragon*, *Earl of Pembroke*, and *Gloriosa*; and also half a dozen huge double Sunflowers. The same firm also staged magnificent blooms of double *Fancy Dahlias Grand Duc Alexis*, *Le Siam*, and *Le Colosse* (silver Flora medal). Mr. T. S. Ware, Tottenham, sent a handsome collection of *Lilium* blooms of the *auratum* type, and also flowers of *Pompon Dahlia Dorothy*, *Cactus J. H. Roach*, and single *Rev. George Bogges* (bronze Flora medal). Unmistakeable evidence of superior culture

was evinced in a fine collection of Crotons, interspersed with Maidenhair Ferns, which was staged by Mr. J. McLeod, gardener to J. Morgan, Esq., Roehampton. The plants were all sturdy, varied, and well coloured. Amongst others worthy of mention were Laingi, Mrs. Dorman, Etna, Majesticus, Earl of Derby, Mr. Bause, Prince of Wales, Reidi, Queen Victoria, Golden Ring, Sunshine, Variegata, Lord Chelmsford, Lady Zetland, and Angustifolius (silver Flora medal).

fordiense. De Barri Crawshay, Esq., Sevenoaks, exhibited a grand specimen of Odontoglossum Uro-Skinneri Rosefield variety.

Messrs. H. Low & Co., Clapton, arranged a small collection of Orchids intermingled with foliage plants; Cypripediums, Cynoches and others were seen amongst the Orchids. A group of Orchids was staged by Messrs. W. L. Lewis & Co., Southgate. These were somewhat stiffly arranged over a groundwork of Ferns, but several beautiful kinds were



FIG. 29.—LILIUM JAPONICUM COLCHESTERI.

ORCHID COMMITTEE—Present: Dr. M. T. Masters (in the chair); with De B. Crawshay, H. M. Pollett, W. H. White, J. T. Gabriel, H. J. Chapman, T. Statter, J. Jacques, E. Hill, T. W. Bond, W. Cobb, A. H. Smee, and H. Ballantine.

Mr. G. W. Cummins, gardener to A. H. Smee, Esq., The Grange, Wallington, staged two Orchids, *Aeranthus grandifolius* and a *Catasetum* species for naming. Mr. White, gardener to Sir Trevor Lawrence, Bart., Dorking, showed plants and spikes of Orchids, amongst which were noticed a fine piece of *Dendrobium Hookerianum*, a beautiful *Catasetum Bungei*, *Odontoglossum Krameri*, *Staurosis philippinensis*, *Oncidium Lanceanum*, *O. hæmatochilum* and *Cypripedium Morganii* bur-

noted, such as *Cattleya gigas*, *C. Harrisonæ*, *Dendrobium cruentum*, *Habenaria Susannæ*, and *Cypripediums Evenor superbum*, *Aeranthum* and *Charlesworthi*. Mr. Hughes, gardener to E. H. Woodhall, Esq., Scarborough, sent a grand *Vanda cœrulea*, *Cypripedium Stonei* and *Odontoglossum coronarium*.

The Orchids exhibited by Messrs. James Veitch & Sons, Chelsea, were not very numerous, but were as usual of splendid quality. Most conspicuous were *Grammatophyllum Rumphianum*, *Vanda Sanderiana*, *Cattleya Dowiana*, *C. Eldorado alba*, *Cœlogyne Veitchi* (see below), *Lælio-Cattleya Proserpine*, and *Cypripediums tonsum superbum*, *warhamiense*, *Charlesworthi*, *Curtisi*, and *Charles Canham* (silver Flora

medal). Mr. Johnson, gardener to T. Statter, Esq., Stand Hall, Manchester, sent a beautiful group of Orchid flowers, comprising *Dendrobium Phalaenopsis Schröderianum*, *Laelio-Cattleyas* in variety, *Cattleya Gaskelliana alba*, *C. aurea*, *C. Rex*, *C. guttata Leopoldi*, *Laelia elegans Oweniæ* (see below), *Laelia elegans* in variety, and others (silver Flora medal). Mr. Stafford, gardener to F. Hardy, Esq., Ashton-on-Mersey, sent three Orchids, including *Oncidium Kramerianum*, *Laelio-Cattleya Hardyana*, and *Laelia elegans Turneri*. An award of merit was accorded to Mr. T. Bond, gardener to C. Ingram, Esq., Godalming, for *Laelio-Cattleya Charles Darwin*. The same exhibitor also had *Cattleya Gaskelliana rosea*, *Laelio-Cattleya Elstead Gem*, and *Laelia Turneri elsteadense*.

The Orchids staged by Messrs. F. Sander & Co., St. Albans, were very beautiful indeed, and at the same time very diversified. *Cypripedium acaule* superbum, *Cattleya Fowleri*, *Dendrobium Phalaenopsis Schröderianum*, *cruentum*, and *bracteatum*; *Burlingtonia pubescens*, *Cattleya Gaskelliana*, *Masdevallia gemmata*, *Oncidium Forbesi*, *Odonoglossum vexillarium* and *Coradinei*, *Cattleya aurea* Mrs. F. Hardy, and *Oncidium Jonesianum* (silver Banksian medal).

CERTIFICATES AND AWARDS OF MERIT.

Acacia neo-mexicana (Paul & Son).—This useful *Acacia* has large flowers of a dull purplish rose colour (award of merit).

Alocasia Lowi grandis (H. Low & Co.).—This is a fine form, having large leaves of good substance; the leaves are green, having clearly defined ribs, adding much to its attractiveness (award of merit).

Cattleya aurea Mrs. F. Hardy (F. Sander & Co.).—This is an extremely beautiful variety. The petals are pale cream, the sepals being of a slightly darker shade. The outer portion of the lip is rich maroon, this shade prevailing into the throat, which is veined with crimson (first-class certificate).

Cælogyne Veitchi (J. Veitch & Sons).—This Orchid has small creamy white flowers borne in long, pendulous racemes (award of merit).

Dahlia Beatrice (C. Turner).—A Cactus variety with large blooms of a magenta hue (award of merit).

Dahlia Dante (C. Turner).—A handsome Show Dahlia of symmetrical shape. The colour is deep velvety crimson (award of merit).

Dahlia Douglas (C. Turner).—This is of the Pompon type, the colour being blackish crimson (award of merit).

Dahlia Fabio (C. Turner).—The flowers of this Pompon variety are of splendid shape and orange scarlet colour (award of merit).

Dahlia Leonora (C. Turner).—Cactus type. The colour is deep rose; the shape is excellent (award of merit).

Dahlia Mabel Stanton (C. Turner).—This is a shapely canary-yellow Dahlia, of the "Show" type (award of merit).

Dahlia Purity (C. Turner).—A beautiful pure white Pompon, of good form (award of merit).

Dahlia Nerissa (C. Turner).—This Pompon has magenta flowers of perfect shape (award of merit).

Dendrobium Hookerianum (W. H. White).—A charming yellow Dendrobe with a hairy edged lip, having two deep chocolate blotches (award of merit).

Gladiolus Brantford (Kelway & Son).—This is a small-flowered form of a velvety crimson colour (award of merit).

Gladiolus Dolops (Kelway & Son).—This variety has orange-crimson flowers splashed with brown. The blooms are large (award of merit).

Gladiolus Kate Kove (Kelway & Son).—The flowers of this variety are white sparsely splashed rosy lake (award of merit).

Laelio-Cattleya Charles Darwin (T. W. Bond).—This charming bigeneric hybrid is the result of a cross between *Laelia Turneri elsteadense* and *Cattleya maxima*. The sepals and petals are shining purplish rose, the lip being rich velvety purplish maroon, with yellow bands at the throat. The side lobes are pale rose tipped with purplish rose. The woodcut (fig. 28, page 197), sketched at the Drill Hall, depicts the form of the flower (award of merit).

Laelia elegans Oweniæ (R. Johnson).—Sepals deep rose tinged with buff, the petals being rose veined crimson. The lip is of deep velvety crimson (award of merit).

Scabiosa caucasica alba (M. Pritchard).—A good white form with large flowers, very distinct (award of merit).

Tritoma Pfitzeri (M. Pritchard).—This handsome kind is of the same shade as *T. Uvaria*, but the spikes of flowers are considerably larger (award of merit).

RAISING AND PREPARING VINES FOR PLANTING.

I HAVE read the remarks by your two correspondents, page 185 and 186 of last week's Journal, both of them thinking that Vines could not be grown in a 3-inch pot with plenty of fibrous roots.

I have a number of Vines in 2½-inch pots which I thought of planting early this month if I had been able to get the houses finished soon enough. They are 18 inches high, having a leaf at every 2 inches which is fairly well developed considering the conditions under which they were grown. Speaking of the roots, they are one mass of fibres, there being hundreds of them about 1 inch in length.

If these Vines could have been planted in the house they would, under suitable conditions, have made 7 feet of rod in two months, and this—when cut back to 3 feet—in a suitable condition for fruiting the following year. But some may say, "Would the wood be ripened?"

Yes; I have no reason to think but what it would; for this is an easy matter, provided the roots have a good supply of food, and that in a readily available form—it being not so much a matter of very hard wood, as that which has plenty of food material stored up for future growth. Be that as it may, I have not yet been able to try it, so cannot speak from experience, but I am sending the Editor one of my straw-like Vines out of a 2½-inch pot, and perhaps he will be kind enough to tell the readers what kind of roots they have produced.—A GRAPE GROWER.

[The young Vine has a wig-like mass of roots, and we have no doubt would do what our correspondent indicates if under his management, for he is an expert in Grape growing. At the same time we should much prefer, and so we think would "A Grape Grower," if he had seen it, the stronger Vine from a 6-inch pot with its far greater root power, once sent to us by Mr. David Thomson, and the photographic representation of which we reproduced by request in our issue of July 11th, page 43.]

It may be of interest to those who are following the "Vines in Pots" controversy to know the practice of the trade in the matter. Several thousands of young Vines are grown annually both for wholesale and retail trade, and as they have to be distributed throughout nearly the whole kingdom, and the carriage is a serious item, the size of the pot is not likely to be chosen at random. The smallest size in which we can grow a planting cane which will satisfy ourselves and our customers generally is one 9 inches in diameter, and a fruiting cane in one 11½ inches. On turning them out of pots at the end of the season the balls seem little else but a mass of roots, to disentangle which is well-nigh impossible without breaking them. This points to the conclusion that, provided soil, light, air, and moisture are what they should be, the Vine must of necessity in a smaller pot be crippled and stunted in growth, if not also in constitution.—TRADE GROWERS.

MR. JOHN THOMSON labours hard to upset my little Vines and the 3-inch pots, and endeavours to prove that in quoting Mr. D. Thomson's letter I am condemning myself. Mr. D. Thomson states that he has tried two different methods of preparing Vines for planting, and recommends the Vines grown in 6-inch pots. If Mr. J. Thomson thinks that I quoted Mr. D. Thomson's letter for the purpose of proving my case, he never was wider of the mark; but Mr. Thomson certainly goes a long way in support of my method. What I have stated is long since an established fact, and it is of very little importance whether my mode of procedure meets with the approval or condemnation of anyone. My reason for quoting Mr. D. Thomson's letter was that he was practical and not theoretical. I am convinced that the 6-inch pots for planting Vines recommended by Mr. Thomson is a step in the right direction.

Mr. John Thomson has apparently become so biased that he can only see one side of the subject. He tries to draw a comparison between Mr. D. Thomson's Vines in 6-inch pots and my little Vines in 3-inch pots. The circumstances are widely different. Mr. Thomson's were grown for spring planting. My Vines were planted in the summer. If Mr. J. Thomson will refer to my letter (April 18th) he will see that I had no thought of planting until the following spring, and would not have used these Vines at all, but have raised a fresh supply from eyes. "But this is the lesson." My little Vines, poor as they were, made such marvellous growth that they surprised me. I have never seen Vines do better under any circumstances.

If I have wandered from the beaten track I am afraid Mr. J. Goodacre, Elvaston Castle Gardens, will have a good deal to answer for. I have known that renowned Grape grower to actually abolish pots altogether, and stick his Vine cuttings into the border like so many Willows, and they have developed into splendid canes before the end of the season.

In 1889 I had occasion to clear out a lean-to house of Black Hamburgh Vines which had been forced. The crop was cut early in June, and as soon as the border was ready I planted the house with Muscat of Alexandria, and again the following year, 1890, I planted a span-roofed house 100 feet in length during the last week in May with Gros Colman. The Vines in both houses were raised from eyes in February and March of the years named, and were allowed to remain in 3-inch pots until they were planted. The latter house is the one referred to by Mr. Bolas in his letter, May 2nd.

The Vines were planted 2 feet 6 inches apart, and between the Vines were planted two Tomatoes, and the body of the house was also filled with Tomatoes growing on a temporary wire trellis; in all we had 1000 Tomato plants besides the Vines in this house. I have never seen Vines do better. The following season they carried six and seven bunches each of first-class, highly finished Grapes, and yet when these Vines were planted they only possessed four or five leaves, and some of them were only very indifferently rooted. I always find that Vines planted out, however small they may be, will do very much better under good management than they do in pots under the best of treatment.

Surely Mr. John Thomson does not think that I am so foolish as to imagine that a Vine in a 3-inch pot could possibly possess as many roots as one in a 6-inch pot, but he is evidently anxious to lead us to believe that a 3-inch pot is not capable of holding roots at all. However, I am glad to note a marked improvement during the last few weeks. In his letter in reply to "Grower" (page 111), he highly approves of the 10-inch pots, and states that he has no doubt "Grower's" practice is the correct one. In his letter of last week he is pleased to put his stamp of approval on Mr. D. Thomson's Vines in 6-inch pots. Who can

tell but that in three weeks more my little Vines in the 3-inch pots may come into favour? At any rate, it is gratifying and encouraging to find that he is moving in that direction.—W. INNES, *Derby*.

[We suspect that if the two Messrs. Thomson, Mr. Innes, and "A Grape Grower," had the choice of a number of Vines for planting there would be little difference between them in their preferences. They all know very well that a comparatively small short-jointed cane with an abundance of fibrous roots is better for planting than is a luxuriant looking but plethoric cane with comparatively few fibrous roots. Choosing the strongest Vines obtainable, regardless of the condition of the roots, shaking them out, planting and leaving the canes their full length is a custom that has led to many failures in Grape growing. The gist of this discussion is that the root force must preponderate over the cane area in choosing Vines for planting, and if that truth is more firmly established our correspondents will have done great good in this instructive controversy.]

CODONOPSIS CLEMATIDEA.

THE genus *Codonopsis* is included in the *Campanula* family, and several of its members are very suggestive of the medium-sized Bell-



FIG. 30.—CODONOPSIS CLEMATIDEA.

flowers of erect habit. The climbing annual *Codonopsis*, *C. rotundifolia*, is perhaps the best known together with its beautiful variety *grandiflora*, the yellowish flowers being veined with dark purple. *C. clematidea* (fig. 30) is not too frequently seen, however, although it is an attractive plant of considerable merit as a hardy perennial. It is a native of elevated regions in Asia, and produces its neat bell-shaped pale blue flowers at the points of the slender stems, which rise to the height of 2 or 3 feet. The flowers have a charming appearance when cut and arranged with other flowers or foliage in vases.

RIPENED WOOD.

I AM glad to see our friend "The Sceptic" on his favourite topic again—viz., ripened wood (page 174), and he has evidently got some ground for his remarks.

Your correspondent who signs himself "Another D." tries to prove that the wood of 1894 could not be sappy because the moisture in the soil was only restored to its equilibrium by the rains of the same year. I have always been under the impression that it was not the question of how much water the soil contained which determined whether the wood will ripen, but to the amount of sunshine consistent with a good supply of water at their roots, so that plenty of food material could be formed for the future use of the trees.

Experience shows us clearly that trees in a dry soil during a hot sunny year like 1893 were worse off than those of 1894, which had more water and less sun, for the food material cannot be formed unless there be a sufficient supply of moisture in the soil, neither can it if there is not enough sunshine. We do not want our wood haked like it was in 1893, for this is no proof that our crops will be at all favourable, but rather plenty of sun with a good supply of rain, and then the leaves of trees can do their work with greater advantage to themselves and to their future crop.

Re ripened wood. Take for instance the growth of the Grape Vine. After the laterals are stopped they soon send out sub-laterals, which in some cases have one or two embryonic bunches of Grapes on them. If these be left to grow they will be equally as good as those bunches left in the first instance. They are not produced on ripened wood, but that of the current year, which is green and sappy.

We do not let our Cucumber plants get hard and woody if they are to produce good crops, but rather keep them vigorous and growing. Neither must Tomato seed be saved from ripe fruit to produce good plants, the green ones being equally as good.—W. D., *Turnford, Herts.*

HORTICULTURAL SHOWS.

KINGSWOOD.—AUGUST 21ST.

ALTHOUGH only established five years ago the Kingswood and West Gloucestershire Society has rapidly attained to first rank, and what is equally satisfactory promises to maintain its present position. It was thought that not far short of 13,000 visitors passed through the gates, and this naturally meant a considerable crush in the various tents provided for the display of plants, cut flowers, fruit, and vegetables. Messrs. F. H. Jullion and A. W. Cottle are the Honorary Secretaries, and these gentlemen, well backed by numerous influential residents of Kingswood and district, leave nothing to be desired as regards arrangements generally.

The most valuable prizes were offered in the class for eighteen plants, six to be fine-foliaged and twelve flowering, and in this instance Mr. J. Cypher, Cheltenham, made an admirable display in his well-known style, and was first; the second prize going to Mr. W. Vause, Leamington, who also had several good plants. The next classes in point of importance were those for six flowering plants and six Ferns, the first prize in each instance being a silver cup, value 5 guineas. In the former Mr. W. Rye, gardener to Captain Belfield, Frenchay, was first, having fresh, beautifully flowered specimens of *Bougainvillea glabra*, *Allamanda nobilis*, *Clerodendron Balfourianum*, *Stephanotis floribunda*, and fairly good plants of *Statice profusa* and *Ixora regina*. Mr. T. Wilkins, gardener to Lady Guest, Inwood, Henstridge, was a very close second, *Clerodendron Balfourianum* and *Erirea Aitoniana* being his best. In the Fern classes Mr. T. Wilkins succeeded in winning the cup with grand plants of *Asplenium nidus avis*, *Nephrolepis davallioides*, *Davallia fijiensis plumosa*, *Nephrolepis rufescens tripinnatifida*, *Adiantum cuneatum*, and *Davallia Mooreana*. In Mr. Rye's second prize collection were very fine specimens of *Todeas*.

Fine-foliaged plants were well shown by private growers, and with six of these Mr. W. Rye was first, showing large healthy specimens of *Areca lutescens*, *Latania horbonica*, *Cycas revoluta*, and *Crotons Warreni*, *Youngi*, and *Victoria*. Mr. E. W. Towell, gardener to Mrs. Gale Coles, was a creditable second. In another good class for Ferns Mr. Rye was first, and Mr. W. Coombs, gardener to J. W. Langdon, Esq., second, both showing fine specimens. Fuchsias as a whole were fairly good. Mr. W. Marsh, Bath, was easily first for six specimens, these consisting of the Hon. Mrs. Hay, Lye's Favourite, Annie Earle, Harriet Lye, Elegance, and Scarcity. Mr. T. Haskins was second, and other prizewinners with Fuchsias were Mr. John Newman and Mr. J. Haskins. Zonal Pelargoniums were well shown, and with these the most successful exhibitors were Mr. L. Bryant, gardener to Dr. H. Grace, Kingswood; Mr. Towell, and Mr. Coombs.

Several classes were provided for Tuberous Begonias, and a grand display was made. With these the principal prizewinners were Messrs. J. Rogers, W. Coombs, and W. Rogers, all local growers. Gloxinias are not often seen in better condition, especially those shown by Messrs. W. Rye and F. Golding, gardener to E. A. Jones, Esq. Some well-grown specimens of *Coleus* gained a first prize for Mr. J. Haynes, gardener to H. Croot, Esq., the second prize going to Mr. L. Bryant. Liberal prizes were offered for groups arranged for effect, but these only attracted two entries. Mr. Robert Palmer was easily first, though his arrangement gave evidence of an overabundance of choice plants being available. Mr. E. Hall, Bath, was second.

Cut flowers were numerous and in many cases grandly shown.

Roses were surprisingly good. With twenty-four triplets Mr. S. Treseder, Carliff, was first, his stands comprising very fine fresh blooms of Victor Hugo, The Bride, Catherine Mermet, Innocente Pirola, Ernest Metz, Duke of Wellington, Princess of Wales, Madame Hoste, Marie Van Houtte, Bridesmaid, Rubens, Madame Bravy, Souvenir de S. A. Prince, Mons. E. Y. Teas, and Susanne Marie Rodocanachi. Messrs. Townsend and Son, Worcester, were second, their stands also containing many perfect blooms. For twelve triplets Mr. T. Hobbs, Bristol, was first, and Mr. G. Garraway, Bath, second. In the amateurs' classes Mr. Hobbs was invincible, among his blooms being Catherine Mermet, Innocente Pirola, Marie Baumann, Countess of Pembroke, Mrs. J. Laing, and Duke of Wellington. Other successful exhibitors were Messrs. J. Densley and Newman.

Dahlias made a fine display, and with these the principal prize-winners were Messrs. G. Humphries, Chippenham; T. Hobbs, J. Walker, Thame; T. Haskins, J. Burgess, A. A. Walker, Bath; F. Harris, and N. J. Burgess. Hollyhocks were remarkably good, Mr. W. Smith, Kingswood, had the best, Mr. Hobbs also showing fine blooms. Messrs. Vause and Rye were winners of first prizes for choice flowers. Messrs. A. A. Walters, Bath, and Lindsey, Frome, were respectively first and second with herbaceous flowers; and Messrs. Blackmore, Twerton, and J. Rogers showed the finest double and single Begonias. Floral dinner-table decorations by ladies were quite a feature in the display, there being upwards of a dozen entries in each class. First prizes were won by the Misses Florence Bush and Grace A. Ellacombe, who displayed exquisite taste. Misses Alice Fifoot, E. Page, Burgess, and Mabel L. Fear also distinguished themselves.

Fruit was not quite so plentiful as desirable, but the quality in several instances was superior. The collection of eight dishes which gained Mr. W. Nash, gardener to the Duke of Beaufort, Badminton, a silver cup value five guineas was exceptionally high-class, and consisted of fine, well finished bunches of Alicante and good Muscat of Alexandria Grapes, a handsome Hero of Lockinge Melon, Bellegarde Peach, Lord Napier Nectarine, Jefferson Plum, Moorpark Apricot, and Black Tartarian Cherry, all in admirable condition. Mr. S. Hall, Bath, was second. Mr. Nash also had another first for a collection of fruit, Mr. W. Marsh, Bath, taking the second prize. With black Grapes Mr. Nash was first, showing perfect Alicante, the second prize going to Mr. Marsh for very fine clusters of Black Hamburgh, only a little wanting in colour. In the class for white Grapes Mr. G. Sutton, gardener to W. A. Todd, Esq., Weston, was first with Buckland Sweetwater, good in bunch and berry, the second prize going to Mr. Cooper for good Muscat of Alexandria. In the local classes Mr. L. Bryant was most successful with Grapes, his exhibits including Muscat Hamburgh in very good condition, Messrs. Towell and W. Coombs also taking prizes. The best collection of six varieties was shown by Mr. J. Baker, gardener to F. W. Lewis, Esq., Mr. Bryant being second and W. Coombs third. Messrs. Towell, Rye, G. Garraway (Bath), E. Hall (Bath), H. Higgins, W. Cooper, F. W. Lewis, and J. Leveder were among the most successful with various other kinds of fruit.

In the open class for a collection of eight varieties of vegetables Mr. T. Wilkins was well first, showing a superior produce in his well-known style. Mr. G. Garraway was second. There were fine dishes of Potatoes shown, and Cucumbers and Tomatoes were particularly well represented in both the open classes and those confined to amateurs.

SHIRLEY.—AUGUST 21ST.

THE thirtieth exhibition of this Society was in every way a success. In this neighbourhood vegetables are especially well grown, much interest being centred in this department of the show. The arrangements were, as usual, admirable in the hands of Mr. Hobby, the hard-working Secretary.

Specimen plants were a feature of the show. For six, Mr. J. Amys, gardener to the Hon. Mrs. Elliott Yorke, Hamble Cliff, Netley, was distinctly first. Allamanda Hendersoni measuring fully 7 feet in diameter and freely flowered, and Ixora Williamsi were very noteworthy, and so was Croton majesticus. Mr. Wills, nurseryman, Winchester Road, Shirley, was second; Mr. Peel, gardener to Miss Todd, Sidford Lodge, Shirley, third. For four plants, Mr. Rusbridge, gardener to C. J. Stuart, Esq., Rownham's Mount, was worthily first; Dipladenia Brearleyana was noteworthy in this collection. Mr. G. Hall, gardener to Lady Ashburton, Melchet Court, Romsey, staged the best Ferns; Mr. Amys had the best specimen plant, a well-coloured Croton Disraeli.

Mr. Mitchell, gardener to J. Willis Flemming, Esq., Chilworth Manor, had freely flowered Begonias, taking the premier award for six. Mr. Wilcox, gardener to Col. W. Sinkins, Aldermoor House, Shirley, showed the best Fuchsias, plants 6 feet high and profusely flowered. Groups of miscellaneous plants arranged for effect were interesting and pleasing. Mr. E. Wills carried off premier honours with a collection well suited for the purpose and properly disposed, so that all could be seen, without their being in any way crowded. Mr. Peel was a creditable second. Cut flowers were contributed in large numbers. Mr. West, gardener to J. Wigram, Esq., Northlands, Salisbury, had much the best stand of twelve Roses, twelve Show Dahlias, six Cactus, and the same number of Pompon Dahlias. Mr. Ladhams staged the finest twelve Gladioli spikes. Mr. West was also successful with twenty-four Asters, and twelve varieties of hardy garden flowers. Mr. Ladhams staged the best ball bouquet and the best arranged epergne.

Fruit was shown in quantity, the quality leaving little to be desired. For six dishes Mr. Mitchell won first prize, and Mr. Amys second, both

staging creditably. Mr. Wilcox had the finest black Grapes—three bunches of Black Hamburgh. Mr. Mitchell was second. For three white the last named was placed first, Mr. G. Hall following. Mr. Hall had the best Peaches and dessert Apples; Mr. Amys the finest Melon. In the vegetable classes there was brisk competition. For six varieties, Mr. T. Russell, Nursling, and Mr. Henbest, Shirley, won the prizes in the order named. For the prizes offered by Messrs. Toogood & Sons, Southampton, there was vigorous competition. Mr. Holloway, gardener to A. Brown, Esq., Shirley, was distinctly ahead of all others.

Mr. B. Ladhams, The Nurseries, Shirley, staged a group of hardy cut flowers, arranged in mounds of one colour mainly, the whole producing a pleasing undulating mass, much appreciated by the visitors.

BASINGSTOKE.—AUGUST 22ND.

THE nineteenth summer exhibition of the Basingstoke Horticultural Society was this year held in the grounds at Eastlands by the kind permission of Mrs. Millar, and proved a decided success. For years now this Society has laboured under the deterring influence of a wet day, which deprived the Committee of the financial support necessary, until the funds got down to a very low ebb. The present year, however, they were favoured with an exceptionally fine day, resulting in a good "gate," which the Committee rightly deserves. The quality of the exhibits did not show any falling off, but were creditable to all alike. The arrangements were of a perfect kind under the skilful guidance of Mr. Arthur Wallington, the Honorary Secretary, aided by Mr. Higgs, Secretary, and a hardworking Committee.

Plants filled one large tent, so numerous were they. The principal class was that for twelve specimens in or out of bloom. The first prize collection came from Mr. Bowerman, gardener to C. Hoare, Esq., Hackwood Park, Basingstoke. A splendidly grown and richly coloured Croton Queen Victoria, freely flowered Allamanda Hendersoni and A. Williamsi, Clerodendron fallax, and Bougainvillea glabra were noticeable. Mr. T. Weaver, gardener to W. O. Gilchrist, Esq., Oakley Hall, Basingstoke, was a close second. Mr. Holloway, gardener to Lieut.-Colonel May, Hawkfield, Basingstoke, third. Although there were but two competitors for a group of miscellaneous plants arranged for effect, they made a feature of the show, so well were they done. Mr. Bowerman secured the premier position with an exhibit that had few faults. Mr. Best, gardener to F. D. Leyland, Esq., The Vyne, Basingstoke, was a good second. Coleus were well represented by pyramids 6 feet high, and well furnished with richly coloured leaves. Mr. Russell, gardener to W. Bradshaw, Esq., Audley's Wood, Basingstoke, won first prize. Mr. Best had the finest Tuberous Begonias, really well flowered examples. Mr. Russell led with Fuchsias, Mr. Weaver with Ferns, and Mr. Best for table plants.

Cut flowers were numerous shown and made a bright display. For twelve bunches of any kind, Mr. Weaver and Mr. Best shared the honours. Mr. Neville, gardener to F. W. Flight, Esq., Cornetiles, Twyford, Winchester, was the only exhibitor of twenty-four and twelve Roses. He staged splendid blooms in both classes; these two exhibits were undoubtedly one of the features of the show. Mrs. J. Laing, Cleopatra, Souvenir de Paul Neyron, Innocente Pirola, Golden Gate, and Kaiserin Augusta Victoria were the most noteworthy. Mr. Neville had the best Dahlias in twelve varieties, staging medium sized, well formed blooms. Herbaceous flowers made a fine display, but unfortunately all but one exhibit were disqualified owing to the names not having been attached, this being a special clause in this class, the only exception being Mr. Russell, who was awarded first honour. The ladies had many classes, and a tent set apart for them especially, the result being a fine display. For a stand or vase of flowers and fruit for table decoration Mrs. Osman secured the premier award, Miss Wadmore coming second. Mrs. Osman had also the best arranged pair of stands or vases, Miss Wadmore following.

Fruit made an imposing display. For six dishes, Pines excluded, Mr. F. Cole, gardener to Sir G. Russell, Swallowfield Park, Reading, won by the superior quality of his Grapes, Madresfield Court and Muscat of Alexandria, combined with good Nectarines and Melons. Mr. Bowerman followed, having extra fine Peaches and creditable black and white Grapes. Mr. T. Osman, gardener to L. J. Baker, Esq., Ottershaw Park, Chertsey, third. For three bunches of Black Hamburgh Grapes Mr. Cole secured the leading position with medium sized, well finished examples. Messrs. Osman and Bowerman followed in the order named. Mr. Osman with really fine Alicante won with three bunches any other black, Mr. Cole following with the same variety, Mr. Bowerman coming next with Gros Maroc. White Grapes were well represented by Muscat of Alexandria staged by Mr. Bowerman, Mr. Cole coming next, Mr. Osman third with Buckland Sweetwater. In the single dish classes Mr. Bowerman won the premier awards for green-flesh Melons and Peaches, Mr. Dauncey for three dishes kitchen Apples, Mr. Best a like honour for three dishes dessert Apples. Mr. G. Fulford, gardener to the Earl of Nelson, Trafalgar House, Dorset, won with three dishes of Plums.

Vegetables are not seen in better condition anywhere than here. For the prizes offered by Messrs. Sutton, Carter and Webb, each for six varieties, there was a brisk competition. Mr. Bowerman with really excellent Ailsa Craig Onion, Satisfaction Potato, Duke of Albany Pea, Perfection Tomato, and Intermediate Carrot secured premier award in each class. Mr. Kneller, gardener to W. Portal, Esq., Malshanger House, Basingstoke, second, Mr. Best third. In the last two classes Messrs. Kneller and Best changed places for second and third prizes.

Mr. B. Ladhams, The Nurseries, Shirley, Southampton, had an extremely fine exhibit of hardy cut flowers, embracing the bulk of what

are in flower at the present time. Messrs. G. Jackman & Sons, Woking, had an effective group of hardy cut flowers and Chrysanthemums, both of these were not for competition.

MANCHESTER LILY AND FRUIT SHOW.

AUGUST 22ND TO 24TH.

To Mr. Bruce Findlay must be given the honour of many innovations in horticultural exhibitions, but certainly none is more worthy than the one which opened on Thursday, the 22nd inst., at the Botanical Gardens, and which consisted almost exclusively of Lilies. Neglected they are without a doubt by the majority of cultivators and limited to a very few varieties. Why this should be is not easy to determine, and as Mr. Leo Grindon truly remarked, "We have our Tulip and Carnation societies, why not one for the Lily?" As a crowning effort to Mr. Findlay's great work in horticulture it is to be hoped that from this beautiful exhibition may spring up a society which will take in hand the cultivation of the Lily, and place it in the high position its merits undoubtedly entitle it to. On the exhibition itself nothing but praise can be bestowed, though if the weather had been more congenial during the past few weeks we should have had a greater accession of fine forms from the Society's own garden at Manchester, these being at the present time in most perfect condition, but only just beginning to unfold.

Amongst contributors the chief position must certainly be accorded to Messrs. R. Wallace & Co., Colchester, who staged a collection covering a large number of square feet. The finest types represented were auratum rubro-vittatum, platyphyllum, a fine variety called Wittei (pure white, yellow bands), virginale, Batemani, superbum, Henryi, lancifolium rubrum, Melpomene, and Leichlini. For this the firm was unanimously awarded a large gold medal. Mr. W. H. Hudson, Kilburn, London, and Messrs. J. & R. Thyne, Glasgow, each received commendations for an interesting display, consisting chiefly of the auratum types, as did also Messrs. Barr & Son, Long Ditton, Surrey, for a fair group of Lilies interspersed with a choice and varied collection of herbaceous plants. The same award was granted, and that worthily, to Messrs. Kelway & Sons, Langport, Somerset, for a gorgeous collection of cut spikes of Gladioli, which for size and form could not be excelled. They also showed Gaillardias, Asters, and the Japanese Wineberry, *Rubus phoeniculus*, in superb form.

A striking feature in the show was a grand circular bank of cut flowers staged by Mr. Frank Law, Beech Road Nurseries, Sale. The centre consisted of well-grown plants of *Campanula Calycanthema* mixed with scarlet Gladioli. Then in tiers came splendid bunches of herbaceous plants, a relief from flatness being afforded by handsome spikes of various Lilies placed between. An edging of Moss and *Smilax* completed a most charming group. An extra first prize was granted. Messrs. Dickson, Brown, & Tait, Manchester, contributed a fine stand of Gladioli spikes; Mr. John Robson, Bowdon, a good collection of herbaceous plants. A bright and pleasing feature in the show was six boxes of cut Roses, trebles, in fine condition, staged by Messrs. Dickson and Robinson, Old Millgate, Manchester, the commendation being well earned. A certificate was awarded to Messrs. Anthony Waterer & Son, Woking, for *Spiræa* Anthony Waterer.

Fruit classes were only few, but the quality was excellent in nearly every instance. For eight dishes Mr. Goodacre, gardener to the Earl of Harrington, Elvaston Castle, Derby, was an easy first, staging Muscat of Alexandria and Black Hamburg Grapes, Elruge Nectarines, Bellegarde Peaches, Denniston's Superb Plums, Jargonelle Pears, a Queen Pine Apple, and Victory of Bath Melon (splendid). Mr. Wallis, gardener to R. Sneyd, Esq., Keele Hall, Newcastle, was a fair second, Darwin Nectarines and Walburton Admirable and Nectarine Peach being the best. Mr. Slade, gardener to the Duke of Newcastle, Clumber, was third, having good Muscats and Hero of Lockinge Melon.

For twelve bunches of Grapes there were four stands staged, and here again Mr. Goodacre showed his superiority by an almost perfect stand consisting of four splendid Gros Maroc, Muscat of Alexandria (four), superb, two fine Barbarossa, and two Alnwick Seedling. Mr. Elphinstone, gardener to E. M. Mundy, Esq., Shipley Hall, Derby, was second, Muscat of Alexandria and Black Hamburg being very fine. Mr. Slade, who came third, deserves special praise for his six splendid bunches of the grand but seldom seen Duke of Buccleuch. Mr. Tullett, gardener to the Right Hon. Lord Barnard, Raby Castle, Stamford, was a creditable fourth. The same number competed for six bunches, Mr. Elphinstone's superb Muscats winning him the prize. He had also three pretty Madresfield Court. Mr. Goodacre came a good second, Muscats and Madresfield being his best. The third prize went to Mr. Richardson, gardener to J. E. Platt, Esq., Cheadle, Gros Maroc and Muscat of Alexandria being good. An extra was awarded to Mr. Wallis.

In fairness to Mr. Findlay and to Mr. Paul, his able assistant, a notice of the show alone would be incomplete were not some reference made to the splendid condition of the gardens at the present time. In addition to the very fine collection of Lilies in flower staged by the Society in the exhibition house, there are many thousands more which will be grand in a few weeks. Other flowering plants are in abundance, noticeable being some good Cannas. Orchids are in the best of health, the growths of the Dendrobies, of which there is a fine collection in the Victoria Regia house, being astonishing. There were some very fine pieces in flower, the following being the best—*Cattleya* Rex and *Gaskelliana*, *Vanda* tricolor and the variety *Ainsworthi*, *Cœlogyne Massangeana*, *Oncidium ornithorhynchum*, *Cypripedium* Curtisii, *Parishi*, and *Roetzli*, with numerous seedlings. In fact the collection is quite a credit to all.

Chrysanthemums are dwarf, most promising, and in abundance. Fernery and Palm houses are in the best possible condition. Outside the summer bedding is seen to perfection, notable being the beds of Pentstemons, perfect sheets of bloom with edgings of blue and yellow Violas, in fact the bedding out in every phase is well carried out. Trees, shrubs, and herbaceous plants are all well represented and carefully labelled. Would that all the Manchester citizens could thoroughly appreciate Mr. Findlay's earnest efforts in trying to cater for their welfare. There would then be no need to make such earnest appeals from time to time, and his life's work would meet with the success it so richly merits.—R. P. R.

CRYSTAL PALACE.—AUGUST 23RD AND 24TH.

IN connection with the National Co-operative Festival the Agricultural and Horticultural Association held its tenth annual exhibition of flowers, fruit, and vegetables on Friday and Saturday last. Some idea of the magnitude of the show may be judged from the fact that all the tables at the Crystal Palace were brought into requisition in staging the exhibits. It is said that these tables, if arranged end to end in a single line, would extend half a mile in length. Prizes to the cash value of £300 were awarded, besides gold, silver, and bronze medals.

Almost every kind of garden produce was exhibited by cottagers, gardeners, and amateurs, and too much can hardly be said in praise of it. When the first show was held the variety of productions was not great, but the shows have had the happy result of stimulating a stirring competition, and every class in the large schedule now finds many entries. The fact that all the leading classes show an increase of entries this year must prove gratifying to the executive. There were no less than 1823 entries of the many varieties of vegetables, 1209 entries of cut flowers, upwards of 500 plants in pots, 380 dishes of fruit, besides other exhibits, such as table decorations, ladies' and children's exhibits, and farm produce. The increase of exhibits by ladies was a marked feature in the show.

A special word of praise is due for the efficient manner in which the whole arrangements were conducted and the numerous duties performed, and in this work the main responsibility rested with Mr. G. Waugh, the Honorary Director, aided by Mr. Frank Bell, the Assistant Secretary, and a large number of volunteer Stewards. An immense crowd of visitors testified to the public interest in visiting the show, and their appreciation of it was everywhere apparent. As in previous years two separate sections were provided—one open to amateurs and gentlemen's gardeners, and the other to workmen and cottage gardeners. The former was opened on Friday, followed on Saturday by the latter; and this seems to be altogether a satisfactory arrangement, as it allows more time for the Judges to perform their duties without having to hurry, a point most essential in judging, besides giving the officials more time to carry the numerous operations necessarily connected with a show of such magnitude.

In the amateur section, for members and customers of the Agricultural and Horticultural Association or their gardeners, prizes were offered for collections of vegetables, open to the northern, midland and eastern, western and southern districts of the British Isles; and though the competition in these classes was not keen, several good exhibits were staged, those of Mr. S. T. Wright, gardener to Chas. Lee Campbell, Esq., Glewston Court, and Mr. C. J. Waite, gardener to Hon. W. P. Talbot, Esher, gaining first prizes in their respective divisions. In all other classes vegetables were well shown, and the competition in many instances very keen, the chief prizewinners being Mr. C. J. Waite; Mr. J. Holton, Oxford; Mr. J. Mossman, gardener to G. D. Pollock, Esq., Bagshot; Mr. F. Matthews, Muswell Hill; Mr. R. Chamberlain; and Mr. J. W. Abraham, Bromley; while other exhibitors also figured creditably in the various classes.

Fruit, both hardy and otherwise, was well shown. Mr. A. Gavien was first for a collection of cooking Apples in a close competition, and for dessert Apples Mr. A. Axell, Sittingbourne, occupied the place of honour. The first prize for a collection of fruit was won by Mr. H. Pitt, Hereford, who staged Golden Queen and Black Hamburg Grapes, with Pears, Peaches, Figs, and a Melon. The last named exhibitor claimed premier honours for a collection of hardy fruit, Apricots, Morello Cherries, and Currants, also gaining a first prize for two fine pieces of Muscat of Alexandria Grapes. Mr. Waite showed the best black Grapes, staging Gros Maroc. Mr. T. Osman was first for Peaches, and for Nectarines Mr. R. Chamberlain claimed the highest award. For dessert Pears and Plums Mr. Waite claimed first prize in both instances.

The cut flower classes were all well filled, but in many instances the effect of these would have been much more pleasing if greater attention had been given to arrangement, and exhibitors in the future will do well to bear this in mind. The prevailing object seemed to be to get as many flowers into the vessels as possible, whereas if one-third the number had been used, and these elegantly arranged, not only would they have been more effective, but the qualities of each bloom could have been seen to greater advantage. Annuals were the chief feature, and amongst others Asters were well shown, the first prize going to Mr. Harris, Oxford. Mr. G. Palmer, Oxford, gained the highest awards for a vase of Mignonette, six bunches of hardy perennials, and Stocks, and amongst other prizewinners were Messrs. Waite, C. Osman, W. Salmon, Norwood; J. Holton, A. Tunbridge, A. Colbourn, and S. J. Crofts. Dinner table and floral arrangements occupied considerable space, and many deserving exhibits competed for the prizes. Amongst the plants Mr. A. Colbourn was to the front for six pots of annuals, Asters in pots,

and a Tuberous Begonia; Mr. C. Moody gained a first prize with a fine specimen Fuchsia. Mr. J. Constable took the first place for a collection of hardy Ferns, and for tender Ferns Mr. F. Fulbrook occupied the post of honour. Several fine Coleuses were staged, and taken as a whole the plants in all the classes were very creditable.

Saturday's display, composed chiefly of the exhibits of cottagers and allotment holders, was equal to that of Friday both as regards quality and numbers. The competition was excessively keen, particularly amongst the vegetables, and in several instances upwards of thirty exhibits competed for the prizes, and in all cases the quality reflected great credit on the cultivators. A notable feature was the admirable collections hailing from various parts of the kingdom in competition for the prizes offered. As in the amateurs' division the quality was excellent throughout, the first prizes being awarded as follows:—North-western Division: Mr. C. Warson. Midland and Eastern Division: Mr. C. Mason. Metropolitan Division: Mr. C. Luff. Southern District, No. 1: Mr. G. North. Southern District, No. 2: Mr. W. Biles; and Western District: Mr. E. Maylott. In the remaining classes for single dishes the same order of excellence was maintained, and the judges must have experienced considerable difficulty in awarding the prizes. Every inch of available space was occupied, and even the losers in many instances had reason to be proud of their exhibits.

Amongst the cut flowers competition was likewise keen, and Asters, Stocks, Dahlias, Zinnias, Phloxes, Sweet Peas, Marigolds, Gladioli, and other flowers were creditably shown. Ladies' and children's classes were also provided, and prizes offered for an epergne of cut flowers, hand bouquets, basket of cut flowers and buttonholes, while bouquets of wild flowers and Grasses were creditably shown by the juniors. Excellent Marigolds, Zinnias, and Dahlias called forth many remarks of approbation. Several classes were provided for pot plants and Asters, Lobelias, Mignonette, Nasturtiums, and Balsams were staged in quantity. These were all placed down the centres of the tables, and were the means of breaking any sameness that might have otherwise arisen. Creditable specimens of Begonias, Fuchsias, Pelargoniums, and Petunias were also staged, all of which showed unmistakeable signs of good cultivation.

The principal feature in the fruit division was the Apples, and for both cooking and dessert varieties there was a close competition, and in each case the prizes were won by superb examples, large in size and of rich colour. Cherries, Currants, and Plums were also well shown, and the fruit altogether proved a creditable addition to the show.

In conclusion, the Association has every reason to feel gratified for the success of the exhibition, which has rapidly grown up from insignificance until it now takes a leading position amongst the shows of this country. We heartily congratulate those responsible for the success of the undertaking, and trust the future will see its further extension and appreciation.

BRIGHTON AND SUSSEX.—AUGUST 27TH AND 28TH.

ALTHOUGH only the fourth annual summer show of this Society there can be little doubt that it was one of the best. Many good and valuable prizes are now offered by the Society, the Mayor and inhabitants.

Plants.—£5 and the Corporation challenge cup for a group of flowering and foliage plants was awarded to Mr. G. Miles, Victoria Nursery, Dyke Road, Brighton. There was nothing extra choice in this group, but the arrangement was very good. A grand lot of Begonias and Asparagus formed the chief feature in the second prize group from Mr. Jones, Ryecroft Nursery, Lewisham; Mr. Fry, gardener to C. W. Catt, Esq., Brighton, making a good third. For a miscellaneous group not to exceed 80 square feet Mr. Meachen, gardener to Mrs. Armstrong, Withdean, Brighton, was a little in front of Mr. J. Simms, gardener to C. J. Inwood, Esq., Dyke Road, Brighton; Mr. J. Turner, gardener to Sir Greville Smyth, Hove, was third. These three competitors being particularly close.

Groups of Ferns are always good here, and if not numerous were again of fine quality, Mr. J. Adams, gardener to the Rev. Sir G. C. Shiffner, Bart., Hamsey, Lewes, winning with a grand arrangement, Mr. G. Miles of Dyke Road staging a capital lot for second. For six Ferns (stove and greenhouse) J. Warren, Esq., Handcross Park, Crawley, was first, and Messrs. W. Miles & Co., Church Road, Hove, a good second. Eight stove and greenhouse plants, four in bloom and four for foliage, was not strongly contested; but the winning lot from Mr. Meachen, gardener to Mrs. Armstrong, Withdean, were good, Allamanda Hendersoni, a grand Croton Queen Victoria, Ixora javanicus, Croton Princess Waldeck, and well grown Latania borbonica being most noticeable. J. Warren, Esq., Handcross Park, Crawley, was second.

Tables of flowering and foliage plants were well up to the average, Mr. J. Turner, gardener to Sir Greville Smyth, Hove; Mr. G. Miles, Dyke Road, Nursery; and Mr. W. C. Hollands, nurseryman, Tunbridge Wells, being very close, the prizes going as mentioned. One short of a dozen competed in a class for a small table of Begonias only, Mr. T. Fairs, gardener to R. Clowes, Esq., Hassocks; Mr. H. Head, The Drive Nursery, Hove; and Mr. G. House, gardener to Sir F. Mowatt, Patcham, winning in like order. The latter had a stand of all double varieties. Crotons, Dracenas, and table plants generally were good; also Coleuses and Ferns in pots not to exceed 8 inches in diameter.

Cut Flowers.—For twenty-four varieties, stove and greenhouse, Mr. W. Archer, gardener to Miss Gibson, Hill House, Saffron Walden, was well in front; Mr. L. Budworth, gardener to C. Hill, Esq., West Hoathly, and Mr. J. Davis, gardener to Major Thurlow, Buckham Hill,

Isfield, running each other closely for the remaining honours. Mr. J. Warren, Handcross, was in front of Mr. Hart, gardener to H. Head, Esq., Shoreham, for twelve varieties.

Roses (twenty-four varieties).—Messrs. Perkins & Sons, nurserymen, Coventry, were first, Black Prince, Fisher Holmes, Dupuy Jamain, and Capt. Christy being good; Mr. T. Darrant Young, Eastbourne, making a good second, and having very bright Sénateur Vaisse, Duke of Teck, and Duchess of Bedford; Mr. F. Woolard, Cooksbridge, coming third. Mr. H. Harris, gardener to Mrs. Eversfield, Horsham, won for twelve varieties, followed by Mr. Lawrence, gardener to T. Oliver, Esq., Horsham. For twelve Teas or Noisettes nine competed. Mr. G. W. Piper, nurseryman, Uckfield, was a good first; Duchesse d'Averstadt, C. Mermet, E. Brownlow, Ruby Gold (syn. with Jean Ducher), Madame de Watteville, and The Bride being the best six. Mr. H. Harris, gardener to Mrs. Eversfield, Horsham, second; and Messrs. Perkins & Son, Coventry, third.

For forty-eight (distinct) Show or Fancy Dahlias, Mr. S. Mortimer, nurseryman, Farnham, was a good way in front of Mr. F. W. Seale, Sevenoaks; but Mr. Seale easily won with twelve varieties of Cactus, Mr. Mortimer following. Messrs. Cheal & Sons, Crawley, were first for twenty-four Show or Fancy. Single Dahlias were good, Mr. F. W. Seale and Messrs. J. Cheal & Sons winning in the chief class.

Table decorations.—For a centre vase Mrs. S. Johnson, Worthing, was first; Miss L. Hudson, Gunnersbury House, Acton, being second, and Mr. F. W. Seale, Sevenoaks, third. Baskets were numerous, and some very good. Miss Hudson, Gunnersbury House, Acton, was in front, but followed very closely by Messrs. Perkins & Sons, Coventry, and Messrs. Scrivener & Co., Watford.

For bride and ballroom bouquet Messrs. Perkins & Sons won with good examples, Messrs. Scrivener & Co. and Mr. F. W. Seale following. For a wreath or device of cut flowers Mr. J. Charlton, Tunbridge Wells, won with a pretty arrangement of white flowers, Croton foliage, and Asparagus, Messrs. Perkins & Sons, Coventry, coming second with a well-finished lyre.

Fruit.—It is not often we have seen a better display of fruit, Grapes if not large being well finished. Six competed in a collection of eight dishes, the first going to Mr. J. Gore, Polegate, for a well finished lot, winning the President's silver challenge bowl and £3; Mr. W. Taylor, gardener to C. Bayer, Esq., Forest Hill, was a close second; and Mr. Fennell, Fairlawn, Tonbridge, third. For three bunches of Black Hamburgh Grapes Mr. T. M. Le Pelley, Rusper, Sussex, won in a strong class; Mr. T. Ambrose, gardener to E. Blinkhorne, Esq., Broadwater, winning for three bunches of any other variety (black). Mr. W. Tidy, gardener to W. K. D'Arcy, Esq., Stanmore Hall, Middlesex, was a good first with Muscat of Alexandria in a class for whites. For two Melons, Mr. L. Budworth, gardener to C. Hill, Esq., West Hoathly, won; J. Warren, Esq., Handcross, taking the same for a single fruit. Mr. G. Goldsmith, gardener to Sir R. Loder, Horsham, won with two dishes of Peaches, and the Brighton Co-operative Stores with one dish; while Mr. Goldsmith won with two dishes of Nectarines. Mr. J. Deadman, gardener to Mrs. Parsons, The Wallands, Lewes, was first with culinary Apples, also four dishes of Plums; Mr. C. M. Carter with one dish of Plums; Mr. Coles with Morello Cherries; Mr. Carter for Figs, were also first in their respective classes. Culinary Apples were beyond the average quality, while vegetables had a large marquee devoted to them entirely. Space will not allow of a list of prizes here, but we can endorse the general opinion of their great excellence.

Miscellaneous.—Here there were more and better collections than usual, Messrs. J. Veitch & Sons, Chelsea, having a grand table of Caladiums, F. M. Moore, Baron A. de Rothschild, Lady Mosley, Marie Freeman, and Mons. Leon Say being very bright. Crotons, Bouvardias, Cannas, and a good lot of Nepenthes were also included. An exceptionally good display. Messrs. W. Balchin & Sons, Brighton and Hassocks, staged a most effective lot of Lilium lancifolium album, L. auratum, and L. lancifolium rubrum. Bulbs, Gladiolus, and excellent Apples were also staged. A grand lot of fruit, with both single and double Cactus Dahlias, were the chief features in Messrs. J. Cheal & Son's stand. Messrs. Tilley Bros. had a good collection of bulbs.

A collection of Tea and Noisette Roses came from Mr. G. W. Piper, Uckfield, and we noticed a sport from Sunset showing most distinct among these. This sport has a crimson shading on the reverse side of the petals, and for buttonholes, also early forcing, is one of the best. None in this collection surpassed it for perfume. A box of H.P. and Teas also come from Messrs. Darrant Young, Eastbourne. A grand display of herbaceous flowers came from Mr. J. Charlton, Tunbridge Wells.

FELLING.

THE sixteenth exhibition of the Felling Floral and Horticultural Society was held recently. This show has developed amazingly in the last few years, and is one of the best in the district. Felling is not an inviting place, nor is it one where you would expect to find a first-class exhibition; but the opposite is just the case. There is, therefore, a great deal of credit to the Committee and their esteemed Secretary (Mr. J. Morris), who is known as one of the most successful amateurs in the North of England.

In the open class for six stove and greenhouse plants Messrs. J. Liddle and J. Morris were first and second respectively. The former showed Erica æmula Bothwelliana and Aitoniana, Stephanotis floribunda, Allamanda Wardleana, and Rondeletia superba; Mr. J. Morris's best plants were Ixora salicifolia, Stephanotis, Dipladenia amabilis, Erica Marnockiana. These were a good second. For three stove plants

Mr. Morris was first. For eighteen Dahlias Mr. Walker was first and Messrs. Harkness & Sons, Bedale, second.

In the class for twenty-four Roses the latter were first with Alfred Colomb, Danemark, Ulrich Brunner, Alfred Colomb, Duke of York, Charles Lefebvre, La France, and Marie Baumann in fine condition; Mr. J. A. May, Bedale, being second.

Mr. May was first with twelve bunches of herbaceous flowers, including *Scabiosus caucasicus*, *Pyrethrum*, *Erigeron*, *Centaurea rosea*, *Eryngium*, *Montbretia grandiflora*, and *Coreopsis tinctoria*.

In the classes for Gladioli, Hollyhocks, Asters, Carnations, and Picotees the chief prizes were won by Mr. Flowdy, Newcastle, who staged some admirable flowers. Epergnes, baskets of flowers, bridal bouquets, hand bouquets, and ladies' sprays were excellent; Messrs. Summers (Sunderland), Edmondson (Newcastle), and Battersby (Swallow) being the principal prizetakers.

For six dishes of fruit, distinct, Mr. Summers was first with Grapes, Black Hamburg and Muscat of Alexandria, Queen Pine, large Melon, Duchesse d'Angoulême Pears, and Bellegarde Peaches; the same exhibitor was first for three dishes of fruit. For a collection of vegetables of six varieties there were twelve entries and eight prizes. Mr. William Reay, Felling, was first with splendid Leeks, Turnips, Cucumbers, fresh and good Carrots, Parsnips, and Celery. Leeks, as usual here, were a grand sight. Fourteen exhibits were staged, Mr. J. Collins, West Wylam, being first, and Mr. John Liddle, Felling Gate, second. Several prizes were offered for collections of vegetables. In the open class Mr. J. Lawson was first for six varieties, three of each, which were magnificent examples of good culture. These were shown in a basket about 5 feet 6 inches in diameter, and included Celery, magnificent Leeks, Cucumbers, Vegetable Marrows, Cauliflowers, Potatoes, and Red Cabbages. Peas, as single dishes, were well shown in this class.

The Society gave in prizes last year £154, and have a balance in hand of £112. So that it is in a very prosperous condition, and with such an energetic Secretary and Committee the future of the Society is safe.—BERNARD COWAN, F.R.H.S.

READING.—AUGUST 28TH.

THE summer show of the Reading Horticultural Society was held on Wednesday in charming weather. The site chosen was the Forbury Gardens, and it would be difficult to find a more suitable spot for an exhibition of this kind. The usual method of long lines of tables was dispensed with, and the character of showing the exhibits was similar to that seen at the Regent's Park shows—viz., arrangement on sloping banks interspersed by walks. With regard to the exhibits themselves the quality on the whole was good; but owing to it being so close to the time of our going to press, coupled with the extreme lateness in judging, we are deterred from giving a full detailed report of the show.

Groups of plants arranged for effect were a feature. For a group occupying 200 square feet, Mr. E. Wills, Shirley, Southampton, was granted the highest award for well grown flower and foliage plants tastefully arranged. The second place was taken by Mr. Pope, gardener to J. P. White, Esq., Wargrave, Mr. Abery, Tylehurst, following with the third. Mr. Goddard was first for a group occupying 75 square feet, in which taste in arrangement was displayed. The second prize fell to Mr. Mayne, gardener to Miss Wallis, Walmer, and the third to Mr. Alexander, gardener to A. Hewett, Esq., Reading.

Mr. Turton, gardener to J. Hargreaves, Esq., was awarded first prize for four *Coleus* in pots, exhibiting well-grown examples. Mr. Goddard, gardener to Mr. T. W. Hornslow, Reading, and Mr. Willis, gardener to H. J. Simmonds, Esq., Caversham, followed with second and third in the order named. For four stove and greenhouse Ferns Mr. Pope was first with well-grown plants, followed by Mr. Goddard and Mr. R. Hewett, Reading, second and third. The premier prize for six stove and greenhouse Ferns was well won by Mr. Willis with fine examples. Mr. Dockerill, gardener to C. W. Palmer, Esq., Reading, followed, a good second.

Mr. H. J. Simmonds was first for four stove and greenhouse plants, staging, amongst others, well-flowered *Allamanda Hendersoni* and *Eucharis amazonica*. The same exhibitor also staged the best four variegated foliage plants, conspicuous amongst which was a fine *Alocasia macrorrhiza variegata*, Mr. Pope taking the second place in this class.

Mr. Finch, gardener to H. Marriott, Esq., Coventry, claimed the premier award for six foliage plants. Mr. E. Willis took the second place, and the third award fell to G. W. Palmer, Esq. Mr. Finch was a good first for six stove and greenhouse plants, in whose exhibit were several well-grown specimens. A bright feature in the show was the magnificent Fuchsias staged by Mr. Bright, gardener to J. B. Karslake, Esq., which gained an undoubted first prize in the class for six. Mr. Turton, gardener to J. Hargreaves, Esq., Maiden Erlegh, was a good second. Mr. Mayne was first for three Fuchsias, followed by Mr. Goddard and Mr. Hinton, gardener to Major Battiscombe, Bath Road, second and third. Mr. Woolford, gardener to A. Palmer, Esq., Reading, staged good double Zonal Pelargoniums, for which he was awarded first prize; Mr. Bright following with second.

Fruit was well shown, and the competition fairly keen. For eight dishes Mr. Goodman, gardener to Miss Hammersley, Bourne End, was first, staging Muscat of Alexandria and Mrs. Pince Grapes, with Peaches, Nectarines, Figs, Apricots, Pears, and a Melon. Mr. Smith, gardener to R. Overy, Esq., Henley-on-Thames, and Mr. Waite, gardener to Hon. W. P. Talbot, Glenhurst, were equal seconds; and Mr. Cole, gardener to Sir G. Russell, Bart., Reading, third. Mr. Smith had the

best dish of Peaches, followed by Mr. Bowerman, gardener to C. Hoare, Esq., Basingstoke; and Mr. Osborn, gardener to Rev. J. G. Palmer, Reading, second and third. Mr. Howard, gardener to Mrs. Myers, Benham Park, was first for Nectarines. Mr. Ashman, gardener to C. Crews, Esq., Wokingham, second; and Mr. Ross, gardener to Colonel H. Houlton, Newbury, third. Mr. Goodman had the best dish of Figs, followed by Mr. Ashman second, and Mr. Dockerell third. The first prize for Nectarines fell to Mr. Dennes, gardener to Mrs. Cookson, Bracknell; second, Mr. Howard. For three dishes of Plums, Mr. Bowerman was first, Mr. Goodman second, and Mr. Osman third.

Mr. Smith was a good first for three bunches of white Grapes, staging fine examples of Muscat of Alexandria. Mr. Dennes was second with the same variety; and Mr. Cole third. The last named exhibitor was a good first for three bunches of black Grapes, showing perfect bunches of Black Alicante; Mr. Dennes was a good second; and Mr. Bowerman third. Mr. Lane, gardener to J. D. Smith, Esq., Ascot, was first for three bunches of Black Hamburgs, with good pieces; Mr. Ashman was second; and Mr. Dennes took the third place.

Cut flowers made a good display, and a distinct feature in the show was formed by the admirable collections of vegetables staged in competition for the prizes offered by various nurserymen; several miscellaneous exhibits also added to the brightness of the show.



HARDY FRUIT GARDEN.

Fruit Room.—The thorough overhauling and cleaning of the store room for fruit is a matter of primary importance, cleanliness and sweetness of the surroundings being essential for the proper preservation of fruit. Repair defective woodwork and shelves, make the ventilation perfect, well scrub the shelves and floor, reaching every crevice and corner, and limewash the walls. When these matters have been completed leave the structure to become thoroughly dry by admitting abundance of air before storing any fruit.

Gathering Early Apples and Pears.—Early varieties of Apples, including Devonshire Quarrenden, Red Astrachan, Irish Peach, Duchess of Oldenburg, Keswick Codlin, and Lord Suffield, should be gathered shortly before being fully ripe, and stored carefully. Also look over early Pear trees, and gather the most forward fruits of Jargonelle, Williams' Bon Chrétien, Citron des Carmes, and Beurré Giffard. When the faintest tinge of yellow is seen and the fruits part readily from the stalk when lifted are sufficient indications that the best moment for picking them has arrived. These Pears, if stored carefully in a cool room for a few days, are improved in flavour, and do not become mealy, like those fruits left too long on the trees. It is best, therefore, to gather a few at a time, and thus prolong the season of securing them in the best condition.

Preserving Ripe Fruit on Walls.—Apricots, Peaches, and Nectarines in the process of ripening are subject to the attacks of blackbirds and thrushes. To protect them net up with hexagon netting, which will also keep away wasps and flies. The fruits ought, however, to be gathered before they become fully ripe and fall, but to avert injury, should this happen, suspend nets below to catch them. The fruit of Morello Cherries, fully ripe and black, are tasty as well as attractive to birds, and need protection. Employ hexagon netting for protection, also for Red and White Currants and Plums. Earwigs, woodlice and ants are likewise troublesome to ripening fruit. Close up holes and crevices in walls, and trap persistently by the usual methods.

Outdoor Vines.—Keep the laterals shortened back if they are making much growth, and secure the main extensions well in, so as to expose the bunches to light, air, and sun. The shade, however, afforded by the principal leaves to black varieties of Grapes is beneficial when the colouring commences, white varieties ripening better in the full sun.

Nailing in and Ripening Wood on Wall Trees.—Nailing or tying in shoots as they advance in growth is best calculated to preserve a regularity of distribution over the available space, and to insure wood ripening. The heat and shelter of the wall does this most effectually when superfluous wood is thinned out, and undue crowding of the most promising shoots avoided.

Assisting Fruit Trees.—Where heavy crops are hanging some assistance should be afforded to the roots to enable the trees to bear the extra strain. Liquid manure may be given with good effect now that the soil has been well moistened with rain. Guano mixed with soil and sprinkled over the roots in damp weather or well washed in with water is excellent. It may also be given in solution at the rate of 1 lb. of guano to 20 gallons of water. It is not only necessary to assist the swelling fruit, but trees making weakly growth require invigorating, and fruit buds need nourishment to enable their swelling boldly, thus storing matter for the forthcoming season.

Strawberries.—Continue to prepare ground and plant Strawberries, not expecting, however, that later planting will give the best returns the first season, though they may give useful crops. Much depends on

the vigour of the plants and the quantity of roots already made. If these are abundant and fibrous the plants may be transferred to permanent quarters without check. Newly prepared ground should be made firm before planting, as the Strawberry succeeds best in a firm medium, this encouraging surface rooting and the production of sturdy foliage.

Cut off newly produced runners on both young and old plants; also where the early formed runners are still attached to the plants, forming a thicket of growth; the operation of clearing ought not to be longer delayed. Few, if any, runners for planting can be had from this rank growth, which is weakened and useless. On the outside of rows, and where runners have spread thinly, plants for forming new plantations must be selected. Previous or special preparation of runners, however, gives the best results.

Destroying Red Spider.—Wall trees cleared of fruit, and having the leaves attacked with red spider, are benefited by being freely syringed with clear water, and occasionally drenched with soapy water or a solution of some approved insecticide. Water at the roots may also be needed, a dry state of the soil, especially at the foot of walls, conducing to the increase of these pests. Poor soil is another cause of red spider appearing, therefore the best plan in this case is to enrich the soil about the roots with liquid manure, first seeing that it is thoroughly moist before applying liquid stimulants.

Weeds on Fruit Borders.—It was easy to keep weeds down during the dry weather, but since the rain they are again growing rapidly. Many will quickly ripen seeds if not destroyed before they flower. A few hours' work with the hoe on a bright day soon lays them low, and the sun withers them.

FRUIT FORCING.

Figs.—*Earliest Fig House.*—This may contain trees in pots or planted out. The first is much better for securing very early Figs, as the trees are more under control and selection can be made of the most promising for yielding a first crop, which is much the most valuable, dishes of ripe Figs in April being prized, as fresh ripe fruit is not then plentiful, and there is always a charm in variety at dessert. The house should be light, airy, and well heated. A low three-quarter span-roof house facing the south is best with a pit for holding fermenting material, such as Beech, Spanish Chestnut, or Oak leaves, which gives off a moist genial heat and moisture over a considerable period, greatly reducing the necessity for fire heat and more suitable for the Fig trees. Those intended for early forcing in pots may be placed outdoors when the wood is ripe, but they must not be so treated if there is any doubt about this, keeping them under glass with a free circulation of air. These are matters on which the cultivator will need to exercise his judgment. In either case encourage surface roots by dressings of manure, rough loam, and a sprinkling of superphosphate. See that those placed outdoors do not root from the base of the pots. Cut off all roots that have passed into the plunging material, top-dress, after which give a good watering, and they will need no more water than suffices to keep the foliage in health.

In the case of the earliest forced planted-out trees these will now be ripening their wood, and watering may be discontinued, air being given very liberally. If, however, the second crop is not yet ripened moderate moisture in the soil will be necessary, with a free circulation of warm air to secure quality in the fruit. When the fruit is off take prompt measures to destroy insects.

Fig Trees Unsatisfactory.—Planted out trees not unfrequently grow rampantly, and consequently produce thin crops of fruit. In that case lifting and root-pruning should be resorted to, and the roots confined to a narrow border 3 to 4 feet in width, or not more than one-third the breadth of trellis the trees are to occupy. A trench taken out at this distance from the stem down to the drainage after the fruit is gathered will check the tendency to a late growth, assist in the ripening of the wood, more particularly if the growths are thinly disposed, and the points of the shoots instead of being closely tied in are allowed to grow up to the glass. If the drainage be defective it will be necessary to lift the trees in the autumn as soon as the leaves commence falling, and replant in fresh compost. Place in 12 inches of drainage, rough at the bottom, and finer on the top, that at the bottom being the size of half bricks, and in degrees smaller upwards; have the material about the size of road metal at the top, placing on this a 2 or 3 inches thickness of old mortar rubbish, freed of old laths and other pieces of wood, smashed, and sifted with a half-inch sieve, using that remaining in the sieve, the finer particles being suitable for mixing with the compost to the extent of one-sixth. Turfy loam, inclined to be strong rather than light, forms a suitable rooting medium, provided it contains a fair amount gritty matter, preferably calcareous gravel, or have added to it a sixth part of old mortar rubbish.

Where obtainable a bushel of wood ashes may be mixed with each cartload of loam and a peck of half-inch bones. Other enriching materials may be added and mixed with the compost, but as a rule it is better to supply these in available form as the growth and crop require them, than admix enriching substances, such as horse droppings or farmyard manure with the compost for making the borders. When the soil is poor a fifth part of horse droppings or thoroughly decayed farmyard manure may be incorporated with the loam.

In replanting ram the compost, well incorporated, thoroughly about the roots, spreading these out evenly well up to the surface, and with soil between each layer so as not to have the roots all together. This will insure a fibrous root formation, steady progressive growth, short-jointed fruitful wood, a solidified soil duly stored with nutrition, securing,

with judicious ventilation and management, solidified growth and large heavy fruit. The border may be 2 feet in depth. Should the drainage be good it will only be necessary to detach the roots as advised, confine the trees to the narrow border, and remove some of the old soil from amongst the roots, supplying fresh compost and top-dressing as above stated.

Pines.—*Potting Rooted Suckers.*—Suckers obtained from the summer fruiting plants will soon be ready for potting. It is advisable to divide the plants. The strongest should be shifted into the largest pots as soon as ready, employing 10 or 11-inch pots, according to the variety, affording them a position near the glass in a light, airy house, keeping them gently moving during the winter. The plants so treated will be readily excited into fruit next May or June, and will afford a good successional supply of ripe fruit in late summer or early autumn. The other suckers from the summer fruiters not large enough to shift into the fruiting pots winter best in 7 or 8-inch pots, transferring them to larger as soon as ready in the spring, which, with suckers of Smooth-leaved Cayenne that were started last March, will afford a successional supply of fruit through the winter months.

Re-arranging Pine Plants.—A re-arrangement of the plants should now be made in order to separate the fruiting from the non-fruiting plants, as many of those that were started from suckers of last summer's fruiting plants will now have fruit swelling. Those plants not fruiting will have completed their growth, and should have air very liberally for the next six weeks when the temperature exceeds 80°, maintaining the bottom heat steady at 80°; and all plants well established—that is, well rooted—should have a bottom heat of 80° to 85°, but recently potted suckers, or those not having roots well established in the fresh compost, should have a bottom heat of 90° steadily maintained to insure speedy rooting.

Fruiting Plants.—Those swelling off their fruits should have moderate atmospheric moisture, admitting a little air at the top of the house early in the morning, so as to allow of any superfluous moisture escaping before the sun's rays act powerfully upon the fruit. Any fruit it is desired to retard should be moved to a rather cool or shady house, admitting abundance of air.

Cucumbers.—*General Crops.*—Shorter days necessitate closing the house earlier, also syringing sooner, so as to have the foliage dry before dusk. Fire heat will be necessary in cold weather to maintain a temperature of 70° to 75° by day and 60° to 70° at night. Keep the growths fairly thin, removing old shoots so as to make room for young ones, and so provide a succession of bearing parts. Stop the shoots one joint beyond the fruit unless growth is wanted, then allow more extension, but avoid crowding. Encourage root action by a steady bottom heat of 80°, surface dressing with lumpy loam and sweetened horse droppings, and afford liquid manure in a tepid state whenever water is required. Do not allow the fruit to hang after it becomes fit for use, and avoid overcropping.

Autumn Fruiters.—Afford every encouragement to these plants, stopping so as to insure an even spread of bearing growths. Remove the first fruits, also the male blossoms and tendrils. No shading will now be necessary. Avoid syringing in the morning, and only use the syringe on fine afternoons, then early and lightly, keeping the house damped as occasion requires. Admit air in moderation, draughts being avoided, as they chill and stunt the growths, and if no air be given the foliage becomes very thin and flabby, a close, moist, and warm atmosphere in excess inducing many ailments to which Cucumbers are liable. Seek, therefore, to encourage sturdy thoroughly solidified growth by early and judicious ventilation whilst opportunity offers, but without gentle fire heat this is hardly practicable at this season.

Winter Fruiters.—Seeds having been sown at the beginning of August the plants will soon be ready for to plant out. The house must be a light one, and have means of securing a temperature of 70° to 75° in all weathers, also of maintaining a bottom heat of 80° to 90°. The first consideration is to thoroughly cleanse the house.

All soil previously used should be cleared out, and the whole of the interior scalded with hot water. This will make quick work of any fungal and insect pests it reaches, besides softening the accumulated dirty deposits, which should be cleared from wood and iron work with softsoap, water, and a brush, cleansing the glass inside and outside with clear water, limewashing the walls with fresh lime formed into a white-wash consistence with a solution of sulphate of copper, three-quarters of an ounce to a gallon of water, and disinfecting the bed part with soluble phenyle, a wineglassful to 3 gallons of water, syringing it on the walls of the bed. Everything in other respects should also be put into proper order. If rubble is used over and about the hot-water pipes for bottom heat see that the material is clean, and if not take it out and clean it by washing.

Secure the drainage with a layer of turves, grass side downwards. These, if there be a suspicion of eelworm, may be watered with a solution of corrosive sublimate, 1 oz. to 30 gallons of water, and the compost likewise be treated similarly in advance of putting out the plants. Place in hillocks or ridges of soil 2 feet wide at the base, 10 to 12 inches deep, and 1 foot across at the top. Turfy loam, laid up until the grass is killed, chopped rather roughly, two-thirds; fibrous sandy peat one-third, chopped or torn up, rejecting any woody matter; old mortar rubbish, freed of laths and other pieces of wood, the rough broken small, one-sixth; charcoal nuts, one-twelfth; the whole, thoroughly incorporated, form a suitable compost. It should be neither wet nor dry, and only made moderately firm. This material is equally suitable for plants in pots or boxes, which should be well drained, and only so far filled with soil that when the plants are introduced their

seed leaves will be about level with the rims of the pots, earthing the plants as they increase in growth.

Very useful fruit can be had from plants in pots or boxes in houses with a stove temperature. A quart of soot, or a pint of the advertised fertilisers, more or less according to their strength, may be added to every bushel of the loam. Plant when the soil is warmed through, press the soil gently yet compactly, and secure the plants to stakes reaching to the trellis. Rub off the laterals to that height, and stop the leading shoot at about the second or third wire of the trellis. Shade from bright sun until established. Syringe lightly in the early afternoon; damp in the morning, noon, and evening. Keep a day temperature of 70° to 75°, raising 10° to 15° from sun heat, and a night temperature of 70°, falling to 65° in the early morning. Plants from seeds sown early in August will fruit in late autumn, but they must not be cropped much, better not at all, if they are to give a plentiful supply of fruit from Christmas to spring.

Cucumbers for Christmas and Onwards.—For producing these in the crispest and most acceptable form for table use there is nothing like young plants. Seeds sown on the 1st of September will do this in light, well-heated, and properly managed structures. Too much strength cannot be got into the seedlings by keeping them near the glass. Everybody has his particular favourite variety. We find Rollisson's Telegraph and Cardiff Castle most satisfactory in crop, solidity, colour, and quality of fruit. Albeit, a cross between these with a long neck is most esteemed at table. It is anything but a bad-looking fruit excepting the neck, yet appearance counts most for marketing. The seeds are best sown singly in large 60-pots a little more than half-filled with soil and covered half an inch deep.

Keep the plants near the glass, earth them up as they grow, and transfer to 48's when they need a shift, placing a stick to each, to which secure the growth as it advances. Rub off the laterals as they show, training with a single shoot. They will be fit to plant during the first fortnight of October.

Cucumbers in Pits and Frames.—The growths of these will need to be trained thinly as a safeguard against damp. Watering must be done early and judiciously, as damp and cold soon injuriously affect the foliage and fruit at this season. A light sprinkling may be given at closing time on fine afternoons, but water will not be much needed after this, or very little of it, the plants obtaining sufficient moisture through the decay of the fermenting beds. The beds must be lined with stable litter, and a little air given at the back to allow of any steam escaping, the temperature being kept at about 65° at night. There will generally be some warmth from the sun in the daytime, and by employing a covering of mats over the lights on cold nights, with proper attention to the linings and care in management, Cucumbers will be obtained from these structures for many weeks to come.

THE BEE-KEEPER.

APIARIAN NOTES.

YOUTHFUL QUEENS.

YOUTHFUL queens have been so often recommended that a repetition in their favour may not be very acceptable to persons who favour those several years old. But the following facts in favour of the former are too good to be lost sight of. I have been fully a month with my bees at the Heather, and bees have had only two full working days. The weather has been calm and mild—warm may be a better term, but the rainfall has been much less than in most places.

An old shepherd asked me lately, "Did I ever see the Heather so fine?" to which I had to assent in the affirmative, when he added, "Never. That is due to the dry weather in the early summer."

The foregoing, as well as the following facts, will perhaps astonish as well as convince theoretical teachers. I have not weighed my hives this year, and owing to illness and weakness have spent very little time amongst my bees. The pure air and pure water of the Scottish South Highlands have strengthened me greatly, and lately I have taken more interest in them, but much to my astonishment bees have done well, especially strong hives with youthful queens.

In the same enclosure as my hives stand are three hives, their united weights being close on a quarter of a ton, the weight of the three empty hives being under 100 lbs. These hives are the stock, prime, and second swarms. The old stock had an 1894 autumn-raised queen; it swarmed early, and was able to keep up the breeding consistent with the large swarm. The old stock and second swarm having young, early fertilised queens are now superior in strength to unswarmed hives or any having queens more than a year old, which cannot come near the weight of the three hives mentioned. They have, in addition to well-filled bodies, four tiers of supers sealed out, and the Heather is not much more than half gone.—A LANARKSHIRE BEE-KEEPER.

SEASONABLE NOTES.

IN many parts of the country bees are still kept in straw skeps, and if not already done the taking of the honey should not be delayed any longer. As it is such a simple matter to drive the bees without destroying them, I hope the sulphur pit will soon be a thing of the past, although I find there are some old-fashioned bee-keepers who still prefer this method to the more humane system advocated by the advanced bee-keepers, who work on modern lines with the moveable frame hive. In most districts there is usually someone within easy reach who would advise or assist a novice in his first attempt at driving his bees, and the chances are another season he will succeed in the operation without any assistance.

A few words on the subject may assist those who have hitherto been nervous at making the initial attempt. The first thing to be done is to decide which stocks are to be kept for another season. In making the selection it is well to remember that colonies headed by a young queen will in all probability winter better and be much stronger in bees next spring than stocks that have an old queen; consequently much earlier swarms will be obtained. The management of bees in straw skeps is somewhat different to the moveable frame hive, as with the latter they may be worked on the non-swarmer system, which is a great advantage when the honey flow lasts such a short time as it does in this country. With the former the swarming system is to be preferred, and the earlier the swarms are obtained the greater chance there is of a good surplus at the end of the season.

Some people, however, may have a difficulty in deciding which of their stocks contain a young queen. There is a great deal of ignorance displayed on this subject, although it should now be well known that the old queen always leaves the hive with the first swarm, and there is then no queen left in the parent stock. But there will be several in the cells in various stages of development, and in about eight or ten days a young queen will hatch out; and if the stock is a strong one, and the weather is favourable, another swarm will leave this hive, which is termed a cast, and will be accompanied by a young, unfertilised queen. Here will also be a young queen left in the parent stock.

This should always be borne in mind when taking the honey in the autumn. Bees will always rear many more queens than are required, but will destroy all but one directly they decide not to throw off any more swarms. Should the weather be favourable the young queens will be fertilised, and laying in about ten days or less. It will thus be seen that the old stock and cast are headed by young queens. It is advisable to place a number on each skep and make a note of them; there will then be no danger of a mistake in driving the wrong stock. The casts usually make the best stocks for another season, and old stocks should not be kept longer than two years, as the combs are then very black and contain much pollen.

If an increase of stocks is not required, the old stock and first swarm should be taken, destroying the old queen from the first swarm, uniting the bees with those obtained from the old stock. They will then be headed by a young queen, which will make a capital stock for another year. The honey obtained from the early swarm is superior to that from the old stock, and should be kept separate.

Driving bees is done by turning the hive intended to be driven upside down, having previously blown a puff or two of smoke in at the entrance. Place an empty hive on the top, which should be held in its place by a couple of pieces of stout wire about a foot in length, with about an inch turned at each end so as to form a hinge. Commence tapping the outside of the hive containing the bees with the open hand, and they will at once run up into the empty hive. The middle of a fine day is the best time for the operation, and by keeping up a regular tapping the majority of the bees will soon run up, and the old queen may be readily picked out as she is running up with the other bees.

Should the bees not run freely it will be better to get them out by bumping. This is much the quicker way, and is done by first pulling out the cross sticks, if any, then bump the hive sharply on the ground, first on one side and then on the other. This will have the effect of breaking the combs off from the crown of the hive. Then take the combs out one at a time, and brush the bees into an empty skep. Unite two or more lots together, and if sprinkled with a little thin syrup no fighting will take place. If put in a straw skep the bees must be fed with thick syrup until they have stored sufficient to winter on. It would, however, be a great advantage to place them in a frame hive on frames of fully drawn out combs, as having no combs to make they would store sufficient in a few days to last them throughout the winter.—AN ENGLISH BEE-KEEPER.

TRADE CATALOGUES RECEIVED.

W. Clibran & Son, Oldfield Nurseries, Altrincham.—*Bulb Catalogue*.
 Dicksons, Limited, Chester.—*Roses and Flowering Roots*.
 Fisher, Son, & Sibray, Limited, Handsworth Nurseries, Sheffield.—*Bulbs and Flowering Roots*.
 Laing & Mather, Kelso-on-Tweed.—*Autumn Catalogue of Bulbs &c.*
 Mr. Sydenham, Tamworth.—*Violas*.
 W. Welch, Rush Green, Romford.—*Bulbs*.



* All correspondence should be directed either to "THE EDITOR" or to "THE PUBLISHER." Letters addressed to Dr. Hogg or members of the staff often remain unopened unavoidably. We request that no one will write privately to any of our correspondents, as doing so subjects them to unjustifiable trouble and expense.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Bee subjects, and should never send more than two or three questions at once. All articles intended for insertion should be written on one side of the paper only. We cannot reply to questions through the post, and we do not undertake to return rejected communications.

Fruit at the Cardiff Show.—We are desired to state that the piece of plate for the collection of fruit at the above show was won by Mr. George Hawkins, Hendrefoilan Gardens (and late of Ewenny Priory), not by Mr. Hopkins, as inadvertently stated in our report last week.

Incrustation from Garden Wall (J. E.).—The substance you forward is carbonate of lime, and is due to the lime in the water used in watering or syringing. Such water ought not to be used for such purposes, and filling hot-water apparatus until softened by treatment with anti-calcaire or milk of lime, 1 lb. to 250 gallons, stirred, and left twenty-four hours, when the lime or chalk will be deposited at the bottom of the tank.

Disqualifying Exhibits (J. E.).—In our opinion, if an exhibitor stages seven varieties in a class when the stipulations are for six, he ought to be disqualified. If one man stages seven varieties in such a class, why may not another include eight? A similar case of disqualification was made at the Crystal Palace on Saturday. In your class of six "varieties," if an exhibitor had staged that number of distinct Potatoes and no more, he would not have been open to disqualification. The stipulation ought to have been for six distinct "kinds."

Henry Jacoby Pelargonium Leaves Diseased (J. W. T.).—The leaves have not been attacked by any insect, but by a parasitic fungus named *Ramularia gerani*, *Fuekel*, which has caused the browning and destruction of the tissues, and it is now occupied sparingly by a saprophytic fungus called *Aspergillus glaucus*. This variety is rather subject to the attacks of *Ramularia*, and sometimes collapses from blackness in the stem, which, however, is caused by a *Fusarium*. As a preventive lime freely mixed with moderately rich soil is usually all that is needed, with due attention to watering and ventilation.

Daffodils for Market (A. G. G.).—Ajax vars.:—Edward Leeds, Maximus, and Emperor; Ajax with white wings, Empress, Dean Herbert, Harrison Weir, Scoticus, and Grandis; Star Narciss, Leeds, Queen Bess, Mrs. Langtry, Conspicuous, General Murray, Backhouse, William Wilks; and of the Burbidgei section, Burbidgei (one of the best for cutting), Constance, Model, and Vanessa. Poeticus vars.:—*Præcox grandiflorus*, Gardenia-flowered; and *Tazetta orientalis*. Those you have—Sir Watkin, Golden Spur, Horsefieldi, rugulosus, cynosure, princeps, obvallaris, ornatus, and the old double Daffodil—are amongst the best for your purpose.

Destroying "Palm Bug" on Roots of Palms (Stafford).—Had you sent us an infested root we should have been better able to advise, it being always uncertain prescribing for described infections, and still more so when no details are given. As you have used lime water as strong as thought safe, also repeatedly used clear soot water, we assume the pest is protected by a mealy coat, which resists the liquid; but as we hardly think the creature is amphibious, you should stop all holes in the pots, flood them with soot or lime water, and so drown or suffocate the insects. Or you may try a solution of nitrate of soda, 2 ozs. to a gallon of water, stopping the holes in the pots and flooding them with the solution for about an hour, then remove the clay and water well with tepid water so as to wash most of the nitrate of soda solution out of the soil, the watering needing to be repeated once or twice to effect this. It may be necessary to repeat the soaking of nitrate of soda, for it will not destroy the eggs of the "Palm bug," if we conjecture rightly as to what it is.

Dendrobiums (Orchid).—The great majority of the evergreen Dendrobiums require a winter temperature of 45° or 50°, a light sunny position, and just enough water at the roots as will keep them from shriveling. This will suit all you mention, and they all flower during the spring and early summer months. The only other requirements during this season are to keep the plants free from insects and allow a free circulation of air about them. If they finish growing by about the beginning of August, a week or two in the open air is very beneficial if carefully attended to at the roots, but by the end of the month they must always be under cover again.

Destroying Ants (Blackants).—The recipe you ask for is:—White arsenic, 1 oz.; place in an old iron pot with a quart of water, then boil until reduced to a pint or a little more of liquid, add $\frac{1}{2}$ lb. of coarse sugar, mixing thoroughly. This mixture can either be dropped about the runs and around the nests, or placed in saucers in the ants' haunts. It must be used with the utmost caution, as it is a poison fatal to animal, also to vegetable life. Unless you can satisfy a chemist there will be a difficulty in procuring it. The quantity named will suffice for one setting down in each of the houses you mention, but the ultimate amount will depend on circumstances.

Cleansing Tomato Seed (Obeids).—We do not know of any quicker process of cleansing the seeds from the pulp than squeezing the fruits and rubbing the pulp in a vessel until the seeds are quite free, then the sound seeds will sink, the rougher parts of the pulp float, and can be readily skimmed off. Then pouring off the watery matter above the seeds carefully, leaving those at the bottom, they are easily cleansed by fresh water and a similar process of pouring off, or after the first washing the seeds may be placed in a hair sieve in water, and by whisking about with the hand they will soon be free from any matter, the soluble particles mixing with the water, and the larger parts floating, so that it is only a question of skimming and washing to secure clean seeds.

Propagating Amorphophallus (Rivieri).—*Amorphophallus Rivieri* is somewhat difficult to increase, as the corms are of considerable size and rarely make offsets, which is the general mode of increase. Efforts should therefore be made to induce the plant to seed wherever practicable. Division is usually the method of propagation pursued, the best time to operate being just when they commence their new growth, securing as many roots to each division as possible, each having a growing shoot. Any rootless pieces should be placed in heat shortly after removal. This hastens the formation of roots and excites top growth. We do not know of any more rapid mode of increase, except that from seed, which, however, does not frequently occur in this country, and to secure perfect seeds the flowers should be carefully fertilised.

Roses—Drawing to Scale (Regular Subscriber).—There are some things that cannot be taught in the form you desire. Take an opportunity of calling at a nursery, and ask to see examples of Hybrid Perpetual and Tea-scented Roses, also Manetti and English Briar stocks, and you will be able to perceive the difference between them. As a rule, Hybrid Perpetuals are strong in growth, with rough leaves and large blooms of varied colours; while Tea Roses have smooth, glossy leaves, with white, yellow, or pink flowers. The Italian Briar (Manetti) is paler green in its foliage, with rounder leaflets than the English Briar. If you see them growing together you will never forget them, and this is what we advise you to do. The difference between the blooms of H.P. and Tea Roses can be seen at flower shows, where separate classes for the two sections are provided. A schoolmaster or pupil teacher will instruct you how to draw to scale in ten minutes. Sixteen feet to the inch simply means that for every 16 feet, measured by a line in the garden, you show in as many inches on a sheet of paper, and every foot in measurement would be represented by $\frac{1}{16}$ th of an inch of the rule. For instance, one of the lines in which this reply is printed is $3\frac{1}{2}$ inches long; this would represent on the scale mentioned a length of 56 feet in the garden. Great exactitude is requisite in drawing to scale, and when this is insured the measurements are bound to come right.

Cos and Cabbage Lettuces for Growing under Glass (W. D.).—The best varieties we have grown for a supply of Lettuces during the winter and early spring were—Cos: Bath or Brown Sugar-loaf and Hick's Hardy White. Cabbage: Commodore Nutt, Early Paris Market, and All the Year Round. A large grower of Lettuces for marketing early recommends Golden Queen and Lorthois (Trocadera), as the best small and large Cabbage Lettuces respectively, but we see no reason to multiply names. As to the value during January, February, and March, we are unable to say, as we have not been able to produce them in those months to compete successfully with fine examples of well-blanching, and heavy well-grown specimens of Improved Round-leaved Batavian (which corresponds to Cos Lettuce), and Green Curled Improved (corresponding to Cabbage Lettuce) Endives. Indeed, it is extremely difficult to produce either Cos or Cabbage Lettuces during the months of January, February, and March of a size and quality acceptable to the British market. We have sent what we considered fine consignments to Covent Garden, and have been appalled at the returns. A grower, be it said, for a millionaire, is greatly in love with the electric light for bringing Lettuces forward in the dark months, but on being asked for an account of cost and advantages, collapses with the retort that growers force Lettuces in America for market by aid of the electric light. April, as a rule, is as soon as we could command Lettuces for market that paid for the trouble of growing, even with the aid of frames and artificial heat, damp being the great enemy to contend with, and usually spoiled the best specimens.

Washing Soda for Growing Crops of Brussels Sprouts, Cauliflowers (A. G. G.).—Although it is generally considered that soda in any form is not necessary as a manure we have found it of great value from a hygienic point of view, and proved that it profits the plant by rendering it sturdier in growth and hardier in constitution, thus able to contend better against fungal pests. It also acts as a manure. The soda should be crushed fine and distributed evenly on the ground, using $\frac{1}{2}$ oz. per square yard, 1 lb. per rod, $1\frac{1}{2}$ cwt. per acre as a minimum, and 1 oz. per square yard, 2 lbs. per rod, 3 cwt. per acre as a maximum dressing. The amounts for the larger areas are slightly in excess of the quantities per square yard, but on lesser areas the substance can be used with greater regularity, and growers must exercise judgment in respect of the amounts.

Aralia spinosa Leaves Diseased (P. Palmer).—The leaves of the Angelica tree, a very useful plant for sheltered spots in pleasure grounds, are infested with the (until recently) rare leaf-spot fungus (*Ovularia rufibasis*, *Massee*; *Peronospora rufibasis*, *Berkeley and Brown*), which is occasionally found on the under surface of leaves of *Myrica gale*, the native habitat of the fungus in this country, but unfortunately it attacks other plants of a sub-shrubby nature. The fungus produces spots on the leaves, pallid on the under side, with corresponding bright brown spots on the upper surface, which extend or run into one another by the growth of the mycelial hyphae within the tissue of the leaflets, which it abstracts of their contents, young leaves curling upwards and the tissues dying, so that the affected parts fall out or become brown and shrivelled. On the older leaves it causes them to assume the autumn tints prematurely, and they frequently fall before the proper time, consequently the plant is much weakened. The fungus pushes erect, simple, aseptate conidiophores sparingly, with an abrupt apex and a minute apiculus supporting a single conidium, which is variable in shape, obovate, ovate, or elliptic oblong (usually the latter), and colourless. This conidium (spore) caused trouble in other parts of the plant or on other plants of a suitable nature for yielding nutrition, but it is not uncommon for the plant to be badly infested one year and the next absolutely free from the disease. As a rule, however, the disease re-appears, sometimes after an interval of several seasons, and is quite as malignant as during the original attack. We can only recommend dusting the plant with Fostite powder or other of those advertised, commencing with the first expanding leaves and repeating at intervals so as to prevent the infection of the plant by keeping the growth as made coated with the fungicide. Dressing now will do little beyond preventing the spread of the fungus, while arresting the growth of the parasite in the plant by the absorption of some of the copper, and destroying the mycelium. Afford the plant a sheltered situation and a well drained soil.

Pear Leaves Discoloured (H. J. W.).—There is no parasite or any organism likely to cause the browned and destroyed condition of the leaves—at least, we cannot discover any, nor any trace of there having been such attacks. The appearance, however, is that of attack from the Apple and Pear blight "bacteria," or splitting fungus (*Micrococcus anglovorus*); but we cannot discover any germs, which are only just discernible with a microscopic power of 700 diameters. We were in hopes that this malady would be confined to the American orchards, but during the last three years we have seen blackened growths on Apple, Pear, and other pomaceous fruits which leave no doubt of their being caused by the "bacteria" accompanying the clamminess of the discoloured parts. The spores have a vacuole or space inside, so that each floats in atmospheric air when dry, and are thus carried through the air by the slightest wind, and they losing the vacuole by contact with air descend; not everywhere, as generally supposed, but are attracted to locations and hosts favourable for the development of the one-celled plants. This we have proved both in *Myxomycetes* (jelly fungi), *Schizomycetes* (splitting fungi, or so-called "bacteria"), as well as in fungi proper. The germs can gain access through the tips of growing shoots when soft, succulent, and clammy, and no doubt they occasionally enter through cracks in the bark. Little of this occurs, or is likely to occur in this country, for our springs are so gradual, and frosts occur so frequently, that the germs do not muster until June or later, when the tissues of Apple and Pear trees are practically proof against bacterial invasion. Nevertheless, we meet with blackened leaves and shoots occasionally, which is certainly induced by constitutional, climatic, or cultural conditions specially favouring the micro-organisms. Without these bodies we have browned and blackened leaves both indoors and outdoors, and the cause is usually traceable to excessive moisture on the leaves or to such supplies of food as are poor and watery. This may be the state of your trees. We can only advise attention to the roots and soil at the proper time, lifting and root-pruning if necessary, and during growth avoid syringing.

Names of Fruits.—*Notice.*—We have pleasure in naming good typical fruits (when the names are discoverable) for the convenience of regular subscribers, who are the growers of such fruit, and not collectors of specimens from non-subscribers. This latter procedure is wholly irregular, and we trust that none of our readers will allow themselves to be made the mediums in infringing our rules. Special attention is directed to the following decision, the object of which is to discourage the growth of inferior and promote the culture of superior varieties. In consequence of the large number of worthless Apples and Pears sent to this office to be named, it has been decided to name only specimens and varieties of approved merit, and to reject the inferior, which are not worth sending or growing. The names and addresses of senders of fruit to be named must in all cases be enclosed with the

specimens, whether letters referring to the fruit are sent by post or not. The names are not necessarily required for publication, initials sufficing for that. Only six specimens can be named at once, and any beyond that number cannot be preserved. They should be sent on the first indication of change towards ripening. *Dessert Pears cannot be named in a hard green state.* (J. M.).—We are sorry the Apples are so green and undeveloped that they cannot, with certainty, be identified. (T. J. M. D.).—As you will see above, it is a condition that senders of fruit for naming should send their full names and addresses. (Crua).—The fruit arrived much crushed, but we think it is the Brown Turkey. (W. G.).—1, Williams' Bon Chrétien; 2, Fearn's Pippin; 3, not ripe, probably Mrs. Pince's Muscat; 4, Foster's Seedling.

Names of Plants.—We only undertake to name species of plants, not varieties that have originated from seeds and termed florists' flowers. Flowering specimens are necessary of flowering plants, and Fern fronds should bear spores. Specimens should arrive in a fresh state in firm boxes. Slightly damp moss, soft green grass, or leaves form the best packing, dry wool the worst. Not more than six specimens can be named at once, and the numbers should be visible without untying the ligatures, it being often difficult to separate them when the paper is damp. (J. Hills).—*Eucomis punctata.* (Nemo).—1, *Hibiscus syriacus flore variegata*; 2, *Hibiscus syriacus flore purpurea pleno*; 3, *Spiraea Menziesii*; 4, *Rubus odoratus*; 5, *Lonicera involucrata*; 6, *Olearia Haasti*; 7, *Spiraea salicifolia paniculata*; 8, *Symphoricarpos racemosus*; 9, *Rhodotypos kerrioides*. (R.).—1, *Adiantum Pacotti*; 2, a variety of *Pteris serrulata*; 3, *P. serrulata*; 4, *P. longifolia*; 5, *Cyperus alternifolius*; 6, *Aralia Veitchii*. (S. W.).—1, *Heuchera sanguinea*; 2, *Polemonium Richardsoni*; 3, *Statice profusa*; 4, *Montbretia Pottsi*; 5, *Trollius europæus*; 6, *Chelone barbata coccinea*. (Amateur).—1, *Linaria dalmatica*; 2, *Hyacinthus candicans*; 3, *Veronica spicata*; 4, a *Campanula*, specific name undeterminable. (B. R. G.).—1, *Ailantus glandulosa*; 2, *Ulmus montana variegata*; 3, *Centranthus ruber*; 4, *Cornus mas variegatus*. (W. C. L.).—1, *Masdevallia coccinea*; 2, a variety of *Odontoglossum crispum*. (Junior).—1, *Stanhopea tigrina*; 2, *Dendrobium fimbriatum oculatum*. (G. M. D., Stirling).—1, *Pteris tremula*; 2, *Adiantum concinnum*.

COVENT GARDEN MARKET.—AUGUST 28TH.

SUPPLIES heavier with prices falling all round.

FRUIT.

	s.	d.	s.	d.		s.	d.	s.	d.
Apples, per bushel	1	3	to	3	0	Filberts, per 100 lbs. ..	35	0	to 0
" Nova Scotia, per						Grapes, per lb.	0	6	1
barrel	0	0		0		Lemons, case	10	0	15
" Tasmanian, per						Peaches, per dozen ..	1	0	6
case	0	0		0		Plums, per half sieve	1	6	2
Cobs, per 100 lbs.	40	0		0		St. Michael Pines, each	2	0	6

VEGETABLES.

	s.	d.	s.	d.		s.	d.	s.	d.
Beans, Kidney, per lb. ..	0	3	to	0	0	Mustard and Oress, punnet	0	2	to 0
Beet, Red, dozen	1	0		0	0	Onions, bushel	3	6	4
Carrots, bunch	0	3		0	4	Parsley, dozen bunches	2	0	3
Cauliflowers, dozen ..	3	0		6	0	Parsnips, dozen	1	0	0
Celery, bundle	1	0		1	3	Potatoes, per cwt. ..	2	0	4
Coleworts, dozen bunches	2	0		4	0	Salsafy, bundle	1	0	1
Cucumbers, dozen	0	9		1	6	Seakale, per basket ..	0	0	0
Endive, dozen	1	3		1	6	Scorzonera, bundle ..	1	0	0
Herbs, bunch	0	3		0	0	Shallots, per lb.	0	3	0
Leeks, bunch	0	2		0	0	Spinach, bushel	1	0	1
Lettuce, dozen	0	9		1	6	Tomatoes, per lb. ..	0	3	0
Mushrooms, punnet ..	0	9		1	0	Turnips, bunch	0	3	0

AVERAGE WHOLESALE PRICES.—OUT FLOWERS.—Orchid Blooms in variety.

	s.	d.	s.	d.		s.	d.	s.	d.
Arum Lilies, 12 blooms ..	3	0	to	4	0	Maidenhair Fern, dozen			
Asparagus Fern, per bunch	2	0		4	0	bunches	4	0	to 6
Asters (English) doz. bchs.	2	0		4	0	Orchids, various, dozen			
Asters (French), dozen						blooms	1	6	18
bunches	8	0		12	0	Pansies, various, dozen			
Bouvardias, bunch	0	6		1	0	bunches	1	0	2
Carnations, 12 blooms ..	1	0		3	0	Peas, Sweet, doz. bunches	1	6	3
" dozen bunches ..	4	0		8	0	Pelargoniums, 12 bunches	4	0	9
Chrysanthemum, dozen						Primula (double), doz. spys.	0	6	1
blooms	1	0		2	0	Roses (indoor), dozen	1	0	2
" doz. bunches ..	3	0		6	0	" Tea, white, dozen ..	1	0	2
Cornflower	1	0		2	0	" Yellow, dozen (Niels)	3	0	6
Dahlias, dozen bunches ..	2	0		4	0	" Safrano (English),			
Eucharis, dozen	1	6		2	6	dozen	1	0	2
Gaillardias, doz. bunches	1	0		2	0	" Yellow, dozen blooms	0	6	0
Gardenias, dozen	2	0		3	0	" Red, dozen blooms ..	1	0	1
Geranium, scarlet, doz.						" various, doz. bunches	3	0	6
bunches	4	0		6	0	Smilax, per bunch	2	6	4
Lilium lancifolium, twelve						Stephanotis, dozen sprays	2	0	3
blooms	1	6		2	6	Sunflowers (small) dozen			
" longiflorum, 12 blooms	3	6		4	0	bunches	2	0	3
Marguerites, 12 bunches ..	1	6		3	0	Tuberose, 12 blooms ..	0	2	0

PLANTS IN POTS.

	s.	d.	s.	d.		s.	d.	s.	d.
Arbor Vitæ (golden) dozen	6	0	to	12	0	Foliage plants, var. each	2	0	to 10
Aspidistra, dozen	18	0		36	0	Heliotrope, per dozen	4	0	6
Aspidistra, specimen plant	5	0		10	6	Lilium lancifolium, 12 pots	12	0	18
Campanula, per doz. ..	5	0		9	0	Lobelia, per dozen ..	3	0	4
Chrysanthemums, per doz.	6	0		18	0	Lycopodiums, dozen ..	3	0	4
Coleus, per doz.	2	6		4	0	Marguerite Daisy, dozen	6	0	9
Dracæna, various, dozen ..	12	0		30	0	" Yellow	9	0	18
Dracæna viridis, dozen ..	9	0		18	0	Myrtles, dozen	6	0	9
Euonymus, var., dozen ..	6	0		18	0	Palms, in var., each ..	1	0	15
Evergreens, in var., dozen	6	0		24	0	" (specimens)	21	0	63
Ferns in variety, dozen ..	4	0		18	0	Pelargoniums, per dozen	8	0	12
Ferns (small) per. hundred	4	0		6	0	" scarlets, doz. ..	3	0	6
Ficus elastica, each	1	0		7	0				



THE FLOCK.

It was the sight of some "kneeler" lambs that induced us to remind our readers that with the autumn sheep fairs comes the beginning of another twelve months of flock management, and to inquire if it is possible to improve in our flock management, or to turn it to better account in any way. With prices so high and markets so firm there is likely to be a very general enlargement of ewe flocks. Home-bred sheep will increase in numbers, notwithstanding the ever-growing importation of foreign mutton, and the farmer who breeds and feeds for early maturity, who has a sound flock, and takes care to keep it so, will find it more profitable than it ever can be without such care. Surely the steady and sure profit on sheep ought to prove an incentive to improvement, or at any rate to really sound management. Yet foot rot continues rampant in many a flock, no special attempt being made to eradicate it, or even to keep it well under, and there are districts where sheep-folding to enrich land is quite unknown. It would really seem as though there it was settled by common consent. "We like to have a few sheep on the land, but while the cows keep us going so well, why should we bother about sheep folds, early maturity, or special breeding in any way?" Well, we would force no man's hand; but we cannot be in sympathy with slipshod practice, and are certainly bound to point to better things. For the large flockmaster, with his thousands out on the South Downs or the Border Fells, folding has its use equally with the small grazier or mixed farmer. In East Anglia folding is better done than elsewhere, because the flock plays such an important part on the large arable corn farms. During the present agricultural depression it has always been understood in Suffolk that so long as a farmer could keep up his flock he could hold on and battle with hard times, but if he came to parting with it he was a doomed man. Without a flock, how was sustained fertility possible? The land must soon become exhausted, corn crops must suffer, bulk and weight would both decline, grinding corn only would be forthcoming, and failure would be certain.

Breeding for early folding, as well as for early lambs and hoggets, is splendidly done on many a Suffolk farm, whether the flock is of the admirable local Black-faced breed, or is a good cross with Hampshire Down tups. Both are good, the cross-bred animal being perhaps a little more hardy than pure Suffolk. Much depends on selection of both parents, but the matter is very simple; if the parents are fine healthy animals the lambs will have sturdy compact frames, and will answer. Provision for ewes and lambs next spring is being made now by root crops, Cabbages, Kale, and Rye. Lamb tups are selected, and are put with the ewes by about the last week in August. That is the general practice. On some farms the tups are in use by the middle of the month. It is all a matter of calculation, of ways and means. The period of gestation is twenty-one weeks, and if we would have really fine lambs by June lambing should be about over by the end of January, which means there must be an ample provision of dry food in case of a recurrence such severe weather as prevailed last February. It is well to remember that lambs did well all through the ten weeks of snow and frost, cold dry weather doing them no harm. It is cold and wet that proves fatal to so many of them.

On dairy farms the lambing might just as well be early if only enough land were kept under the plough for the cultivation of the necessary corn, root, and green crops. The Essex scheme of temporary pasture, with a six or eight-years shift,

lends itself to such a purpose much better than where the land is in permanent pasture. Take, for example, a 300 acre farm under a six-years shift, 50 acres would come for ploughing every year in rotation. Here, again, there must be calculation, a well thought-out system, thorough cultivation of the grass land. Then there is no reason, if a proper mixture of seed is used for the pasture, why it should not remain down for the longer period of eight years. There would then be only about 37 acres for the annual ploughing and cropping, and the question to answer would be, Will 37 acres afford enough Oats, Rye, roots, Kale, some Green Maize and if possible a few acres of Peas? In such a calculation there must be a little latitude, precision is impossible, and we have to consider the requirements of the whole of the farm live stock as well as the flock. This means doing well by the land, and well by the flock. It leaves nothing to chance, pays only sufficient heed to bad seasons to guard against them to the utmost by making all possible provision for emergencies of food, shelter, and healthy live stock to turn it to full account.

WORK ON THE HOME FARM.

Though the corn harvest has been somewhat delayed by occasional heavy storms, the dry and very hot weather has been favourable to carting very much of the corn in good condition. As usual, we have had two large barns at the home farm filled with corn for thrashing by hand at midwinter. There is no material addition to the cost for doing this work, and it is unquestionably a great boon to the men, giving them something to look forward to in the winter when they are either turned off or are kept on the verge of starvation at many a farm. A little consideration to provide work for them heartens the men and does good all round, especially in keeping reliable men at hand who can turn their hands to anything and everything on the farm.

See to thatching and trimming corn stacks, taking care in building to keep the middle well up, and to top up at a good height and acute angle so as to throw off rain well. Clip the sides of Barley stacks closely, it prevents waste, and the mixing of stained grain with that of good colour when the corn is thrashed. Move portable poultry houses to have the fowls clear up all fallen or littered corn, and allow no waste or slovenly work about the farm.

The folding on poor pasture of over-age ewes drafted from the flock may begin now; use one hurdle per sheep, moving the folds forward at intervals of twenty-four hours. We sometimes purchase a few score such sheep for this purpose, but good ones are exceptionally dear now, ranging in price from 33s. up to 41s. If any are purchased it is well to have them in tolerably good condition. There are plenty now at fairs and auction sales that are in wretched plight owing to the lambs having been kept with them long after they ought to have been weaned. We saw some on a border farm in July that were positively larger than the wretched ewes still suckling them. If early lambs are required be prompt to procure tups, if that is not done already. Really good Hampshire Down lamb tups range in price from 5 guineas up to 22 guineas. From 5 guineas to 7 guineas is about our usual price for really useful animals. At the great sheep fair at Britford 40,000 were penned, full-mouthed ewes selling readily at from 42s. to 47s., two-tooth ewes 39s. 6d. to 45s., ewe lambs 25s. to 39s., good wether lambs 40s. 6d. to 49s. At such prices sheep farming continues profitable, and is a ray of light pointing, we hope, to a brighter future for farmers.

METEOROLOGICAL OBSERVATIONS.

CAMDEN SQUARE, LONDON.

Lat. 51° 32' 40" N.: Long. 0° 8' 0" W.: Altitude 111 feet

DATE.		9 A.M.					IN THE DAY.				Rain.
1895. August.	Barometer at 32° and Sea Level.	Hygrometer.		Direc- tion of Wind.	Temp. of soil at 1 foot.	Shade Tem- perature.		Radiation Temperature			
		Dry.	Wet.			Max.	Min.	In Sun.	On Grass.		
Inchs.	deg.	deg.		deg.	deg.	deg.	deg.	deg.	Inchs.		
Sunday .. 18	30.164	68.1	61.7	N.E.	61.4	77.9	54.0	117.6	46.4	—	
Monday .. 19	30.08	67.0	60.0	N.	61.8	80.0	50.4	121.0	45.9	—	
Tuesday .. 20	30.125	68.2	61.9	W.	62.9	75.2	59.1	118.9	54.7	—	
Wednesday .. 21	30.096	65.4	61.0	S.	63.4	81.3	56.1	123.8	50.0	0.049	
Thursday .. 22	29.897	67.6	65.9	N.	64.3	81.2	63.2	122.1	59.8	0.393	
Friday .. 23	29.902	67.6	62.9	S.	64.3	74.9	59.2	119.9	60.2	—	
Saturday .. 24	29.981	62.6	55.7	N.W.	63.8	70.1	54.9	118.3	50.7	—	
	30.035	66.4	61.3		63.2	77.2	56.7	120.2	52.5	0.442	

REMARKS.

18th.—Bright sunshine almost throughout.
 19th.—Bright and hot throughout, and fine evening and night
 20th.—Overcast, with occasional gleams of sun in morning, sunny afternoon.
 21st.—Warm and sunny throughout.
 22nd.—Thunder, lightning and showers from 7.45 to 9.30, misty and damp till 11.30, then alternate sunshine and cloud and a heavy thunderstorm in evening with 0.34 of rain in fifteen minutes.
 23rd.—Slight shower early, bright sun almost all day.
 24th.—Generally sunny and pleasant.
 A fine warm week, very much like that ending June 29th, except that (probably owing to there being more vapour in the air) we have this week had a very fine thunderstorm.—G. J. SYMONS.

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Prices and full particulars, with Sample Frond if desired, by post.

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Journal of Horticulture.

THURSDAY, SEPTEMBER 5, 1895.

DUKE OF BUCCLEUCH GRAPE.

WE have this fine Grape in really capital condition this year. As a rule we grow it very successfully, but of course some years it is better than others. No one need hesitate to plant and grow the Duke, if only some special rules in connection with its cultivation be attended to. First of all when planted as a young cane in an early house it should not be after Grapes have been cut, and the house is being kept cool. I have seen it subjected to this treatment, and then people wondered why it did not grow. It should be planted in April or May, treated to a good genial temperature, and be in every way encouraged. When this is done there need be little fear but that the Duke will grow.

When it has made its growth for the season an abundance of air, combined with heat, should be given in order that well-ripened wood may be secured. This is a most important point, as one of its weaknesses is a tendency to develop gross shoots that ripen badly. Let us take for granted that it has grown well and ripened its wood, then the next thing to consider is the pruning. Young canes should not be left more than 6 feet long the first season. If one has secured that amount of good, well-ripened wood, fit to show fruit next season, things have gone well.

Supposing the next spring to have come round and "The Duke" to be showing fruit, the first thing to pay particular attention to will be the "setting" of the bunches. As a rule this variety is benefited by artificial impregnation, which may be done with a feather, drawing it lightly all over the blossoms when these appear to be ready for the operation. If properly done there need be little fear of a bad "set." Allow the berries to be as large as possible before any thinning is attempted, as it has a tendency to show berries that do not stone. When thinning can no longer be delayed let the operation be done with extreme care, as the very thin skin renders it liable to be easily damaged by the point of the scissors.

When the berries are properly "set" and fully swelled they often attain to 4½ inches in circumference, in fact I have measured them 4¾ inches, so one can imagine that not many berries are needed to make up a respectable

No. 2449.—VOL. XCIII., OLD SERIES.

NEW BULB CATALOGUE (No. 134) 1895,

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No. 793.—VOL. XXXI., THIRD SERIES.

bunch. When the ripening stage approaches the atmosphere should be kept dry and moisture withheld from the roots, as when too much atmospheric moisture or too much water at the roots is given a tendency to crack is developed.

Under proper conditions of culture we have had this Grape in splendid condition till December, though it is not recommended as a keeper but is essentially an early Grape. When of a golden colour the flavour is most rich and its quality in every way splendid. After the Grapes have been cut every attention should be given by judicious airing, and, if need be, firing, to secure the thorough ripening of the wood. In pruning leave the spurs at least three or four eyes long. In the spring the best shoot can be selected and the other eyes rubbed out. Attend to the maintenance of a succession of young rods, as "The Duke" fruits much the more freely on young wood. Sometimes in a wet season it has been found necessary to cut a nick or bore a hole in the laterals to prevent cracking. When the bunch is more than three or four eyes from the main stem this can be done; but when closer it is not convenient, as it injures the wood that should be left for another season. Of course, when the borders are all inside, or when outside borders can be protected from heavy rains, the boring of the laterals is not necessary.

Though requiring special attention and treatment, the good qualities are so many that it is well worth all the extra trouble connected with its culture. Its qualities constitute it essentially a Grape for the dessert table and for the sick room, especially so when it can be presented without being subjected to the trials of travelling and the hardships of the market. Possessed of a very thin skin, a luscious flavour, at once both rich and refreshing, and taken all in all, "The Duke" is a noble Grape, and those who have grown it successfully ever since it was raised know full well its splendid qualities.

I have been induced to write these few lines by the numbers of applications I have had lately from people in all quarters to tell them some particulars about it, and I trust these few practical directions, given by one who has an intimate acquaintance with, and a profound admiration for "The Duke"—in spite of its little special weaknesses—may prove useful to some of your numerous readers.—JOHN THOMSON, *Clovenfords*.

P.S.—When I recommend planting in April or May I, of course, refer to young growing Vines raised from eyes in February. When ripened canes are planted they should be put into their quarters by the time the house is started. I need not here enlarge on all the details of planting, as the ordinary treatment often recommended in the Journal suffices to secure the proper settlement of "The Duke" in its permanent, and, in all cases let us hope, fruitful position. The latter in a great measure depends on those peculiarities of treatment that I have mentioned.—J. T.

[Our correspondent has sent us what we may fairly describe as a full and faultless bunch of "The Duke." At least a hundred of the clear and spotless berries exceeded 4 inches in circumference, some $4\frac{1}{2}$, and one $4\frac{3}{4}$ inches. The quality was most luscious and enjoyable. "The Duke" is grown at Frogmore by Mr. Owen Thomas in a manner worthy of the table of the Queen, and more need not be said recommendatory of this magnificent Grape.]

LESSONS BY THE WAY.

DOVER.

AND what about Dover? Surely there are no lessons on gardening there! No; not many. It was noticeable, however, after an absence of a few years how great is the change in the supply of garden produce, as seen in the shops, and this at any rate has something to do with land cultivation. There is a marked advance in all departments—fruit, vegetables, and flowers—the improvement being apparent both in cultivation, selection, and presentation. It is satisfactory to see this combination, and it affords a lesson of no small importance to all who desire to succeed in either growing or disposing of such produce of the soil in the country as consumers need in our towns. Not one of the con-

ditions alone will suffice. A man may waste his strength in labour and his means in enriching the ground if the crops he grows in it, no matter how luxuriant, are bundled into the market in a rough-and-tumble sort of way—unsorted, untrimmed, and consequently untempting. There has been too much of this in the past, but growers of fruit, vegetables, and flowers for sale are steadily and surely learning the better way. Nothing is so effective in increasing the demand for garden produce as placing it, in its various forms, in the most attractive manner possible before the public as trim, clean, appetising, and alluring as if staged for prizes at an exhibition.

Early summer Apples are in great demand on the sea coast. Early Julyans, also red and white Margarets, were plentiful early in August; but far more attractive were the larger and more brilliant fruits of Mr. Gladstone. These were seen on the barrows of peripatetic vendors finer than they have ever been seen at the R.H.S. meetings at Westminster, and growers have had no difficulty in obtaining 15s. a bushel for selected produce. In one instance a small offer of Beauty of Bath did not remain long unsold. The almost faultless symmetry and distinct mottlings of this Apple arrested attention, but the fruits were not so large nor so highly coloured—rich bronzy chestnut—as those of Mr. Gladstone, nor, perhaps, quite so juicy when this is "caught" at its best, though it may be said it does not remain in its highest condition for many days. It soon goes "sleepy," and in this respect is not like the wideawake and world-renowned octogenarian whose name it bears, and who, I am told, finds a little time for reading his *Journal of Horticulture*. Early summer Apples are like some of our best Pears, in being when ready for use soon over; but still the Pears are grown, and so must be the Apples, for the first and the best of anything that is good invariably sells readily when prices are not prohibitive to the million of consumers—townspeople or seashiders.

No visitors from far inland districts can remain many minutes on the South Coast without observing the remarkable luxuriance and glossy leafage of the evergreen *Euonymus*. They are seen everywhere and in all aspects—on window-sills and balconies, as well as covering walls and forming hedges. In a small public garden at Dover the seats are ensconced in recesses of *Euonymus* hedges, curving round the band stand, as well as in short, straight avenues radiating from it. The idea is good for the position and purpose. Grateful shade above with cool and refreshing greenery all round are what the people long for, and when found appreciate, in parks and gardens during sultry days. These conditions are more fully recognised and generally provided on the Continent than in England, and in too many of our parks the trees are in one place, walks and seats in another, the people sweltering in the sun when shade is near and yet denied them. This question of providing cool canopies of foliage, so grateful in summer, has been too much lost sight of by designers of many public parks both in London and the provinces, and it is hoped it will have more attention in the future. There are signs of movement in the right direction by the metropolitan authorities, and it was gratifying to find that in one of the latest formed parks—Peckham—that broad walks have been formed under the shade of trees and seats provided round them. The more that is done in the same way the more must and will the pleasant places of public resort be appreciated by visitors. There are lessons to be learned everywhere if we will but see them.

We will now move from the low sea-front and its too small garden at Dover and ascend the rugged heights and see what can be learned there. The white cliffs rise in places to a stupendous height, making the residences at the foot appear like toy houses in comparison; and overlooking town and sea the grand old castle stands. It can be reached without difficulty, as steps are provided for pedestrians, and sloping, twisting roads for vehicular traffic. In ascending, or without, there may be seen in the crevices of the rocks one of the ancient homes of an ancient vegetable, though thousands of persons who may notice its flattish, crimped, sea-green leaves and yellow flowers know not what it is, nor the important results which have accrued from it in the matter of wholesome, indeed indispensable, food. It is *Brassica oleracea*, the originator of not only all our Cabbages and Kales, but all our Cauliflowers and Broccolis. In these we have a wondrous lesson in evolution, brought about by the sports of Nature, but more particularly by observation, selection, and cultivation of men, whose names are buried with the centuries, but whose work in improvement is continued till the present hour, and will not cease. "Do you mean to say," remarked a bystander, pointing to one of the yellow flowered plants growing amongst Seakale between the rocks, "that it is the oldest of our Cabbages?" "Yes," was the reply, "certainly; it is the old original, the first parent of them all." "Very well, then," was the response, "I shall call it Adam, and I think Adam likes salt. Do you think I had better give some to my Cabbage

beds in the Midlands?" It will be seen that the midlander was quick to derive a lesson by the way, as he noticed that the plants on the cliffs receive regular sprinklings of the sea's salt spray. He was told that salt is good for all the tribe if used in moderation—say, about 2 ozs. to the square yard in spring on soil of a light and dry nature, less to moister and stronger land. He at once made up his mind to try it next year, and so may others, with advantage, who reside far from the coast.

We were next on the "heights," drinking in the ozone, the French coast visible enough across the Channel, as the day was clear. Those who were on the same exalted position, or indeed much below it, on the coast, on the night of the storm—the 17th ult.—which swept over England, had such a sight as they had perhaps never seen before, and will not soon forget. The storm was raging over France. The dense black wall of cloud was pierced every moment by a thousand lightning flashes, which lit up land and sea. The effect was of almost overwhelming grandeur, and in comparison with which the fireworks at the Crystal Palace and Shrewsbury were as the sputterings of bad lucifer matches. But we will come to the earth again. On the high road, for "high" it is between Folkestone and Deal, are, or were, some significant lessons by the way—the majority good, several medium, and a few unspeakably bad.

Why should a large field of Wheat average 6 quarters an acre and another adjoining it, without even a fence between, not give a yield of 3 quarters? Why, again, should an expanse of Barley attract by its magnificence while the one adjoining repels by its wretched appearance, studded with thistles sufficient to feed all the donkeys in Dover? It cannot be said that the rain fell copiously in one field and not in the other. It cannot be said that the soil varies in its staple any more than the herbage on the roadside varies in its character. The poor crops could not give a penny an acre profit if not a penny an acre was paid as rent; but the full crops would give a fair if not a great return to the tiller. The difference is due to good cultivation, sound management, and to that alone. On the one hand the land is well worked, stored with fertility, and kept clean; on the other, merely skimmed over and impoverished, exhausted by worthless weeds. A pity it is to see so much land in various parts of this island home of ours in the hands of men who, unfortunately, are without either the means or the skill of doing justice to it. It is a serious matter; serious to themselves, to landowners, and the nation. The way out of the difficulty is pointed out by many a smiling field of grain and thrifty plantations of young trees laden with their golden harvest. The path is in the direction of sound knowledge, good judgment, and high cultivation. None other is so safe and so sure.—INSPECTOR.

FRUIT FARMING.

ON the margin of the vale of the Kennet, and just at the base of the high ground which encloses this fertile valley on its northern side a little above Alderminster Station, and some six or seven miles from Reading, is Hillfoot Farm, a very appropriate name. The owner is Mr. Richard Webb, who is something more than a farmer, for he is a yeoman freeholder, a rather unusual thing in a district where land seems to be so largely absorbed into huge estates. Mr. Webb can from his higher ground look across the valley obliquely, and discern some three miles distant the freehold farm of our friend Mr. Robert Fenn, who also cultivates fruit, and is, as most readers of the *Journal of Horticulture* know, an enthusiastic gardener. Mr. Webb's patrimony is of the extent of some 90 acres. The lower portion lies in the valley; the back part mounts on to the hill, and it presents agriculturally and picturesquely as desirable a property for fruit culture as could well be found anywhere. The farmhouse and buildings were erected in 1715, and the land has been in cultivation some 200 years. It may be said of it to-day, under the care of an educated and an energetic man, that this same ground is far more productive perhaps than it has been at any time in the past. The soil generally is of a fairly strong loam, but it seems to be deep, and certainly fruit trees of all descriptions do wonderfully well.

Mr. Webb commenced his fruit cultivation absolutely as a tyro. His friend, Mr. Fenn, seems to have partially inspired in him a love for fruit, and his first attempt was by the purchase of some 2000 trees at a sale lower down the valley. Although this large number was taken because so many small people wanted a dozen or so, and the auctioneer could not satisfy their requirements, Mr. Webb purchased them, resold to meet the wishes of his neighbours and others, then brought the remainder home and planted them as an orchard on rising ground above the farmhouse some fifteen years ago. I saw this original orchard the other day. Many trees had been grubbed, not having done well; others were in first-rate condition and fruiting superbly, Apples and Plums

especially. The ground is rough, and all the dressing is found in occasional cartloads of road trimmings, drawn on and spread over the grass. But this venture sufficed to whet the grower's appetite for greater things, and to-day Apple, Pear, and Plum trees may be seen in all directions, literally by thousands. One great fancy of Mr. Webb's is to plant corners, or portions of fields that do not admit of convenient ploughing. Another fancy has been planting trees at different elevations—on the flat, on the rising ground, and on the summit, for the purpose of testing the effects of spring frosts on the blossom, and it is exceedingly annoying to the morally certain to find that the report as to results is undecided. Sometimes the blossom low down may suffer, sometimes higher up, so that the experiment only proves that fruit trees may be planted almost anywhere, it soil be suitable, with fairly assured certainty of success.

It is worth climbing up on to the higher ground, too, if but to get some most beautiful and extensive views of the surrounding country. Berkshire can exhibit few aspects of country more beautiful than may be seen from the Hillfoot Farm. As evidence of the excellent nature of the soil for fruit there is beside the house a Jargonelle Pear tree so old, and with such an immense stem, that it is believed to have been planted when the house was built. Apple trees dominate in the orchards, and they are both on the free and the Paradise stocks. Generally, too, they have been planted too close, even so near as 6 feet apart each way; but a big job this ensuing winter will be the lifting and transplanting of thousands that are now too thick. They may be partially checked for a year, but as the soil is so generous there is little fear that they will suffer appreciably. There is one recently made plantation close beside the road leading to the farm, protected only by a low rail, where just within I saw splendid Bismarck fruits, rich in colour, and many other fine sorts that a boy if tempted could easily have reached. Another similar belt is to be planted on the other side of the road the ensuing winter. The samples of Lords Suffield, Grosvenor, and Derby, Potts' Seedling, New Hawthornden, Lane's Prince Albert, Warner's King, Royal Jubilee, Mère de Ménage, Stirling Castle, Duchess of Oldenburg, Ecklinville, Gasgoine's Scarlet, Golden Spire, and Noble, Cox's Pomona and Orange Pippin, and many others are first-class, and crops splendid. The Dartmouth crop is here fruiting most superbly on bush trees, two years transplanted. I have never seen more brilliant colour. On established trees growth is rather gross, so that transplanting in this case is a good corrective. The Transcendent Crab is about to be added to the stock. Plums of many sorts, even Gages, fruit finely on large trees, and Pears equally well.

Mr. Webb disposes so far of all his grand fruit locally; none goes to market. That is a phase of market sale that cannot be too highly commended. I specially noticed in one plantation that the trees had small hillocks of soil about the roots. I was told that as it was shallow worked only, having been prepared by ploughing, the trees had been planted rather shallow and soil heaped over the roots with the happiest results. A large area of the farm is utilised for seed production and Potato culture for a well-known seed house. The soil seems to be admirably adapted for that purpose also. High upon the rising ground a large plantation of Farleigh Prolific Damson has been made, and the trees are doing wonderfully well. Everything here seems to emphasise the undoubted fact that this fertile valley, and especially its hillsides, are splendidly adapted for fruit culture.

So far bush fruits have not been extensively grown. Mr. Webb tells the story of his first attempt at grafting an old beheaded tree with the aid of an assistant, who knew as much about the operation as himself. He said, "It would have amused you to have seen us with Mr. J. Wright's Fruit Essay before us for a guide, preparing our grafts, inserting them, tying in, and claying over; the instructions in the book being rigidly followed, with the result that novices in the art as we were we had a great success. I buy very freely from the trade, but in a few cases where varieties do not seem to thrive well, they are beheaded and grafted with some other good variety." We find on the Hillfoot Farm a capital illustration of the way in which an energetic intelligent man can, with the greatest success and the best results, combine ordinary agriculture with fruit culture.—A. D.

FUCHSIAS IN THE FLOWER GARDEN.

SINCE the old-fashioned stereotyped methods of straight lines and acute angles in bedding have been in a great measure superseded by the much more pleasing arrangements of to-day, it is a matter for surprise that the flatness of many beds filled with their summer occupants is not abolished by the use of Fuchsias, for which purpose we have no plants possessing the same qualifications.

This appears to be no new idea, as years ago able writers pro-

phesied that they were destined to take high rank in the embellishment of the flower garden of the future. That these forecasts have to some extent come true is admitted, yet, methinks, not to the extent anticipated, as Fuchsias are not used for garden adornment nearly so much as their many merits deserve, as whether in sunshine or rain they continue flowering, and in beds or borders have a most charming effect. Any doubts as to the veracity of such a statement would instantly be dispelled on paying a visit to Hyde or any other of the famous London parks where Fuchsias are largely and advantageously used for summer bedding purposes, and at this period add no small share to the sum total of floral beauty displayed. In Hyde Park they are chiefly used in the flower beds, towering up in gracefulness above a groundwork of other brightly contrasting plants. This, however, is not the only way in which they may be employed to advantage, as by grouping several plants together on slightly raised mounds on the grass, choosing full-growing varieties of branching habit, a most pleasing effect is formed. Specimens of less than from 4 to 5 feet high are not sufficiently imposing for such positions, nor should the plants be less than 2 feet through at the base, and the branches graceful, not having been pinched too late before flowering commences.

Another method is the arrangement of three or four plants of one variety, with a grass space of several feet between. In this case the pots may be plunged over the rims and supplied as required with water, and in almost every garden there are areas of turf where a little variety in the shape of groups of these graceful plants might be introduced with much advantage. With the advent of September, the end of which month practically closes the account of the display of summer bedding, many readers will doubtless be paying extra attention to this department in the shape of taking note of what has proved the most effective throughout the season, and perchance forming ideas for new departures and improvements to take place in the future. To those who have not grown Fuchsias for this purpose, and perhaps have not had an opportunity of studying the merits of these plants for summer bedding, the plea for them is especially put forward, as in addition to many other qualifications, some of which have been already stated, they add what is often sorely wanted in bedding arrangements—variety. The ever increasing demand of the age is for something fresh, some conspicuous feature that the eye has not been accustomed to see, and in many private gardens known to the writer, yea, and in hundreds of others entirely unknown, this demand might be easily and satisfactorily supplied by the introduction of Fuchsias as bedding plants.

They are more earnestly recommended owing to the fact that the cost of production is practically nil. It is a very different thing advising the cultivation of this and that, the possession of which may be entirely beyond the reach of many gardeners, owing to price, scarcity, or other reasons. With the subject in question, however, no such crotchet bars the way, as everyone grows Fuchsias, of course, and though even the commonest varieties produce good results outdoors, yet some are more suitable than others. Lord Beaconsfield, for instance, so well known as to need no description is a most effective kind for the purpose. Mrs. Marshall is also well suited, being profuse in flowering and of graceful habit, while Tower of London, with its bold appearance and large flowers; Rose of Castile, with free and floriferous habit of growth; Daniel Lambert, free in habit, and of colour scarlet and purple, and a charming and very graceful variety, with pale green foliage, bearing large clusters of bright flowers, are all in possession of excellent qualifications for flower garden embellishment, though, of course, there are many others that might also be added to the list.

How to proceed to obtain suitable plants is the next point. In order to get fine specimens in good condition for future use a start should be made by rooting cuttings now, keeping the plants growing steadily during the winter months, and affording them a season's growth in the greenhouse until large enough for the required purpose. The following year they may be employed in the flower beds, and afterwards when larger they will if necessary come in as specimens for the grass. It must not be thought that by growing them in strong heat they will sooner attain a suitable size, much more likely will they be to shed the greater part of their leaves. A cool greenhouse is the place to grow them, so as to induce a free sturdy habit, without which they will not take freely to their new quarters. Water should be freely administered during hot, dry weather, this being most essential to success, as the Fuchsia is a moisture-loving plant; and in cases of tall specimens a stout stake should be fixed in the ground close to the stem, and the plant fastened securely to it. Attention during the summer must be given to picking off all seed pods, as their presence greatly taxes the blooming powers of the plant. Liquid manure in dry weather will assist them materially, and under favourable conditions abundance of bright flowers and graceful foliage will assist

in prolonging the beauty of the flower garden late into the autumn until at length Dame Nature steps in with frost that closes the bedding account for one more season.—G. H. H.

SALADS.

THE importance of this subject can hardly be over-estimated, and though it is here purposed to treat more of the composition of salads than of cultural details, I venture to think that in doing so no infringement of the duties of those by whom the final operations are generally performed is implied. Only, perhaps, in those large establishments where the demand exists, and a good salad has to be supplied all the year round, is sufficient interest taken by all concerned to do justice to the matter. In this case salad-making is an art, and the grower instinctively feels that he is encouraged to produce the best examples of each kind necessary, and, moreover, that his efforts will not be marred in the final stage. If these conditions were the rule instead of the exception gardeners might rest content, though I see no reason why they should do so, nor that all interest in the matter should cease when the materials leave the garden. Anyway, it may be taken for granted that there are innumerable places where at certain seasons a good salad is appreciated, and in many of which neither due time nor thought is given to accomplish the object.

Although the subject is fully recognised in our day by the masses in the elementary form of a good Lettuce, as well as by the classes in its more varied form, the art of salad-making is no new epicurean fashion. Charles Dickens, in "Barnaby Rudge," speaks of the pride taken by a Chaplain of Newgate in concocting a lobster salad after a more gruesome task. With lobsters—described by a compiler of the dictionary of the French Academy as "a little red fish which walks backwards"—we have nought to do; with the salad proper we have all to do with, or, at least, it would in some instances, I think, be better if we had.

In considering the constituents of our salad bowl they may, I think, be allotted to three sections—viz., the essential, the palatic, and the ornamental. Given the harmonious blending of the whole will yield the happy consummation of the salad maker's art. With the essential a good crisp Lettuce (or Lettuces) comes first on the list. All else may, indeed, be a matter of taste; yet I will here include such things as in my experience are usually looked for, according to the season—viz., a Cucumber, Endive, Mustard and Cress, Tomatoes, Beet, Radishes (white and red), Watercress, Chicory or Dandelion. The two latter articles, also Endive, may rather be regarded as supernumerary when good Lettuce is procurable.

With the Lettuce general opinion appears to favour the Cabbage varieties, of which All the Year Round may be regarded as the type, and the delicate blanched hearts, when divested of the coarse outside leaves, are the beau ideal for the groundwork of a good salad. These, when cut, should be thrown with the other essentials into a tub of cold spring water for an hour at least, and if the tap or pump is made to contribute a running supply so much the better, for not only do we require cleanliness above suspicion, but that cold, crisp freshness which makes the difference between mediocrity and perfection. Before removing from the water the Lettuce (or similar things) should be pulled leaf from leaf, and eventually drained by shaking up in a large rough (needless to say clean) cloth, to be finally pulled to pieces by the fingers—not cut with a knife.

Tomatoes in season may well (and I think usually do) take the place of Beetroot. Fruit of both the golden and red varieties, rather below than above medium size, when sliced, are in addition to other qualities highly ornamental. The Cucumber, unless proscribed—for it must be understood that all things mentioned here, with the exception of Lettuces, depends, as previously stated, on individual taste—is rather important, and the provider will do well to ensure that it is not cut from a bitter variety, which occasionally occurs; also that it errs on the side of youthfulness. A delicate green-skinned Cucumber is sometimes thinly sliced with the skin intact, and the quantity used is proportionately small to the other articles.

Watercress, of which the tender tops may be used whole, is best procured from a running stream of pure water, for it is a plant favoured by some insects (one in particular of which I do not know the name) and which the most vigorous washing will often fail to eradicate. In places where this pungent and wholesome herb is difficult to procure, it can be readily raised from seed (or grown from cuttings) in a cool, moist corner of the garden, and a daily watering will give good results. Of Mustard and Cress but little is needful to say, beyond that the qualities are impaired when breaking into rough leaf, and a light hand is required in cutting and washing. In using, small tufts of each may be deftly inserted at intervals over the surface of the salad in its growing position.

A few, very few, Radishes of each colour thinly sliced will be incorporated with the other ingredients. With these our salad-maker will bear in mind that his finished work is to be one presenting, as far as possible, an open invitation to all sorts and conditions of teeth and digestive powers. A well coloured Beet, when Tomatoes are not used, is a necessary adjunct. Difficulties are apt to occur in the boiling, as the colour is lost by breaking the tap root. This can be avoided by baking the Beet in an oven, by which process all the colour is retained. In season, the heart of a stick of Celery may be added, shredded into thin curly wisps. Winter substitutes (blanched), or helps to the Lettuce, will be treated as such in their preparation for the salad bowl.

In dealing with the palatic, the most juvenile of spring Onions, the culture of which may not necessarily be confined to that season alone, are appreciated by many, though the maker in catering for a company may extract a moral from the following quotation:—

"Let Onion atoms lurk within the bowl,
And, scarce suspected, animate the whole."

Under this heading the truth of the old adage, "what is one man's food is another man's poison," is forcibly impressed. An anecdote of a celebrated chef may here be relevant to this matter, for I would rather my readers should understand that this is a chat about salads than a formal recipe. This prince of salad-makers was able to impart a subtle flavour to his handiwork, which was grateful and comforting to his patrons, at least till such time as their curiosity, aided by some pecuniary consideration, fathomed the mystery. His method was, to chew a piece of Garlic, and charge the contents of the salad bowl with the aroma by breathing through it at the moment of serving. To sum up, it may be concluded that the presence of the Onion tribe is more grateful to the palate than to the eye. Chives may be used as a substitute, whilst a few sprigs of Chervil or Tarragon comprise the principal herbs used for giving a piquant tone to the salad. When in season, the nut-like flavour of Rampion (the root) is appreciated by connoisseurs. Necessarily all contributions under this heading will be reduced to fine proportions to ensure their proper blending with the whole.

Of the ornamental, the tasteful disposition of such ingredients as are already mentioned will probably leave but little to be desired. Green and gold, red and white, should please the critical eye, and further adornment if desired can be readily and appropriately made by using a few bright blossoms and leaves of Nasturtiums. In some cases it may be practicable by inserting the end of a spray at the edge of the bowl to trail it around the outside. But above all things, necessary to the enjoyment of this dish, is perfect faith in the conscientious aims of the maker to thorough cleanliness.

There remains to be mentioned the dressing. This I regard as a totally distinct phase of the subject, also extraneous to the gardener's art in the salad bowl. As such would I keep it, and I think that those whose interest in the subject is sufficient to appreciate an attractive, well-made salad, will agree with me that the dressing should be served separately. Such, at least, is the experience and opinion of—CHEF.

THE SUMMER THORN PEAR.

THIS excellent early autumn Pear is at the present time ripening fast, and there is a tall standard apparently about fifty years old growing in my garden; also three or four equally fine trees in an adjoining garden, all bearing a heavy crop, and for the last ten years or so they have regularly borne more or less similarly. As far as I am cognisant the trees mentioned are the only specimens hereabouts, a matter of wonder considering the comparative local fame this variety has created. It sells readily at 2d. and 3d. per lb.

It would be interesting to learn if this variety is grown more or less extensively in other parts of the kingdom. I find that it is hardly known even amongst nurserymen or other fruit tree growers around Birmingham, neither have I ever found it in the markets there, though several sorts are sent in, especially from the orchards in Worcestershire, the major portion of them being almost worthless so far as flavour goes. Here the Summer Thorn has hitherto been recognised as Jargonelle, which variety it much resembles both in appearance and flavour, also in growth and habit of the tree; but the fruit of the former hardly attains to the size of the latter, and the flavour is not so vinous and juicy, but more sugary, and the flesh of a more yellowish brown colour.

Since penning the foregoing notes I have been informed that this Pear is known by the name of the "Thorn" Pear in Sussex. My informant on tasting my own Pear at once pronounced it to be the same variety under that name as growing in the orchard at her paternal home in that county. Unfortunately, like its type the Jargonelle, the Summer Thorn does not keep long in good condition and readily "blets." The following extract is a faithful description of it from Hogg's invaluable "Fruit Manual":—

"Fruit medium sized, pyriform or long pyriform, and rounded at the

apex. Skin smooth, and covered with greenish russet dots, green in the shade, but yellowish next the sun and towards the stalk. Eye small, open, with long broad segments, set in a shallow and plaited basin. Stalk an inch long, curved, and obliquely inserted without any depression. Flesh white, melting, juicy, and of a rich musky flavour."

By parcel post I have sent you a few of the fruits for the delectation of the editorial palate and the office "imps."—W. G.

[The "palate" is satisfied with the quality of the Pears, and the "imps" danced with delight as they devoured the fruit our correspondent so thoughtfully sent them.]

HYPERICUM MOSERIANUM.

MANY fine additions have from time to time been made to the long list of Hypericums, the majority of them being either newly introduced species or improved varieties of older forms. In *Hypericum Moserianum*



FIG. 31.—HYPERICUM MOSERIANUM.

we have one of hybrid origin, which, though not entirely new, is one of the best, being the result of a cross between *H. patulum* and *H. calcycinum*, the former being the seed parent. The hybrid, which is admirably portrayed in the engraving (fig. 31), is of dwarf, compact, and yet robust habit, and is capitally adapted for planting *en masse* in flower beds. The woodcut depicts the natural size of the flowers, which are of a bright golden yellow hue. They are produced in great profusion, and the period of blooming extends over several weeks during the late summer and early autumn, which is in itself sufficient recommendation for its being extensively grown, as it adds an air of brightness to the flower garden at a time when its beauty is commencing to wane.

MODERN GRAPE GROWING—THINNING THE BUNCHES.

(Continued from page 158.)

How many bunches to leave on a Vine is a question which cannot be answered straight off without knowing something of the conditions. We first thin to one bunch on a lateral without exception as soon as they are sufficiently developed to pick out with the finger-nail. If the bunches are not likely to average more than three-quarters of a pound, and there is a prospect of having half a dozen good leaves fully exposed to the light on every lateral, one bunch may remain on each till the flowers are set, and then after cutting a few faulty ones away the crop may not be too heavy. With bunches averaging $1\frac{1}{2}$ lb., one on every other lateral will be sufficient, and if larger bunches are produced or required there must be more room allowed for leaf growth. The bunches on the best of our Vines would average 3 lbs., but then the laterals are $2\frac{1}{2}$ to 3 feet in length, and are furnished with eight or ten large leaves besides small ones, and the main stems being 5 feet apart, almost every leaf is fully exposed to the light; in fact, not only is this the case, but there is scarcely a patch of border a foot square that the sun does not reach between the leaves some time during the day if it is shining.

The weight of fruit should be regulated according to the area of well placed healthy foliage. I have seen 1 lb. to the foot run of rod recommended as a fair crop, and I expect that where the rods are only $2\frac{1}{2}$ or 3 feet apart this is sufficient if good quality is aimed at, but I allow nearly double that weight on well-established, healthy Vines, and although I have heard of some growers cropping very lightly for exhibition purposes I have never seen any advantages arising from leaving less than a moderate crop. Overcropping, of course, is a very great evil, but what would be overcropping in one case would be a very moderate affair in another; in the same way as it is mere play for one man to carry a sack of flour, while another might as well try to carry a full grown elephant. In estimating the quantity of fruit a Vine is able to carry satisfactorily, its behaviour and condition during the previous season should always be taken into consideration. If it has carried a good crop well without shanking and finished it off in a creditable manner; if its foliage has kept green till the wood became thoroughly ripened, and then died off with its natural autumnal colours, and if the border has not been allowed to suffer for the want of water during the ripening of the crop, it may be fairly assumed that with good attention it will do the same again or better. This stinting of water during the ripening of the crop is a very common and a very foolish error, handed down I suppose from our forefathers, for even our good old friend Robert Thompson, who wrote and spoke so much that was sound, says, in the "Gardener's Assistant," first edition (page 685):—"On account of the flavour of the Grapes, water, after the period of colouring, should be sparingly given; the quantity ought to be just enough to supply the amount carried off by evaporation, and scarcely so much during the final stage of maturation."

This I consider very bad advice, as it is a time when the roots under favourable conditions are most active, and necessarily so, for they have not only the current crop to bring to perfection, but they have to lay in stores sufficient to last them in the spring, till some of the earlier leaves have attained nearly their full dimensions. I have no doubt that the knowledge of this has to a great extent enabled the modern cultivator to grow finer Grapes than his father did. "Just enough" is not bad advice in itself, perhaps, at times were we able to follow it, but we have no means at present of knowing when we have given just enough, and at this particular season when satiety is almost difficult it is safer to give just a little more than enough rather than just a little less.

I do not know what experience Mr. Thompson, who was so good with hardy fruits, had with indoor Grapes, but some advice he gives lower down on the same page is still more questionable. He says, "With just enough (water) the Vines will be healthy and generally free from insects, whilst the fruit will be well swelled and of good quality. If, notwithstanding these precautions, the red spider should make its appearance, let the temperature in the house be kept in the morning at the lowest safe night minimum, which we shall suppose to be 60°. The leaves will be nearly of that temperature. Then shut up the house, and suddenly raise steam to produce a saturated atmosphere, and the moisture will be abundantly condensed on the whole surface of the cooler foliage. At the same time the syringe may be plied on the leaves wherever it is possible to do so without wetting the bunches."

This, be it remembered, is recommended to be done in a house of ripening Grapes. Anyone who would like to try the plan, and has a house of young Vines which are not fruiting can do so, but I cannot promise him the process will kill the red spider. This much I know, that if you practise it in a house of vigorous Muscats with well-swelled, ripening fruit, that the said fruit and its stems will give notice of dissolving partnership, and that Madresfield Court and some other varieties would seriously resent such treatment. I have had many inquiries as to Muscats cracking round the stems, and generally came to the conclusion that it was caused by too much excitement, with perhaps checks between, during the ripening period.

Notwithstanding what I have quoted, there is a great deal on Vines and Grapes in Mr. Thompson's work that is worth studying, and I believe it was owing to a chat with him in 1859 I started thinking that the general practice of keeping the lower parts of Vines bare of branches and foliage was wrong. Growing standard trees was the subject of

conversation, and he pointed out that if you wanted good stout stems you must allow some growth to remain on them for a time during their youth.—WM. TAYLOR.

SWEET PEAS.

VERY beautiful are the Sweet Peas now—the third week in August. Heavy rains following the long spell of dry parching weather experienced in May and June gave a great impetus to growth, and the bright warm days following brought out the flowers. I grow forty varieties, and have them in separate clumps, 4 feet apart, of two plants of each variety. We have 150 of such clumps alongside the paths in the kitchen garden. Many of them are 8 feet high, and covered with flowers for more than three parts of their height. For supporting the haulm I use ordinary Pea stakes, about four tall ones to each clump, put in the ground quite upright, not allowing the ordinary lean inwards so common in staking culinary Peas. When the haulm is covering the stakes it is regulated and kept tied to them. Although it takes a little time the result well pays for the labour.

The mistakes common in growing Sweet Peas are two—sowing too thickly, and not cutting the early blooms freely enough. By avoiding these errors Sweet Peas can be had in an unbroken session from June until the plants are cut by frost. The flowers are admirably adapted for vases, and are admired by all; and now that we can have them on stems 15 inches long another point in decorating is gained.

Now is the time to make a note of those varieties that are deserving of extended cultivation so that an early start may be made next season. The middle of February is a good time for the first sowing, and if another is made about the middle of May the plants will give fine blooms in September, when through an overcrop of seed-pods the earlier sown plants may not be flowering freely. I make the first sowing in pots in a cold frame, and the last in the open where the plants are to flower. I select the following varieties for the guidance of those who have not grown them, and although the list may appear somewhat long, those who require a good collection will find all of them distinct and meritorious.

Emily Henderson.—I place this at the head of the list, as in point of usefulness I consider it the best. The blooms are freely produced on stout stems, and being pure white they are useful for bouquets and wreaths. The habit of growth is vigorous, yet floriferous.

Blanche Burpee has round flowers without the notch possessed by *Emily Henderson*. It is undoubtedly a good white Sweet Pea.

Mrs. Eckford.—In my opinion this is one of the most charming varieties in cultivation; it is the nearest approach yet obtained to yellow. Strictly speaking, it is primrose, but of so pleasing a hue as to meet with favour wherever seen, and very floriferous.

Firefly is much the best of the bright coloured section; it is a glowing crimson self, with just a tinge of purple on the wings.

Duchess of York.—This is far and away the best of the faintly coloured sorts, pure white suffused with pale pink on the standards, which deepens as the autumn advances. This has a vigorous branching habit, and stout flower stems, the latter carrying three blooms each.

Her Majesty.—Very showy, and is a valuable sort to grow. The flowers are produced in the greatest profusion, colour soft rosy pink, the extreme base of the standards, wings, and keel being white.

Venus.—Salmon buff standards shaded with rosy pink, but have an inward curl that is objectionable. The stems are long and stout, generally bearing three blooms each. The colour of this variety is unique.

Countess of Aberdeen.—A new variety and a distinct gain, in colour a full pink. The back of the standards and wings edged with rose. The stems are stout, usually carrying two blooms each.

Blushing Beauty.—This is a charming variety, and as its name implies it is blush pink in colour.

Royal Robe.—Delicate pink or warm peach colour; at first it is paler than *Countess of Aberdeen*, but deepens later. As the flowers are large and freely produced it is a desirable variety to grow.

Mikado.—An imposing variety, colour deep rose, faintly striped with white.

Lady Griselda Hamilton.—Pale delicate blue; a robust variety that all should grow.

Mars.—Rose red, shaded purple, large blooms, and produced three on a stout stem; really a gorgeous variety.

Lovely.—Blush pink, shaded rose; a charming variety.

Emily Eckford.—One of the most distinct and pleasing varieties in cultivation; coerulean blue standards, suffused with reddish mauve. The buds are dull pink or lilac at first.

Lady Beaconsfield.—One of the most distinct varieties grown. The standards are salmon colour tinted with rose, wings and keel pale yellow.

Countess of Radnor.—Pale mauve standards, with a deeper shading of the same colour, wings pale lilac at first.

Mrs. Gladstone.—Still one of the best, although one of the oldest of the named kinds. The standards are delicate pink, the blush-coloured wings being very showy; it has somewhat short flower stems.

Orange Prince.—Light orange pink standards, flushed with red, wings pale rose, showy in a mass; two small flowers are usually borne on each stem.

Duke of Clarence.—Large blooms, with maroon claret standards, wings purple rose.

Apple Blossom.—White standards, veined and suffused with rose

pink, wings and keel white, slightly tinted blush; a showy and deserving variety.

Blanche Ferry.—One of the best to grow for a late crop of blooms, rose pink and white; it is quite distinct and very showy.

Mr. Joseph Chamberlain.—The best of the flaked varieties; colour white, striped, and flaked heavily with bright rose.

Princess of Wales.—White ground colour, shaded and striped with mauve; three, and sometimes four, blooms are borne on extra stout stems. Many more might be named, but I have already given sufficient to form a good collection.—E. MOLYNEUX.

CHISWICK AND MR. A. F. BARRON.

WE have received a letter from Mr. A. H. Smee containing a description of the Royal Horticultural Society's Gardens at Chiswick. Mr. Smee is an ardent horticulturist, and has played an important part in the question of horticultural education. We happen to know that it is largely owing to his action that the recognition of horticulture as an appropriate subject for teaching in schools was brought about. In addition to this Mr. Smee has a most interesting and well-managed garden of his own, and the silver medals he has won from time to time for hardy fruits testify to the excellence of his collection and the methods of culture adopted. Mr. Smee, then, is entitled to be listened to on his estimate of Chiswick, which is briefly as follows:—

The gardens are in admirable condition—houses for the most part in good working order; fruit trees he has never seen in better condition; Figs, a unique collection, and looking well; Grape culture a study; annuals and herbaceous plants grand.

Mr. Smee deduces from the condition of the gardens, as he is fully justified in doing, evidence of Mr. Barron's cultural ability. We have not heard that this has been questioned, while his probity has been universally admitted.

Mr. Smee then enters on debateable ground in suggesting that by the forced retirement of Mr. Barron the Fruit and Vegetable Committees, as "responsible for the management of Chiswick," have been censured by the Council, and therefore it is for them to resign. Possibly Mr. Smee meant the Garden Committee, and no doubt if any of these gentlemen, or those forming any committees, felt that their services were slighted by the Council they would naturally retire.

Mr. Smee goes on to say he "cannot conceive the reason why the Council should have called upon Mr. Barron to resign." If we were in a position to give the desired information it should be imparted, but we are not. We have not been informed what changes the Council have in view. We only know that if these meet with anything like the unanimous disapproval of the Fellows of the Society that the authors of them must fall victims to their own miscalculations. For the nature of the intended changes we must wait, and we shall wait calmly.

Anything approaching an unpleasant controversy can do no good. We have reason to believe that this would be as distasteful to Mr. Barron as anyone else. He has done his duty over many long years, and steered his way through many difficulties. So far as we know he enjoys the respect of the Council, and if in the opinion of the members of that body he had not been a good and faithful servant, they could not with any consistency have made such satisfactory provision for him during the rest of his days. If we mistake not, and our opinion is not founded on any official information, all the negotiations between Mr. Barron and the authorities have been conducted in the most amicable manner and in a spirit of mutual friendliness.

We have so much respect for Mr. Barron, his ability and integrity, that we cannot withhold the expression of our satisfaction that the moment of his separation from the Society has been so favourable to himself. There is a saying, more forcible than elegant, that it is not easy to teach old dogs new tricks, and endeavours to do so are seldom good for the old performers. Whatever new policy may be in view in the conduct of Chiswick, we are convinced that Mr. Barron will be happier when relieved from all responsibility in connection therewith, and this we suspect was the opinion of the authorities.

Mr. Barron retires honoured by the Council and at the zenith of his fame in the estimation of the horticultural community. The testimonial in progress will show this. We have heard there is only to be one, as the proposition first suggested is to be withdrawn in favour of the project of wider scope, and which we trust will be completely successful.

[Since the foregoing was placed in type we have received the following communication. Our advertising columns will also show that a successor to Mr. Barron is desired at a salary of £200 a year.]

THE Council of the Royal Horticultural Society have read with surprise and regret the remarks which have lately appeared in some of the horticultural newspapers with regard to Mr. Barron's retirement. The Council have for some time had before them the desirability of making considerable changes in the gardens at Chiswick, and in the early part of this year they determined to initiate these changes in the near future. Fully aware of the value of Mr. Barron's services for upwards of thirty years, recognising that he had well earned and thoroughly deserved a retiring pension, and anxious to show him every consideration, the Council felt that at his age they could not fairly place upon him the burden of such a reorganisation as they contemplated, and they considered that they were consulting his best interests, as well as

those of the gardens, in offering him retirement on an allowance of £180 a year.

In replying to the Council's communication Mr. Barron thanked them for their generous recognition of his claims, accepted their proposal, and tendered his resignation from January 1st, 1896. The Council are glad to know and to be able to assure the Fellows of the Society that he is perfectly satisfied. Having acted justly and generously towards Mr. Barron, as they believe, and to his satisfaction, the Council deemed the matter settled, and were themselves intending to promote a testimonial to him on his retirement, when they found that steps in that direction had already been taken.

The Council regret to find that they are charged with discourtesy towards the Chiswick Board. The charge rests on their appointment of a Special Committee to advise them as to the future of the Gardens without communication with the Board. They freely admit that it would have been advisable to have conferred with the Board on the appointment of this Committee. To any members of the Board who may have felt themselves slighted at their omission to do so they offer a frank expression of regret. They need scarcely say that the omission was due to an oversight, and not to any intentional discourtesy.—(*By Order of the Council*), W. WILKS, *Secretary*.

KELSTON KNOLL.

READERS of the *Journal of Horticulture* who are devotees of the fragrant weed will find the name of Wills perfectly familiar, especially, perhaps, in its relation to "Westward Ho!" But probably few are personally acquainted with the winter residence of H. O. Wills, Esq., known by the above appellation, and situated within three miles of the grand old city of Bath. This compact little estate occupies a naturally fine position, and where Nature has stopped, man has stepped in and completed an ideal home. There are many grand old trees on the estate, notably Walnuts and Horse Chestnuts, on which there are at the present time large numbers of fruits. Besides these, there are the fruit trees, which are well worthy of more than a passing glance or notice.

Standing on the lawn, in front of the house, a magnificent view is commanded, comprising wooded slopes, beautifully green pastures, high verdure-clad hills, old time cottages, and, that which adds an air of modernity to the most rural landscape, the railway, twining through the meads below. Truly it is a very charming spot, just such an one as poets tell us of, and of which Englishmen ought to be proud. One may travel through the rugged parts of Derbyshire, or wind from crag to crag in Bonnie Scotland, seeing towering mountains here and shaggy cliffs there; but such scenery, while being very imposing, is liable to pall after a time, except, perhaps, to the hardiest of mountaineers; but such rural pictures as are portrayed from the terrace at Kelston can never tire. On the contrary, they are soothing to the senses, and go far to justify the designation given above of an "ideal home," for such indeed it is.

Let us now see what man has done in the aid of Nature. Some years since, when the present owner purchased the place, the gardens were of very limited extent in comparison with those of to-day, and the appointments are in all ways much better. With a highly commendable spirit, and one that might be copied by other of our merchant princes, an extensive range of glass houses has been erected, and the whole of the new garden enclosed in a handsome red brick wall, on which fruit trees of various kinds are now growing. In addition to providing good and adequate quarters for the plants and fruits, Mr. Wills has built a most comfortable house for the gardener. This was only completed last year. That it is appreciated by the gardener, Mr. Wright, it is needless to say, and even as the house is worthy of the place so is the gardener worthy of both. Comparatively young, he is one of those true gardeners who loves every plant, every fruit, and every vegetable he grows, and doing so puts his whole heart in the work and does it thoroughly.

At this season of the year fruit is accorded a large share of attention by the British gardener, so it shall have the premier position given it here, Grapes as the chief of exotic fruits taking the place of honour. The Vines occupy two large houses, built with high roofs glazed by a patent non-puttying system with large panes of glass, and the heating apparatus is in every respect satisfactory. The houses, then, are good; but what of the Grapes within them? An easier question to answer could not be propounded, as the reply can with justice be summed up in the one word—"excellent." The wood is stout and well ripened, without being gross; the leaves are tough, leathery, and of a deep green hue; provision for the future has been kept well in view; the bunches are shapely and well filled; the berries are of good size and finishing admirably, and what is of equal importance, not a sign of a pest is visible. Red spider and mealy bug, the terrors of some Grape growers, are unknown here; and the Vines and Grapes, if we may use them in apparent incongruous conjunction, are benefited accordingly, as they must be when none of the energies is sapped by their natural enemies.

The varieties grown number eight in all, these being Foster's Seedling, carrying handsome bunches, of which the berries are now just turning; Madresfield Court, now assuming its most pleasing shade; Buckland Sweetwater, superb in berry, but two or three of the lower bunches, as is usual with the variety, inclined to be loose; Black Hamburgh, carrying medium sized bunches of well-finished fruits, occupying one house. In the other are found Muscat of Alexandria, now assuming its amber garb; Gros Colman, promising some bunches later on; Lady Downe's in the best condition, and last a couple of rods of Black Alicante in splendid

form. Despite the fact that these are mixed in the houses, and must consequently be subjected to precisely the same treatment, they all present an appearance that tells of good health and constant attention. On the back walls of these two houses are a few Fig trees, from which fair crops are usually taken.

From one end of the range we travel to the other, leaving the intermediate structures for the time being. It is to see the Peaches and Nectarines that this rush is made, and indeed they are superb. The foliage is of good size and fine colour, all the shoots being properly disposed. There is only one tree of the many that is not in perfect condition, and from this several leaves have fallen, and one or two shoots died from some mysterious cause—possibly the variety did not get worked on its most appropriate stock. The trees are all carrying a heavy crop of fruit, and by the growth that is made, from which next year's bearing wood will be selected, the roots must be in perfect condition. The trees are evidently all somewhat prone to over-luxuriance, to counteract which they have been lifted and replanted, but still they grow with vigour. The wood is already ripening well, and next year at this time will show a crop of fruit equal, if not superior, to this one in all respects—that is to say, unless some very extraordinary accident should happen. The colour of the fruit is very intense, especially those that are on the trees trained under the front roof, those on the back wall trees being generally a trifle smaller and of paler hue. Taken as a whole, the trees are now a perfect picture, such as everyone cannot fail to find pleasure in looking on. The most handsome Peaches are, perhaps, the Barringtons, while of Nectarines Stanwick Elruge must have the first place, for it is simply perfection. Other varieties are Walburton Admirable, Dymond, Stirling Castle, Gros Mignonne, and Royal George Peaches, with Pineapple and Nelson Nectarines.

Passing on to other houses we see in one a grand crop of Tomatoes, and in another some Cucumbers that are now practically over. Tomatoes for winter use are a necessity here, and in order to provide a good supply several plants have been raised, and are now in 8-inch pots. They are stout specimens, already set with fruit. Cucumbers have been a source of trouble all the summer in a low pit, where the roots were attacked by eelworms, with the result that growth came to an abrupt termination. Not wishing to do away with the plants altogether the grower dressed them at intervals with a solution of phenyle, with the result of a good crop of fruit being secured. As soon as the dressing was given the plants commenced growing, continuing to do so until they had appropriated the whole, when they came to a standstill until another supply was given. Melons are also grown well at Kelston, some of the fruits being now of great beauty. Hero of Lockinge and Blenheim Orange are the favourite sorts, though a seedling of good appearance is likewise utilised.

From fruits we must turn our attention to the plants in the houses, almost all of which are grown with a view to their utility for decorative purposes in the various rooms of the house. There they stay until the lower leaves are in a bad condition, when they are returned to the stove and recourse is had to ringing where it so happens that the plant is amenable to such treatment. Crotons occupy a goodly portion of the space at disposal in the warm house, Dracenas, Alocasias, and others also receiving close attention. On the central stage of a cooler house are large numbers of Palms, evidently for the above mentioned purpose, while in still another position are several Maidenhair Ferns. Variegated Pandanus are singularly beautiful and in the best of condition. If these foliage plants look well so also do several Calanthes on one of the stages, the plump pseudo-bulbs promising fine flower spikes later on. Evidently with the object of providing beauty in the future, Poinsettias are grown, and doubtless will prove of great value. On the roof of one house the brightly coloured flowers of Allamanda Hendersoni command attention, while in another position Stephanotis floribunda is noticed.

Good as are the crops withindoors they are equally so in the open, and indeed they are far more diversified. Here again fruit is the chief desideratum. On one of the walls are splendid young Pear trees that were planted somewhat late in the spring of 1894. Though not yet giving a great crop these trees are forming a solid foundation, on which will appear in a short time some grand fruits of all the varieties represented. Naturally, considering the fine positions that have been accorded them, the best dessert varieties are grown. Apples in various forms of trees are seen. Perhaps the best crops are Duchess of Oldenburg, Sturmer Pippin, Cox's Orange Pippin, Warner's King, and Hawthornden. Then there are the Peaches and Nectarines, almost all the varieties grown under glass being well represented here. The condition of the trees is the same also, the crops being good as well as the health. There is ample evidence of skilful attention in the pruning and training. Plums are a good feature, and handsome crops of yellow Magnum Bonum, Washington, and some Gages were bearing splendid crops, besides numerous others from which the fruits had all been gathered.

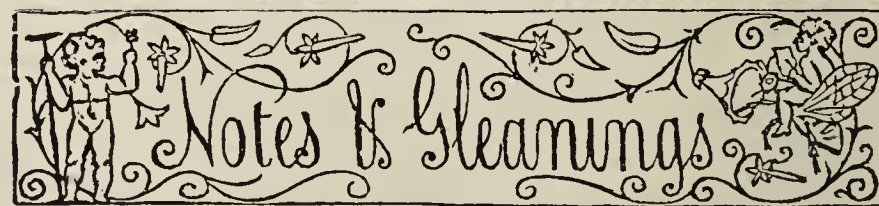
Master of the art of fruit cultivation as is Mr. Wright, he is quite as much so in that of vegetables. In visiting a garden one always likes to see good vegetables, they have such a refreshing effect on the eyesight, and when taken inwardly an excellent effect on the system. At Kelston no specialty is made, all the things getting the best possible attention devoted to them. Potatoes are, of course, largely grown, and they are this season turning out splendidly. Magnum Bonum, Snowdrop, and Puritan were noticed. Some grand Brussels Sprouts, that will give abundance of sprouts later on, were growing; Kale, Seakale, Broccoli, and Cauliflowers also receiving a goodly share of attention. A vegetable rarely seen is somewhat largely grown here, and that is Stachys tuberifera, the tubers being much appreciated. Celeriac, too,

is accorded the prominence that its merits entitle it to, while Beans of various sorts, Peas, Endive, Lettuces, Beet, Turnips, Parsnips, and Carrots receive their share of the space of the garden. Others might be mentioned, but these will suffice to prove the time that is devoted to this department.

In some frames we got a glimpse into the future by the Primulas, Freesias, Mignonette in pots, and Cinerarias that were looking so well, while standing closely were Chrysanthemums, Callas, Azaleas, Coronillas, and Malmaison Carnations. Journeying still farther we next reach the conservatory, now gay with Zonal Pelargoniums, Begonias, Fuchsias, Bouvardia, scented Pelargoniums, beautiful Liliun speciosum, with Passiflora Constance Elliot, Tacsonia Van Volxemi, Heliotrope, and Plumbago capensis growing on the roof and back wall.

The floral section out of doors is fragrantly beautiful, Roses being very extensively cultivated. The collections, both of Teas and Hybrid Perpetuals, comprise the majority of the leading sorts, and with few exceptions they do remarkably well, though of the whole Rêve d'Or, Niphetos, and Maréchal Niel were the most prominent. On the lawns, which are splendidly kept, are a few beds stocked with Zonal Pelargoniums, Begonias, Antirrhinums, and other suitable plants, all now presenting a charming sight. On each side of one of the roads broad borders are formed, one being devoted to Roses, and the other to perennials of various kinds. These borders, though yet in their youth, are a great improvement to the place, and will be a feature when the plants, which include Spiræas, Michaelmas Daisies, Helianthus, and others, become fully established.

The visit can only be termed a flying one, but it was nevertheless replete with interest and instruction. Taken as a whole the estate is a great credit both to its owner and to its gardener, who manages it so well.—NOMAD.



EVENTS OF THE WEEK.—The National Dahlia Society will hold its show at the Crystal Palace on Friday next and the following day. On Tuesday the Committees of the Royal Horticultural Society will meet at Chiswick, when, in addition to the usual exhibits, prizes are offered in forty different classes for vegetables. The autumn exhibition of the Royal Caledonian Horticultural Society will be held at Edinburgh on Wednesday and the following day.

— **WEATHER IN LONDON.**—The advent of September has been accompanied by tropical weather, the heat in the metropolis during the past week having been most oppressive. Slight showers have fallen in some localities, but with these exceptions bright and continued sunshine has prevailed, much to the benefit of ripening fruit and other crops in the neighbourhood of London.

— **THE COMMERCIAL ASPECT OF HARDY FRUIT GROWING IN THE UNITED KINGDOM.**—It will be remembered that early in the year the Royal Horticultural Society offered a prize of £10 for the best essay on the above subject. The Council has appointed Mr. A. F. Barron, Mr. J. Wright, and Rev. W. Wilks, Secretary of the Society, to adjudicate on the essays sent in.

— **ROYAL HORTICULTURAL SOCIETY.**—The next meeting of the Royal Horticultural Society will be held at Chiswick Gardens on Tuesday, September 10th. Prizes are offered in forty different classes for vegetables, and a good show is anticipated. Besides vegetables, however, the usual collections of hardy plants, Orchids, cut flowers, and fruit, will also be received at Chiswick, and any new or rare specimens will be examined by the various Committees, which meet at 12 o'clock noon. At 1.30 there will be a vegetarian luncheon arranged by A. Hills, Esq., President of the Vegetarian Federal Union; and at 3 o'clock a lecture on "Garden Manures," by Mr. W. G. Watson, will be read, and a discussion invited thereon.

— **MARRIAGE OF MR. FRANCIS DICKSON.**—The little Gloucestershire village of Welford-on-Avon, near Stratford-on-Avon, was *en fête* on Wednesday on the occasion of the marriage of Mr. Francis Dickson, fourth son of the late Mr. Francis Arthur Dickson, J.P., of Fern Rock, Chester, and Miss Eleanor Davenport, third daughter of the Rector of Welford, the Rev. J. Davenport. Triumphant arches had been erected in the village, and the interior of the church was prettily decorated for the occasion.

— **DEATH OF MRS. MEASURES.**—We regret to announce the death, after a long illness, of Mrs. Measures, the beloved wife of R. I. Measures, Esq., on the 2nd of September, at Cambridge Lodge, Flodden Road, S.E.

— **MR. CHAS. BERRY**, horticultural lecturer to the East Suffolk County Council Technical Instruction Committee, has been appointed Instructor in Horticulture by the Devonshire County Council, and will enter upon his duties at the end of the month.

— **COLOURED FRUIT.**—In Paris the practice of doctoring fruit by colouring is quite common. The latest development of this business is in connection with Pears, which are dyed red over a third of their area and blue below, thus presenting the national colours when peeled.

— **RAILWAY COMPANIES AND PRODUCE.**—Mr. Ritchie, replying to a question in the House of Commons as to whether the railway companies had increased the rates on agricultural produce by 5 per cent. since January 1st, 1893, said there had been no general increase. It was quite true that railway companies had increased their rates in specific cases, but where complaints were made in that respect there was procedure laid down in the Act.

— **BOUGAINVILLEA GLABRA** in a cool conservatory is one of the best of climbers to plant to give a profusion of blossom when receiving proper attention. Two years since a half-specimen plant was turned out of the pot into the border of the large conservatory at Rooksbury Park. The first season it made steady progress, but during the current year it has made shoots 10 feet long, and now reaches 15 feet high. From top to bottom it is covered with its richly coloured bracts, which seem to be more intense under cool treatment than when grown under warmer conditions.—B. W.

— **CORDON PEAR TREES.**—Five years since Mr. N. Molyneux planted against a south wall in the kitchen garden at Rooksbury Park two dozen Pear trees of the cordon type. They have now filled the allotted space, 12 feet high, and this year are carrying, in what cannot be termed a full Pear year, a full crop of large handsome fruit. Some of the most noticeable varieties are Winter Nelis, Mdme. Treve, Dr. Hogg, Beurré Hardy, Doyenné du Comice, Pitmaston Duchess, Beurré Rance, Thompson's, Souvenir du Congrès, Princess, Beurré d'Amanlis, Louise Bonne de Jersey, Marie Louise, Passe Colmar, and Ne Plus Meuris. This is a distinct point in favour of cordon trained trees as showing their value in the matter of obtaining great variety from a limited wall space.—B. W.

— **SMALL CABBAGES.**—So good at every point are these that too much recommendation cannot be given to their wider culture. The other day Improved Nonpareil was shown to be the best small early variety at Chiswick. Since then I have seen in the most perfect condition conceivable on the boys' gardens at Bookham, when they were hearting-in, planted almost as thick as Coleworts. Mr. Goff, who overlooks these gardens, told me the strain was Sutton & Sons. All I can say is that I think it is folly to grow bigger heads. The stock, too, does not turn in all at once. That is a feature in Ellam's variety, and for private use an undesirable one. In hot dry seasons small Cabbages still are soft and tender, whilst large ones soon become hard and strong. They, too, have so much of outer leafage. I strongly advise the wide growth of Improved Nonpareil.—A. D.

— **OBITUARY.**—We regret to announce the decease of Mr. Lievin Spae-van der Meulen, Treasurer of the Syndicate Chamber of Belgian Horticulturists, which took place at Ghent on the 23rd of August last. The funeral was held three days later, and was attended by a large number of members of the Society. With much regret we have to announce the death of M. Gustav Sennhulz, Superintendent of the Town Gardens, Vienna, who succumbed after a short illness on August 24th. The deceased was born in 1850 at Frankfort-on-the-Maine. He began his gardening career at Wilhelmshöhe, near Cassel, and afterwards attended the course at the Royal Horticultural School at Potsdam, and became landscape architect with Siesmayer at Bocken-heim, Frankfort-on-the-Maine. His successes made him also known in Austria, and as they were in the year 1884 in Vienna in want of a good landscape gardener, he was selected for this position. His loss will be deeply felt, more especially as the town is just now to be greatly enlarged, and consequently many new gardens will be laid out. Sennhulz also fought in the Franco-German war, 1870-71, and was wounded. He possessed the medal in remembrance of that war, and His Majesty the Emperor of Austria conferred on him the Golden Cross of Merit for his success in landscape gardening.

— **THE Rhododendron** is found in the Alps, growing at the highest altitude at which trees will vegetate there.

— **SHREWSBURY SHOW.**—We are informed that, in addition to the silver-gilt medal awarded to Messrs. W. Clibran & Son for their collection of Cacti at the above show, a silver medal was granted to the firm for a collection of flowers of hardy herbaceous plants—a well merited award.

— **RIPENED WOOD.**—"W. R. Raillem's" endeavour (page 174) to account for the splendid crop of Apples this season is certainly not a correct one in my case, for I had a magnificent crop of Apples last year, and have the same again this. I think "Another D.'s" is the true solution of the problem (page 174).—READER.

— **TORQUAY DISTRICT GARDENERS' ASSOCIATION** propose to step into the breach caused by the death of the Torquay Horticultural Society, and contemplate holding a Chrysanthemum show on Wednesday, October 30th. A paper will be read at the show "On the Culture of the Chrysanthemum." Mr. F. C. Smale is the Hon. Secretary of the Association.

— **ABSTRACT OF CLIMATOLOGICAL OBSERVATIONS AT DRIF-FIELD, August 1895.**—Lat. 54°0'30" N.; Lon. 0°27'15" W.; Alt. 76 feet. Barometric pressure at 9 A.M. (at 32" and sea level). Highest 30.20 on 16th; lowest 29.35 on 5th. Mean temperature at 9 A.M., corrected 61.70°. Wet bulb, 57.52°. Mean maximum, 63.23°. Mean minimum, 50.96°. Highest, 76.0° on 22nd. Lowest, 33.2° on 25th. Mean of maxima and minima, 59.60°. Mean radiation temperature on grass, 46.70°; lowest, 29.0° on the 25th. Rainfall, 2.64 inches. Number of rainy days, sixteen; Greatest amount on one day, 0.59 on the 10th. Mean amount of cloud at 9 A.M., estimated, 62.—W. E. LOVEL, *Observer, York Road, Driffield.*

— **LATE PEAS.**—Judging by what I recently saw in the large kitchen garden at Hackwood Park, two of the finest late Peas, not only for flavour and colour, but also for endurance and cropping qualities, are Veitch's Autocrat and Sutton's Late Queen. The former has intense green pods, not large, therefore it is not an exhibition Pea, but having peas of the finest quality. It stands attacks of mildew wonderfully well. Mr. Bowerman regards this as one of the best all-round garden Peas in cultivation. Sutton's Late Queen, recently put into commerce, has larger but very green pods, somewhat broad, and abrupt ended; a fine enduring variety and heavy cropper. This, too, gives peas of the finest quality, and rich deep colour. It is specially fine for late sowing, as it stands and pods freely up to the middle of October. Both of these Peas may be said to present some of the best properties of Ne Plus Ultra and Omega, with greatly enhanced cropping capacities.—D.

— **ALLOTMENT HOLDERS' PHILANTHROPY.**—A somewhat novel purpose seems to be in the minds of the allotment holders under the Richmond Corporation. Some of their number have from time to time been treated for influenza at the Richmond Hospital, and when it was recently suggested to them that they should make the hospital a present of garden produce, the proposal took on warmly. Still, in these days it is difficult to do anything in a very commonplace way, hence it has been resolved that the produce shall be all collected in a large hall, placed at the promoter's disposal in the Kew Road, on the evening of Saturday, the 21st, and displayed effectively; then, on the afternoon of the following day, the whole will be thrown open for inspection, and at 3.15 P.M. a sort of meeting or informal service will be held, over which the Mayor will preside. One or two short addresses will be given, and some music rendered. The following day the produce will be carried to the adjoining hospital.

— **FROZEN VINES.**—A correspondent of "The Rural New Yorker," whose Grape Vines were frozen back this spring, writes that he broke off all the new shoots and shortened in the wood. The result was that the Vines treated in this way put out new shoots from adventitious buds which grew vigorously with clean bright leaves, showing canes of rich shining colour, while canes left for comparison remained decrepit and crooked. Of course, a comparatively small amount of fruit set, and this was on shoots from the accessory buds at the nodes rather than from the adventitious ones. If the breaking out of the partly dormant accessory shoots had been deferred until after the frost, at least half a crop of fruit might have been obtained from the shoots of these duplicate buds, which seem to be provided for such a crisis as this in the life of the Vines. But why should the breaking off the frozen shoots be such an advantage? Is it possible that the sap which is disorganised by freezing causes injury to the Vine—a sort of blood poisoning—when taken up into the circulation?

— THE SCIENTIFIC STAFF AT KEW does an immense amount of literary work; and it is estimated that about 3000 printed pages of botanical and horticultural matter emanated from this establishment during last year.

— BLACK CURRANT \times GOOSEBERRY.—A fruiting specimen of this hybrid was sent to the Scientific Committee of R.H.S. by Mr. Culverwell. It was previously received and described in the minutes of the Committee for June, 1890. The fruits are small, and have a very slight taste of the Black Currant. The bark reveals the scent more distinctly, while the skin of the fruit has the glandular hairs of the latter mixed with the ordinary hairs of the Gooseberry.

— THE total rainfall at Abbot's Leigh, Haywards Heath, for August was 2.81 inches, being 0.51 inch above the average. The heaviest fall was 0.52 inch on the 3rd. Rain fell on sixteen days. The highest temperature was 82° on the 22nd, the lowest 42° on the 25th. Mean maximum, 70.20°; mean minimum, 51.30°; mean temperature, 60.25°, which is 0.27° below the average. First half of the month rain every day; since then beautiful, bright, dry weather, which still continues.—R. I.

— RUDBECKIA SPECIOSA.—In America this is now in perfection, and the best of all the low-growing Coneflowers. It grows about 2 feet high, sometimes more, and forms a bushy mass of orange-yellow, rather flat open flowers with very dark maroon centres. If you wish to have this showy perennial in fine form give it rich moist land, and an open situation; in a dry border in summer it gets burned out. In the spring it may be lifted and torn apart into many pieces, and all of these if planted will grow and make fine plants. It is also easily increased from seeds.

— THE CHISWICK SHOW.—Vegetables are in very fine form this year, and I am looking with exceeding interest for the vegetable show at Chiswick on Tuesday next, when, if there be good competition, grand samples may be anticipated. Relatively the prizes are poor as compared with what are commonly given at provincial shows. Still, there is a certain charm attached to a R.H.S. show at Chiswick that may serve to attract large numbers of exhibitors. Potatoes run rather large, but I hope exhibitors will avoid coarseness. Cauliflowers are in splendid condition. Carrots are large, but still very clean and handsome. Beets are good. Celery has been shown in very fine form. Onions are almost marvellous, so fine and handsome are they. Tomatoes have rarely been seen in better colour or condition. I have heard, too, of some fine trade collections being shown, but of course the most perfect samples may be looked for in the best competing collections.—A. D.

— SWEET SCABIOUS.—How beautiful it is now, and useful for cutting. It is an annual, a native of south-western Europe, and a highly esteemed garden plant. The common type grows about 3 feet high, the dwarf form about half that size or a little over. The flowers of both, says a transatlantic journal, are equally varied in colour, running from the darkest to the palest purple, also white, cherry, and even yellow. If sown early in the spring in a greenhouse, window or frame and planted out in May it begins to bloom in July, and continues in flower more or less till frost. Really, it is a biennial, and in mild parts, say where the winters are short and the frosts no more than 15° in coldest weather, it survives the winter and blooms early the next year. Save seeds of the finest varieties for next year's stock. When the present flush of flowers is about over and the plants are setting seeds freely, cut over all these old flower heads to encourage a fresh supply.

— LARGE TOMATOES.—I send you a cluster of Tomatoes (Perfection) thinking it worthy your notice. I have on previous occasions sent you a sample and notes of our culture. See page 294, October 2nd, 1890, and page 314, October 5th, 1893. I may add that notwithstanding the dry and sunny season our Tomato house has never once been damped down or syringed, and no side ventilation given; but abundance of water at the roots. We do not now use the brush for setting the fruit, but trust to tapping the bunches when in bloom, which brings about self-fertilisation, for by using the brush one cross-fertilises, and if a rough fruiting plant is in the house its influence is too apparent the following season.—THOS. CROSSWELL. [The cluster of four fruits weighed 3 lbs. 4 ozs., the largest fruit weighing 15 ozs. They were faultless in shape, splendid examples of culture. We have also had sent for our inspection a Tomato of extraordinary size. The fruit scaled 1 lb. 13 ozs., measured 17 inches in circumference. The fruit was grown by an amateur gardener, Mr. R. W. Gardner, Shirley Villa, Palmer's Green, London, N.]

— THE ROYAL PARKS AT STOCKHOLM.—Mr. Milner is entrusted by H.M. the King of Sweden with the laying out of a park of 1100 acres. The plans have been approved, and work has been commenced with an English foreman to superintend the workmen.

— THE volume of "British Rainfall" for 1894, compiled by Mr G. J. Symons and Mr. H. Sowerby Wallis, from observations made at more than 3000 stations in the British Isles, has just been published. As in previous years, the volume contains articles on various branches of rainfall work, and on rainfalls of exceptional interest.

— HOP-PICKING is now in full swing in Kent, and there are thousands of hands from the slums of the metropolis engaged at the work. Hop-pickers, as a rule, are a half-starved sort of class. They look upon the work as healthful recreation as well as profitable labour, and are loth to return to their overcrowded dwellings in town when the work is finished. Although the weather has been favourable for ripening the crops lately they are reported to be very light indeed, some say not above half an average.—("Rural World.")

— AUSTRALIAN APPLES.—The Mayor of Geelong, Australia, who shipped a small consignment of Apples from that district to London in April last, received advice from his London agents to the effect that the fruit did not arrive in good order, being for the most part overripe, especially so in the case of the Northern Spy variety. The shipment, however, of twenty-five cases was disposed of at a satisfactory figure, an average of 3s. 6d. per case clear of all expenses, but which includes the Government bonus of 2s. per case, being realised.

— NATIONAL CHRYSANTHEMUM SOCIETY.—At a meeting of the General Committee, held at Anderton's Hotel, August 26th, Mr. B. Wynne presiding, the Secretary, Mr. R. Dean, announced the recent death of an old member of the Society in the person of Mr. Arthur Wortley, and it was unanimously resolved "That this Committee place on record an expression of the sorrow with which it has heard of the recent death of Mr. Arthur Wortley, formerly Secretary of the Stoke Newington Chrysanthemum Society, to which office he was elected in 1851, and bears in grateful remembrance his services to the Society in that capacity, and also as an old cultivator and exhibitor of the golden flower." In consequence of the retirement of two members of the Committee, Mr. G. Walker of Paddington, and Mr. W. Holmes, Hackney, were elected to fill the vacancies, and Mr. McHattie, gardener to the Duke of Wellington, at Strathfieldsaye, was elected to a seat on the Floral Committee. The Jubilee Sub-Committee presented a comprehensive scheme for duly celebrating the jubilee of the Society next year (the main features of which will shortly be announced), which was unanimously adopted, and a special Committee appointed to carry out the same. Twenty-three ordinary members and two Fellows were added to the Society's roll of membership.

— POTATOES AT SULHAMSTEAD.—My old friend Mr. Robert Fenn still retains strong faith in the value of anti-fungoid powder as a preventive of the Potato disease, and he has ample reason for his faith. He grows in his garden on the same soil every year about a row each of his best own raised sorts, and as most of them become diseased freely, generally they constitute excellent test means. When in this garden the other day I saw International, Woodstock Kidney, Reading Ruby, Prizetaker, Reading Russet, Rector of Woodstock, Eliza Fenn, Early Regent, and many others, all having healthy, green, luxuriant leafage. This was evidently due to the occasional dustings of the anti-blight powder applied. Sample roots lifted showed splendid tuber crops, entirely devoid of disease. But some 150 yards across a meadow on a headland, and grown there to test chemical manures, under the University Extension Scheme, is a large quantity of Magnum Bonum. This breadth has had no powder or any other dressing, yet the leafage was becoming rapidly black and decimated with the fungoid spot. It did seem as if had the garden-grown varieties been undressed their tops must have been fully as badly infected. Mr. Fenn is still employing Solanum Fendleri as a possible Potato parent, and has made new crosses this year on hybrid plants in the first generation. No doubt some interesting products may be looked for in a year or two. What splendid crops of Apples are there in the orchard on Manx Collin, Lord Suffield, Wellington, Cox's Orange Pippin, red as Quarrendens, and many other sorts; and especially a grand cropper is the variety dubbed locally as "Pay the Rent," a handsome greenish russetty fruit, that is of good flavour, and keeps well. In all directions fruit trees, planted several years since, have greatly added to the value of this pretty Berkshire homestead.—A. D.

— THE WEATHER IN AUGUST AT HODSOCK PRIORY, WORKSOP, NOTTS.—Mean temperature of month, 61.0°. Maximum on the 19th, 78.0°; minimum on the 25th, 40.7°. Maximum in the sun on the 19th, 131.3°; minimum on the grass on the 25th, 31.2°. Mean temperature of the air at 9 A.M., 62.5°; mean temperature of soil 1 foot deep, 60.7°. Total duration of sunshine 145 hours, or 32 per cent. of possible duration. Three sunless days. Total rainfall, 1.30 inch; rain fell on seventeen days. Approximate averages for August:—Mean temperature, 59.7°; sunshine, 149 hours; rainfall, 2.36 inches. A fine and warm month, but with no very hot days. Fruit abundant, especially Apples, Peaches, and Plums.—J. MALLENDER.

— AUGUST WEATHER IN SOUTH WALES.—Mr. W. Mabbott, The Gardens, Gwernllwyn House, Dowlais, Glamorgan, sends the following summary of the weather there for the past month:—Total rainfall 5.52 inches; maximum 0.83 on the 12th, minimum 0.05 on the 7th; rain fell on nineteen days. Total amount of sunshine 148½ hours; sunless days six. The wind was in the north-west and west for twenty-five days. A very strong gale on the 11th, accompanied by heavy rains, did a great amount of damage. With the exception of the last four days of July we had rain every day from the 15th of that month until the 13th of August, during which time 8.46 inches were registered.

— THE SPIKED LOOSESTRIFE.—An American gardening paper says, "We have often called attention to the Spiked Loosestrife, *Lythrum Salicaria*, a plant which has become so thoroughly naturalised in damp places throughout all the north-eastern United States that most persons consider it a native. The plant has a tendency to vary, and some strains are superior to others, but the tall spikes of dark purple flowers, from 4 to 6 feet high, are always effective, especially on the borders of water, still or flowing, or where they can have a background of foliage. In parks and private grounds of suitable extent they are very useful, and among the most striking of late summer-flowering plants."

— LARGE CHESTNUT TREES.—Mr. Theodore D. Rand gives the "Public Ledger" of Philadelphia dimensions of some large Chestnut trees in the vicinity of Philadelphia as follows:—On the place of Mr. Joyce, north-west of Rosemont Station, Montgomery County, Pa., is one measuring over 25 feet 4 feet from the ground. This giant is clearly visible from Pennsylvania Railroad trains. In Newton Township, Delaware Co., is one measuring 24 feet, 4 feet from the ground. On the line between Delaware and Montgomery counties, about half a mile east of Upton Station, is a very fine Chestnut, and, to the praise of the supervisor be it said, that although in the highway it is permitted to stand. It measures nearly 21 feet. There is one of 20 feet a quarter of a mile north of St. David's Station.

— A STINGING TREE.—A traveller from Queensland, says a contemporary, describes a peculiar tree, which has the power of stinging. Here is an account of its effects:—"Sometimes, while shooting turkeys in the scrub, I have entirely forgotten the stinging tree till I was warned of its proximity by its smell, and have often found myself in a little forest of them. I was only once stung, and then very lightly. Its effects are curious. The sting leaves no mark, but the pain is maddening, and for months afterwards the part, when touched, is tender in rainy weather, or when it gets wet in washing. I have seen a man who treats ordinary pain lightly roll on the ground in agony after being stung, and I have known a horse so completely mad after getting into a grove of the trees that he rushed open-mouthed at every one who approached him, and had to be shot. Dogs, when stung, will rush about, whining piteously, and biting pieces from the affected part."

— THE FRUIT CROP.—The fruit harvest of 1895, says the "Rural World," will probably prove the heaviest of the last twenty years. In all parts of the country trees are so heavily laden as to be scarcely able to sustain their burden. Already farmers in some districts are contemplating storing Apples for cattle food next winter, indeed there is literally no sale for other kinds than the choicest. Throughout the southern part of the country doubtless farmers will do well to prepare for making cider on a large scale; but somehow this kind of beverage does not find favour in the northern districts. As for stone fruit, preserving is the only way of dealing with it. Green Gage Plums are only worth about a penny a quart, and other kinds do not pay for gathering and taking to market. There is no better and more wholesome preserve than Damsons; therefore it behoves everyone to lay in a large store, for it will surely prove welcome by-and-by.

— DOUBLE CORDON TOMATOES.—A friend of mine has a house which he devotes to the culture of Tomatoes. Being unable to obtain as many plants as he required to fill the house this spring he has grown them, with the exception of one or two plants, as double cordons instead of adopting the usual method of a single stem. The result has been most satisfactory, the two-branched plants producing as much fruit on each branch as the whole plant has produced in the case of a single stem. The fruit has been quite as fine, too, and well-flavoured. The plants have all had the same treatment, the only stimulant used being a little soot occasionally. The variety grown was Conqueror. If any readers of the Journal have adopted the same plan I should like to know their experience.—READER.

— EUPHORBIA COROLLATA.—This is, perhaps, the most beautiful of the numerous hardy Euphorbias, of a light elegant habit, and when well grown it forms broad bushy specimens covered with numerous white corolla-like involucre. The flowers are apetalous and greenish. The five petaloid bracts are about a quarter of an inch long. The involucre flowers are very numerous, and disposed in large-branched and somewhat leafy cymes. This species is quite hardy, and will grow well in a rockery or in a border of ordinary soil. It flowers throughout the hottest summer months, and is one of the most valuable hardy perennials for hot and dry positions. It is also useful when cut to mix with other flowers, and adds an element of lightness and grace which is most desirable.—("Garden and Forest.")

— AN AMERICAN DRIVE.—One of the most famous and most beautiful public promenades in the United States is the Lake Shore Drive in Chicago, beginning in Lincoln Park and prolonged for the most part in full sight of the lake for a distance of twenty-five miles, under the name of the Sheridan Road. It is now proposed to continue this drive, with its adjacent ornamental features, as far north as the suburb of Evanston, a further distance of fourteen miles, and eventually to the city of Milwaukee. If the project is carried out, park boards will be formed in the different counties through which the drive will pass, and the right will be conferred upon them to condemn any property they may require. In some places the shores of the lake here rise into bluffs from 40 to 80 feet in height, diversified by steep ravines; and, of course, this means unusual picturesqueness for that part of our country.—("Garden and Forest.")

— THE ONTARIO FRUIT TRADE.—It is well known that Ontario, the principal province of Canada, is a large exporter of the best varieties of autumn and winter Apples to this country. The fruit growers of the province now propose to supply us with some of their finer fruits, such as Peaches, Pears, and Plums, also early Apples and Tomatoes. The Hon. John Dryden, Minister of Agriculture for the province, himself an enlightened and successful farmer, has taken the matter in hand, thus giving to the new undertaking the sanction and encouragement of the Provincial Government. Hitherto these more delicate fruits of Ontario were deemed too perishable to bear an ocean voyage; but, owing to the system of cold storage by rail and steamship recently arranged by the Canadian Government, it is believed that they can now be placed on this market in prime condition. At all events, trial shipments will shortly be consigned to Mr. Byrne, the Ontario Government Agent at Liverpool, and should they prove successful larger shipments will quickly follow, and he continued throughout the season.—("North British Agriculturist.")

— MONTBRETIAS.—These most beautiful Iridaceous plants deserve to be more extensively grown in our gardens. We cultivate them largely, and find them most useful for house decoration at this season of the year, as when arranged in vases with their green foliage they have a most graceful and pleasing effect, and will keep fresh for several days. *M. Pottsi* is the best known species; and *M. crocosmæflora*, of more recent introduction, is a hybrid raised between *Tritonia aurea* × *M. Pottsi*, and grows from 2 feet to 3 feet high, having bright green leaves, resembling those of a *Gladiolus*. The flowers are about 1½ inch long, and are borne on branching stems, each branch bearing as many as thirty flowers, which are of an orange red, with spots of a darker hue inside the tubes. As regards cultivation, they require a rich open soil on a partially shaded border. The bulbs, when thoroughly ripened at the end of the season, need to be either lifted and stored, or in mild localities a covering of litter will suffice. Since penning the above the Journal has come to hand, and on page 200 I see *M. crocosmæflora* is highly spoken of by "W." as a good plant for massing. I can also speak of it very highly for this purpose.—H. M.

THE VIOLA.

IT is difficult to ever-estimate the great value of the Viola, whether as a bedding or bordering flower. Its reign is of considerable duration, extending from the beginning of May to the end of November. Unlike the Rose, it is much more easily damaged by unmitigated sunlight than by excessive rain, though I find it is also affected by the latter to a certain extent. During the tropical summer of 1893 Duchess of Fife, and several other equally beautiful varieties, were in my garden annihilated by the heat. In the beginning of the present season the drought was exceedingly exacting, but perhaps owing to careful attention in the shape of periodical waterings not a single variety, however delicate, was lost. Of late our Violas have had a different experience—not only sufficient, but superabundant rain. There can be no question that such veritable deluges as they have recently sustained have a tendency to lower their vitality by rotting their roots, to say nothing of the entire disfigurement of the flowers; but it is a great consolation when no plants have been destroyed, for under more favourable atmospheric conditions their strength may at least be partially regained. It is in any case very important for cultivators to remember that their very nature necessitates both shelter and shade.

Among those that have flowered most profusely this summer in my garden are the following varieties, which for beauty of aspect, charming fragrance, and immense productiveness could not easily be excelled—viz., Iona, Duchess of Fife, Countess of Wharncliffe, Violetta, Sylvia, White Duchess, Countess of Hopetoun, Dr. Stuart's Blue Gown (of compact growth and luxuriant bloom), Ravenswood, H. M. Stanley, Prince of Orange (a variety of great brilliancy and floriferousness), Crimson King, Edina, Lemon Queen, and Mary Queen of Scots. Of these the greatest recent acquisitions are undoubtedly Iona and Prince of Orange, raised by Mr. William Cuthbertson, to whose efforts the Viola is deeply indebted. Other Scottish raisers of the first rank are Dr. Stnart, of Chirnside, in Berwickshire, to whom we are grateful for those inestimable possessions Violetta and Sylvia, as precious for their distinctive fragrance as for their productive powers; Mr. Baxter, of Daldowie, who has given us, among others, a pale primrose Viola, distinctly edged with blue—viz., Duchess of Fife, which is, I think, superior to his White Duchess; Mr. James Grieve, of Edinburgh; and others of less renown. Among pure white Violas, Countess of Hopetoun was the supreme favourite of the late Mr. William Dean, whose death was in many respects an irreparable loss. My own favourite has always been Countess of Wharncliffe, the fragrance of which almost rivals that of Violetta, while it is of larger dimensions, being also of satin-like lustrous hue. In my estimation it occupies the same position among Violas that Duke of Buccleuch does among modern Grapes, being at once the most delicate and most artistic of them all. The Dean of Rochester affirms that if he were compelled to limit himself to one particular Rose, he would demand a strong plant of that familiar and uniquely accommodating variety Gloire de Dijon. Under similar circumstances, if restricted to one Viola, I would have no hesitation in selecting for the honour I have indicated, the Countess of Wharncliffe.—DAVID R. WILLIAMSON.

JUDGES' DUTIES.

ARE not these sufficiently responsible and onerous? One of your correspondents seems to suggest that when an exhibitor carelessly or otherwise makes an error in the numbers of a vegetable or fruit the judge should rectify in the case of one or two over by placing these outside the exhibit. If this be right, it is hard that the exhibitor who brings only nineteen instead of twenty specimens should not also be assisted. I have generally found judging quite a sufficient tax. But what is the use of a schedule and regulations if they be not for exhibitors and judges to attend to? I question much if the judge referred to had the slightest justification for altering the number of a given article subjected to his adjudication. Certainly, if all the judges at the same exhibition were not agreed as to their plan of action, one exhibitor might be placed on a wholly different footing to another, and ask why should he (A) with his seven Apples be disqualified for excess of numbers, while B, with twenty-one Beans, was awarded a prize. There is but one rule that I know to guide judges, and that is following strictly the regulations in the schedule of the show and carrying them out to the best of their ability.

It is quite another thing for members of the Committee to see to the correction of errors. It is their duty to do so. Recently, in a Club with which I am connected, my eye rested on a beautiful exhibit of vegetables set up in the largest class of that division. On one side were three grand roots of Celery, on the other side three more, but on looking closer I found one red stick among the lot, the rest being white. We soon learnt who was the exhibitor, and fortunately he had not left the building, and I pointed out to him the sure disqualification if it remained. The mistake was speedily rectified, and the result was that the exhibitor won the silver medal that was offered in that class. Had he left it I think the Committee might have rectified the matter, regulations to meet emergencies being matters under their control.

Formerly collections of vegetables were frequently exhibited in baskets, and I confess I like this method the best; but now they are often laid out on a cloth or white paper, and in many cases garnished with Parsley. Is this garnishing with Parsley legitimate? I turn to old Glenny, and find he calls it a vegetable used in stews and soups, and in Sutton's book, among the vegetables, I find Parsley. Then take a

collection of say, six vegetables—viz., Cauliflower, Tomatoes, Potatoes, Vegetable Marrows, Mushrooms, and Artichokes, the whole well garnished with beautiful Parsley. How many vegetables are there in the collection? Seven! And should not such a collection be disqualified? It certainly contains one more vegetable than the class requires, and no one will deny that it might influence the judging.

By the National Rose Society's regulations added foliage (garniture) is disqualifying, and yet it may be foliage from the very same plant as the bloom in the stand. Why, then, should we permit the garnishing of vegetables with that which is after all another vegetable? Let competitors arrange their exhibits in the most telling way they can, but not garnish with that which another competitor may possibly not possess, or possessing, may have omitted to bring.—Y. B. A. Z.



DENDROBIUM THYSIFLORUM.

BRIEF reference was made in our issue of June 13th to the Right Hon. Joseph Chamberlain's extensive and valuable collection of Orchids at Highbury, near Birmingham. Of one of Mr. Chamberlain's plants, and a magnificent one, we obtained a photograph, of which fig. 32 is a reproduction. Mr. H. A. Burberry, the accomplished grower of the plant, favours us with the following particulars:—

The plant is in a 14-inch pot, and carried seventy spikes of bloom, and the number of flowers on each spike averaged about fifty-five. It is grown in the Dendrobium house in the summer when making new growth. The temperature of the Dendrobium house is similar to that of a stove. At all other times the plant occupies a light position in an intermediate house, where the temperature may fall as low as 50° and rise as high as 65°. During the growing season a good supply of water is necessary, but the compost must not continually be saturated; afterwards less will suffice, and during the dull months of winter, when dormant, the compost should be drier than at any other time of the year. But not even then should the plant remain very dry for long intervals, or shrivelling of the pseudo-bulbs and a loss of foliage will occur. This should be avoided, or a great injury is the result. Keep the roots in good condition by repotting once in two or three years in good peat and sphagnum in well-drained pots, and let it be done soon after flowering.

Mr. Burberry deals more fully with the culture of this Dendrobe in his "Orchid Cultivator's Guide Book," a new edition of which is issued. It is a marked improvement on the first edition in every way. In addition to the great amount of practical information imparted in 170 pages the work is beautifully illustrated by coloured plates and photogravures. This edition is equally appropriate to the library of gardeners and amateurs, while it is worthy of a position on the drawing-room table. As a presentation book it can be recommended to persons who are interested in the subject which its author treats so well. It is published by Messrs. Blake & Mackenzie, Liverpool.

NOTES ON THUNIAS.

No collection of Orchids can be complete without a few stems of these, the distinct habit, constancy of flowering and beauty of their blossoms making them favourites everywhere. Botanically, Thunias closely resemble Phaius, but the plants are so different in every other way that they will always be generally known by the former name, given by Reichenbach. The culture of Thunias is by no means difficult, providing enough heat is at command. Besides heat they like a moist atmosphere while making their growth, and a light sunny position. I do not syringe the plants much, as this is apt to cause the foliage to spot, otherwise it does no harm. If it is practised at all it must be discontinued before the flower sheaths appear, as the least drop of water upon these causes them to spot.

The compost for Thunias must be free and open, but at the same time substantial enough to cause a strong growth, for though naturally epiphytes they are best treated as terrestrial Orchids generally are under cultivation. Two parts of good silky or fibry loam, one of peat fibre and one of chopped sphagnum moss will form a good base, and if a little well-dried cow manure and some very finely broken crocks are added this adds to its manurial properties, and insures a sweet and sound mechanical condition. It is usual to mix sand with this compost, but as I have frequently pointed out in the *Journal of Horticulture*, this material is better

away from Orchid composts. Frequently the stems are placed seven or eight together in a large pot, and they do well in this way, the only drawback being the fact of their not always flowering simultaneously, and therefore not making so good a display as would otherwise be the case.

If established singly in 5-inch pots they will make strong shoots, and these may be grouped when in flower to make a good show. Not only this, but it is easier to cater for the wants of the

will soon commence to turn colour, and as they fall the root moisture must be diminished by degrees until in winter they will require none at all.

The plants are best during the autumn in a sunny pit or frame, but before the nights get very cold they must be housed, and the temperature kept at about 50° during the winter. The best time to repot is just before the plants commence to grow in the spring. *Thunias* may be easily propagated by cutting the matured stems

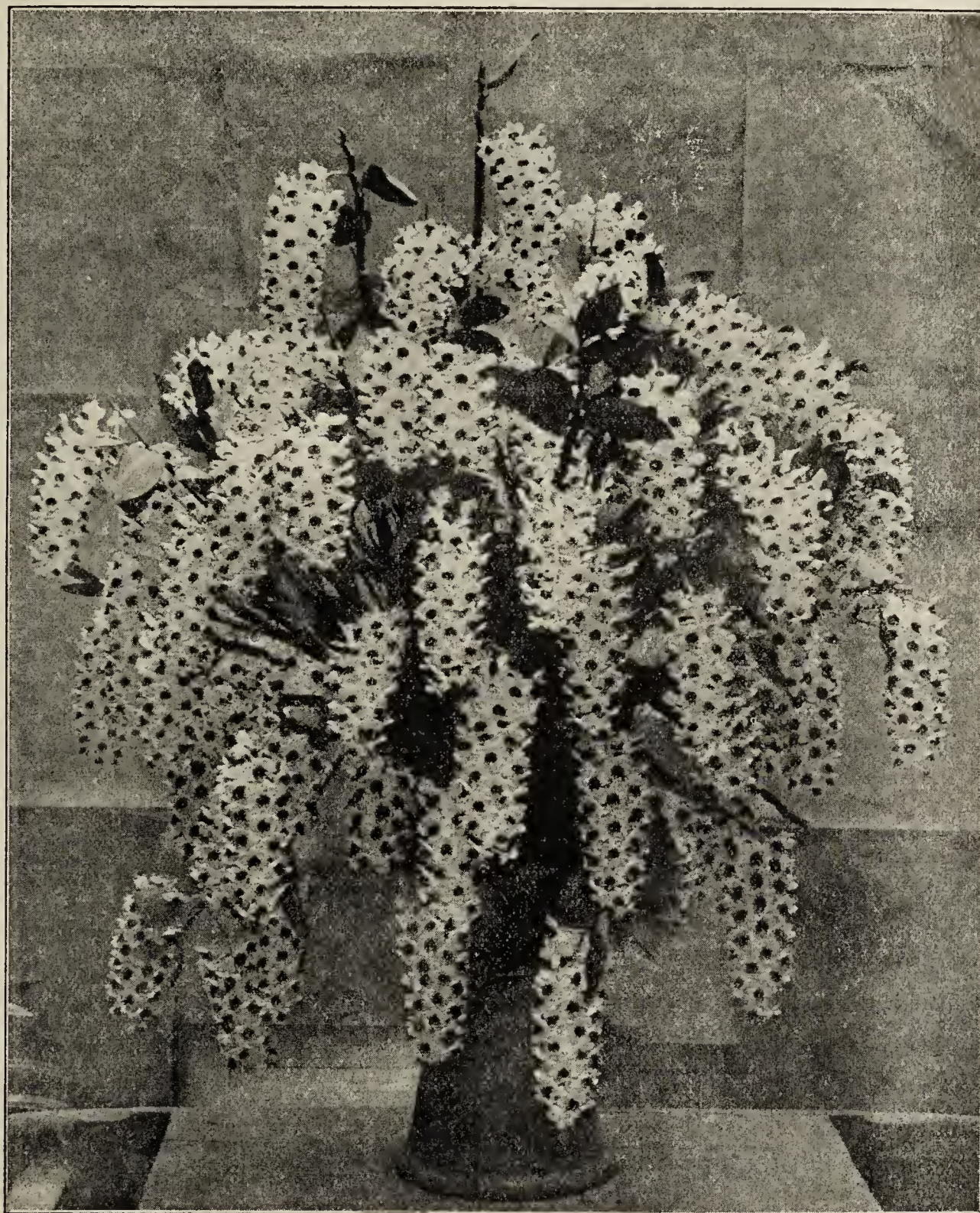


FIG. 32.—DENDROBIUM THYRSIFLORUM. (See page 228.)

plants when grown in this way. In preparing the pots see that they are thoroughly clean and dry, drain about half the depth with clean crocks, and let the base of the stems just rest on the surface of the compost, the latter being finished about half an inch below the rim of the pot. They should be taken at once to the warmest house, and if the pots are surfaced over with a little moss this checks evaporation and does away with the need of watering at first. Signs of growth will soon be apparent, and as soon as the young shoots commence to root a little water may be given, increasing the quantity as the roots begin to run freely, and when the pots are filled giving occasional supplies of well diluted liquid manure. At the apex of each growth the flower scapes will be produced, and the plants must then be placed in a drier atmosphere for the reasons stated above. When the flowers are past the leaves

into lengths of 5 or 6 inches, and placing them three or four together in pots of very light compost, watering very sparingly until the growths that start from the base of each cutting begin to root. Or advantage may be taken of the shoots that appear at the top of the old stems to increase the stock, placing these singly in small pots, and growing them on till strong enough to flower. *Thunia Marshalliana* is perhaps the most generally grown. This is a native of Moulmein, and produces large and elegant flowers, pure white in ground colour, the lip being fringed in front with orange yellow. *T. alba* is similar, but bears smaller flowers, which are faintly marked with purple. *T. Bensonæ* has flowers similar in structure, but of a pretty light purple colour. It is a native of Rangoon, and was introduced in 1867. These all flower in the late summer months, and are amongst the prettiest Orchids in

bloom at that season. Other kinds more or less rare are *T. candidissima*, *T. Dodgsoni*, *T. nivalis*, and *T. Veitchiana*, but those described above are the most generally grown.—H. R. R.

TREATMENT OF ORCHIDS.

Will you kindly, through the medium of your Journal, answer the following questions:—1, Can *Dendrobium nobile* be flowered from growths just matured? and state treatment. 2, When should *Laelia glauca* and *Digbyana* (*Brassavola*) be started? 3, What is the best position and house for *Zygopetalums crinitum* and *Mackayi*, and when should they be started and rested?—J. THOMAS.

[*Dendrobium nobile* often flowers upon the newly made pseudo-bulbs, but to induce them to do so an early start and quick vigorous growth are necessary. This is in order to get them finished early, so that the plants may have a long rest in a cool house before being started again in early spring for flowering. As a rule, however, the stems do not flower until the second season. If the growths are well ripened place them at once in a sunny position in a cool house or frame, giving just enough water to keep them from shrivelling and a free circulation of air night and day until the approach of frost renders the former dangerous. Keep them dormant by these means until the turn of the year, when place them again in heat. Do not allow very much atmospheric moisture or water the plants much at the root at this season, or the probability is that you will get more growths than flowers. As soon as the buds can be distinctly seen, however, there is no danger of this, and they will need more assistance at the roots.

The *Brassavolas* named usually commence to grow early in spring, the increase of light and heat in the Orchid house causing this naturally without any starting, as the term is usually understood. Avoid any undue excitement now or after the growths are finished, for the flowers are never so good in colour or so large when the growths start out of season, and are sometimes altogether wanting.

The *Zygopetalums* referred to are not fastidious as to temperature, but perhaps a somewhat shady position in the *Cattleya* house suits them better than any other. They are very restless plants, and seem to require an almost constant state of growth, and are never dormant like a *Dendrobium* or a *Cattleya*. If they seem inclined to rest after the new pseudo-bulbs have flowered and finished up it is well to allow them to have their own way, but they must not be forced to rest by withholding moisture at any time.]

OLLA PODRIDA.

LILIUM HENRYI.

I DO not think there has been so satisfactory an addition to this tribe of plants made of late years as this beautiful species from North China. I say this in full recollection of the beautiful varieties from India, such is *Nepalense*, *sulphureum*, and others of a similar class; but there is a difficulty about their cultivation which robs them of a good deal of their satisfactory character. This is not the case with *Lilium Henryi*. It seems to partake in a very strong degree of the free growing character of *speciosum* or *lancifolium*; indeed, it may be described as an orange yellow *speciosum*. I had a comparatively small bulb of it last year, and I did not like to risk it in the open, and so placed it in a pot; it grew about 5 feet high and had eight fine blooms, and I feel sure that I might have placed it in the open ground without fear of loss, and I shall so place it this autumn when its blooming season is over. Dr. Wallace says it is perfectly hardy, and I can quite credit it. Its introduction leaves one to hope that there may be others of the same family to be obtained from this comparatively unexplored region. Robert Fortune did indeed visit part of it, but there are regions where Europeans have hardly if ever ventured which may yet yield treasures for our gardens. Especially valuable are these autumn flowering Lilies, and I think the one under notice may fairly be classed as one of the most beautiful.

CRINUM POWELLI.

I received last autumn from the raiser a gift of two bulbs of this fine hybrid, and although it had to pass rather a severe ordeal in the frost of February and March and in the drought of May and June, yet I have been gratified to find that one has flowered; of course not so well as I hope it will do if I am spared till next year. It is a hybrid raised between *Crinum longiflorum* and *Crinum Moorei*. The colour is bright pink, and the umbel consists of seven or eight blooms; and as when it is in good condition the stem is 4 or 5 feet high it forms a showy object in the garden. One very rarely sees any of the plants of *Crinum* and its varieties in private gardens, where certainly in their fine style of growth and beautiful flowers they are well worthy of a place.

THE GASTRONOMY OF BEES.

For many years I was a somewhat ardent bee-keeper. I went into its mysteries, got profusely stung, and suffered various inconveniences from the pursuit. Yet it was very pleasant, and as I did not follow it for the purpose of obtaining my rent from them, the bad seasons which I

sometimes experienced did not trouble me much. The idea that bees when they have found a store of honey go and tell their companions has been shown, I think, to be without foundation. Then, again, a good deal has been made of their sealing down a snail which had intruded into their hive; but if this were done to make him powerless, why do they leave unmolested that terrible enemy the caterpillar of the wax moth? Neither can I make out any case for their supposed predilection for blue flowers, and I have noticed that the hive bees and the wild bees seldom frequent the same flowers. Thus, for instance, a bed of *Mignonette* swarms with the honey bee, but one never sees a wild bee upon it, although a head of *Lavender* close by tells just the reverse tale; one seldom sees a hive bee on it, while wild bees delight in it. The *Gladiolus* with its broad open flower and abundance of pollen affords a delightful place of recreation for the humble bee, and perhaps for that very reason the hive bee never enters the flower. Again, what an unpromising place for obtaining either food or honey seems to be such a plant as *Eryngium Oliverianum*, and yet the hive bee seems to be very fond of it; so again *Echinops ritro* or *Ruthenicus* is a very great favourite with them also, but I never see a wild bee on it. There must be a good deal of sweetness in the perfumed *Marvel of Peru*, the nectar lying at the bottom of a long and slender tube. The wild bee has scented it, but cannot reach it, so he hovers about the flower and pierces the bottom of the tube, so that he can get at the nectar, and having spoiled one flower goes on to another. In all these cases of preference for one flower over another I presume there is a science of gastronomy amongst bees, and that they have already settled which dish they prefer.

DISA GRANDIFLORA.

Among the pleasant things connected with flowers must be reckoned, I think, the associations they bring up. This plant always brings to my memory that clever old Scotchman Donald Beaton, whose glowing pen for so many years enlivened the pages of the *Journal of Horticulture*; indeed it recalls not only him but another friend, the late Mr. Charles Leach, who has long since passed away. And why so? it may be asked. I shall never forget old Donald standing before a group of it exhibited by Mr. Leach at the opening exhibition of the R.H.S. in South Kensington, nearly a quarter of a century ago, and telling all whom he could buttonhole that there was nothing in the whole exhibition comparable to it, notwithstanding that Mr. John Standish had the first bulb of *Lilium auratum* that had ever flowered in this country in his collection of novelties. Not that the plant had been unknown, but nobody had hitherto mastered its cultivation; and even now you may go through many collections of Orchids, but when you ask the owner whether he has got it, he will tell you he has failed to keep it. I have seen Mr. Lindsay's beautifully grown plants in the Botanic Gardens, Edinburgh. For many years I grew this very successfully, but for a few years past I have not done so well. I fancy that I have been rather too free in watering it when it has begun to make its growth for the following year; at least I can account for it in no other way, as in every other respect the method of growing it is the same I have pursued for many years past. I think it may be well to say that care should be exercised in the obtaining of plants now, their exportation from the Cape having been forbidden. It is a plant of the easiest cultivation, and will grow in an ordinary greenhouse with other plants, and its striking beauty is sure to attract the notice of visitors, while its flowers are, I think, the most lasting of anything that I know, the same one remaining in beauty for five or six weeks, a great recommendation to those who often mourn over the evanescent character of many of their favourites.—D., Deal.

LOBELIA CARDINALIS.

I NOTE the remarks about this *Lobelia* by "D." (page 155). For the last fifteen years I have made it a feature in at least one of our beds for an August display. This year I have plants in five beds. I do not think it is grown nearly as much as its merits deserve. The cause is to be found, I think, in the difficulty usually experienced in preserving the roots through the winter. I have tried many ways of dealing with this plant in the hope of increasing the stock, but must admit I have many times failed. Last autumn a fresh plan was tried, and I am pleased to say answered well. Directly the plants were lifted from the beds they were pulled in pieces, placed rather thickly in boxes in sandy soil, and stood in a temperature of 60° to 65° to induce fresh root action. When the plants had made a good start in growth and become well rooted the boxes were moved into a cool house—a vinery at rest—and there the plants made steady progress. The soil was kept just moist. At the end of March the plants were put out in light soil over a layer of old Mushroom bed refuse in a temporary frame, and in due course capital roots were ready for the beds.

The flower spikes are now 4 feet high, and brilliant in the extreme. The dark foliage is much more effective than that of *Fulgens* or *Firefly*. I was lately told that propagation is easily effected by taking off the side shoots when 4 inches long and before they exhibit signs of flowering, inserting them in sandy soil in a shaded cold frame. I have put the plan into practice, and hope for satisfactory results, but am somewhat sceptical on the point.

No matter in what form the plants are arranged in beds or borders, the soil should be covered with some low-growing plant, not only to hide it, but to form a contrast with the brilliant flowers above. I have employed *Sedum glaucum*, *S. Lydium*, *Herniaria glabra*, *Viola Mrs. Gray*, and a dwarf *Ageratum*. Perhaps the *Viola carpet* was the most effective,

the white flowers being in direct contrast with the Lobelias. If cultivators were to take more interest in this old-fashioned plant and grow it well we should see more of it employed. Its merits are being recognised by persons who arrange groups of plants for effect in competition for prizes. The tall brightly coloured spikes rising from a mass of Maidenhair Fern cannot fail to please the judges.—E. M.



CHRYSANTHEMUM GOLDEN WEDDING.

OWING to the cold and wet season of last year this grand variety was almost an entire failure, but with me this year it is likely to retain the high opinion formed of it two years ago by most of the noted growers. After last year's failure many growers discarded it altogether. I have one plant only, and I am well pleased with it. So far it is looking as healthy and strong as any variety. I took the buds on the 20th of this month, which I think is about the right time. Will other growers give their experience of the behaviour of this kind under altered climatic conditions this year?—W. R. HEYWOOD.

CHRYSANTHEMUM RAISERS AND THE MÉRITE AGRICOLE.

FROM time to time there appear in the French gardening papers lists of persons on whom this decoration is conferred for conspicuous service in horticulture. Knowing the way in which the raisers of new Chrysanthemums in France have contributed to popularise French horticulture in England, Belgium, and perhaps in America too, it does seem strange that, with only one exception, none of the well-known Chrysanthemum growers has ever been the recipients of the Mérite Agricole. Men who have been engaged in the work unceasingly for fifteen or twenty years, whose names are known the wide-world over, are surely deserving of such a recognition from their Government, and this reflection comes with greater force when we see in the current number of "Le Jardin" a list four columns long of persons who have just received it, but whose names, with very few exceptions, have never been heard of outside their own country.—C. HARMAN PAYNE.

IMPORTING NEW CHRYSANTHEMUMS.

NOT a great while ago an American correspondent of mine, in drawing attention to the many excellent varieties that were being sent out by the raisers in the United States, explained that hardly any of their trade growers could be expected to purchase all the season's novelties, as it would cost him about £30 to do so, and that the element of uncertainty as to their merits would scarcely warrant such an undertaking. Having just completed a carefully compiled list of all the continental novelties offered this spring, I have been struck with the serious expense that must be incurred by many of our own trade growers who desire to keep their collections up to date. Apart from English and American novelties the continental ones must always be reckoned with, and if the ordinary grower for show complains at the ever-increasing number of new varieties which bewilder and perplex him, there is another side to the question which must cause the importer deep concern, and it is the finding of the necessary capital to stock varieties which it is almost certain his rivals will.

Merely to make selections would be risky, and probably place a grower a year behind his fellows, with the chance that some varieties that he did not buy would turn out well, and consequently having no stock he could only offer them in small quantities, if at all. To do a safe business the English importer must buy all, throw away those that prove to be of no value, and rely on the remainder to secure a return of his capital and a profit for himself. There are at the present time eight or nine prominent French seedling raisers, and a rough calculation shows me that at least £50 is required to purchase their 1895 novelties. The only marvel to a non-trader is that a nurseryman can ever see his money back after growing them for a year, testing and comparing them with older sorts, and finding the necessary labour and space they require. If the Chrysanthemum were not so easy of propagation the work could hardly be carried on at all, or if so it would be at prices that would be almost prohibitive.—P.

CARNATIONS AT BURTON JOYCE, NOTTS.

THERE can be no doubt the Carnation ranks as one of our most popular hardy flowers. The improvements in the habit and hardihood of the plant, the length of time it can now be had in bloom, and the advancement in the perfection of the flowers, all add to its usefulness as a decorative plant of the highest order. I had the opportunity a few days ago of seeing Mr. Lamb's Carnations, which he grows very largely for the Nottingham market. He only cultivates varieties that succeed in the open borders without coddling, and afford a large quantity of flowers of the best quality. A few years ago Mr. Lamb raised and sent out a Carnation known as the Duchess of Portland, and it is to this

variety that I wish more particularly to draw attention in these notes. The body colour is pure white, with deep rose bars running down the petals, which are stiff and numerous, making a large, bold, erect flower, with the perfume of the old Clove, and is most valuable for cutting in quantity. It has received certificates at many shows in the Midlands and at Oxford. The flowers never burst the calyx. Respecting its hardihood four rows, 25 yards long each, were planted in the open ground last autumn, and not a plant was destroyed by the frost. As regards its floriferousness, at the time of my visit to Burton Joyce it had been blooming continuously for two months, and to all appearance would continue to do so until destroyed by frost. There can be no doubt but that the Duchess of Portland will stand in the front rank as a flower for cutting purposes.

Two other sorts raised by Mr. Lamb are Red Rover, a very dark good flower, strong constitution, and Blanche, cream, changing to pure white, a grand flower with firm calyx. Other varieties which Mr. Lamb is testing as market garden flowers are Carmina (M. Smith), yellow, very bright and attractive, a good grower, and great improvement on Germania; Ketton Rose (Divers), rose-coloured, strong and good grower, perfect flower; Marney Murray (M. Smith), light scarlet flower, strong grower, and makes good "grass;" Miss Andrey Campbell (M. Smith), pale yellow, very attractive, being a good border plant. Others of great merit were noticed, such as The Pasha, Pride of the Garden, Duchess of Fife, Uriah Pike, and Almanac. Mr. Lamb's object is to grow good garden flowers, such as will stand the inclemencies of our variable climate, and will produce good financial results.—QUINTIN READ, *Evesham*.

CYCAS REVOLUTA.

ABOUT a year ago I sent you a note along with a few ovules from a plant of the above which was here bearing a fine crown of fruit. You were happily able to illustrate the subject by the reproduction of a fruiting leaf from a former head of the same plant. When testing the ovules which I last sent, you made a footnote expressing a wish that we would be able to get the seeds to germinate. Herewith I take the liberty to send you two seeds developing well in the process of germination. This proves that our first impression was quite correct, that the seeds were fertile owing to the application of the pollen from the male plant at Cringle House, a photo of which you gave "in fruit" in your issue of October 25th, 1894. I might say that on the subject we had a little interesting local correspondence, and from opinions given we were in doubt whether the seeds would actually prove fertile. On the closest observation no germ could be detected when dissecting a seed, but the matter was set at rest when at length a seed that was planted began to grow. Perhaps you may be interested to notice the fact.—ROBERT MACKELLER, *The Gardens, Abney Hall, Cheadle, Cheshire*.

[The seeds received appear to be germinating freely, and our correspondent may look forward to home-raised plants.]

PRUNINGS.

"LETTUCES in Winter" (page 146).—This is of course something about Lettuces, and, moreover, an exposition of the laws of natural economy. To most gardeners, I think, the salad side of the subject is one of immediate concern, and "Grower's" advice, or at least so much of it as he has given, is timely. After floundering in the somewhat profound depths of "Grower's" second paragraph—which, probably, was more my misfortune than his fault—and coming to the surface (and question proper) I venture to ask him for a little more light on the Lettuces—to let us would-be growers of good winter salading know what are the best varieties for frame purposes; how to cope with damping during the covering period of a long spell of hard weather; also whether he has yet tried "New York" as a winter variety, and if so, his opinion of it. I have found, as an auxiliary to the frames, that autumn planting at the base of a warm wall, with a little protection by litter when occasion requires, gives very satisfactory results; whilst a gentle hotbed in the spring will quickly produce succulent leafage from starved plants when transferred from the open; but rarely indeed can we produce in early spring that desideratum—viz., little cricket balls, clean and crisp, such as we are now playing straight into the salad bowl.

Dismal indeed is "A. G.'s" picture of the evils of overcrowding (page 148). Was it not for his final note of triumph "at last success" one could but conclude that his pen was ultra-pessimistic; as it is, his vivid depiction of horror on horror appears to be drawn from the most shady of shady experiences. Truly it would be strange, passing strange, if any gardener (save the mark) whose conscience tells him he is included in this category does not mend his ways; failing to do so, may the ghosts of "headless Cauliflowers" and "running Lettuces" chase him out of the garden; it will but serve him right, and blame whom he will he cannot blame "A. G."

"The Apple as a timber tree," vide American note, page 154. Presumably this will not "take on" with Britishers from a commercial point of view, although one may shape a cudgel from their favourite Codlin to be handed down as a heirloom. There is in my family a Pear tree table made by an ancestor, and though this is neither time

nor place for tales of a grandfather, it is, I think, worth calling attention to the fact that for the purpose of mallets and beetles Apple timber is unrivalled.

In the correspondence on "Disqualifying at Shows," page 156 (and previous notes thereon) one can pity the exhibitor who in his "hurry and rush" counts thirteen to the dozen, or—as in this case—twenty-two to the score (and, it may be noted, that the error is oftener one of surplus than of deficit); but is there any reason to condone the fault? I think with "J. W. K." in this matter. Peaches or Plums, or what not, do not jump about like Pat's pig, whose patience was tried by waiting for it to stand still ere he could count it. The exhibitor who is generally in a "hurry and rush" has yet to learn a primary ethic in the art of showing, and the sooner he learns it the better for all concerned.

An expert chef is prone to adopt foreign nomenclature for his dishes, but whether it be a Scotch haggis, an Irish stew, or "Olla podrida," as on page 160, *cui bono* if the "ingredients" are judiciously blended and tastefully served. Deep in the mysteries is the veteran hand; generous to bestow the experience of long years; yet withal seeking for explanations, as in his query on ripened wood. What say the boys, young and old, to the master's query? What? Oh! Another helping of your new dish, please Mr. Deal, and never mind the sauce piquante.

"Mignonette for Spring" (page 161).—In this able article by "E. D. S." is given the practice by an expert grower of this homely but ever welcome yet somewhat miffy plant under winter culture. Those who, like myself, are not quite satisfied with their efforts in this direction will doubtless note the instructions here given. And those who have failed to notice this article would do well to turn back to it; in which case they cannot fail to derive instruction and benefit.

I am sure that all who read "A. J.'s" brief eulogium (page 172) of the deservedly popular tuberous Begonia will readily endorse his note of praise. As a bedding plant we have yet to see it equalled for the beauty, variety, and interest it yields; and its hibernating properties during winter congestion are simply invaluable. Being, as a bedder, so essentially a wet weather plant I do not quite understand "A. J.'s" caution embraced in the remark that "care should be taken in watering not to wet the foliage." To my mind, when grown under glass, the nearer we approach outside conditions the better shall we attain that sturdy luxuriance produced under open air culture; even for exhibition purposes I would be inclined to plunge the pots outside, and afford the plants some temporary protection on the approach of show day.

Apropos of the discussion on the Climbing Canadian Wonder Bean (page 193), the thought arises and prompts the question as to how much of its high (not tall) character is derived from its being a novelty? I trust these remarks may be taken without prejudice, for the Bean in question is yet, with me, *sub judice*. In some seasons French Beans generally display a tendency to run—a feature, I have been told, that is to be attributed to imported seed after a bad year has given a deficiency of home-grown stock. But to return to the question direct, we have noted how in one instance the Climbing Bean, to its glorification, has attained to more than 8 feet in height. Possibly another season the runner may be induced to add another couple of feet to its stature—and then? Had all the tribe been runners one could understand the éclat with which a dwarf variety would have been received, unless it was by those happy ones to whom stakes (Hop poles) and the stormy winds that blow were not matters for consideration. But "Time tries all things," even run-away Beans.

Amongst the "Notes and Gleanings" on page 199 may be noted the appreciation of the Banana by English fruit eaters. Here I see the possibility (remote perhaps) of the public being one day permitted to realise the difference—the vast difference—between home-grown, naturally ripened fruit and the imported clusters cut in a green state. I am tempted to relate at some future time my experience in the culture of Musa Cavendishi, and will then endeavour to show that our English brides may not only be adorned with home-grown Orange blossoms (see leading article, page 193), but that they may also enjoy the lusciousness of British Bananas at their wedding breakfast.—SAYNOR.

RAISING AND PREPARING VINES FOR PLANTING.

I HAVE no intention of prolonging this discussion. I hope, with the Editor, that some good may result from it. I think I may safely say that the number of those who believe in the 3-inch pot system is extremely small.

Mr. Innes may be able to work wonders, and, indeed, if he had not been able to do so in the past, he could not have recorded the crops obtained the year after planting his "midget" Vines. If he can produce such results as he has accomplished, he, at any rate, need never trouble to grow his young Vines in any other way. Had he grown them on in the usual way adopted by practical men in all parts of the country, what wonderful results would have followed under his fostering care! It is a question of proportion. If Vines planted in August out of 3-inch pots produce so much with Mr. Innes, how much more

ought such Vines as those of which Mr. D. Thomson sent the Editor a sample, to produce also under Mr. Innes? I hope he may go on and prosper.

I take leave of this subject with the remark that I hope it may have been of use to somebody. Truth is what we want in connection with discussions in horticultural journals, and when nothing but the truth is advanced discussions are certain to be beneficial.—JOHN THOMSON, Clovenfords.

FAIR OAK PARK, BISHOPSTOKE.

HAVING a holiday I recently wended my way to the South, and, accompanied by a few gardening friends, we took train to Botley Station, and soon after arrived at the country seat of W. A. Gillett, Esq. While passing along on good level road we noticed on the left and right acres of orchards and fields of Strawberries, the variety of the latter we learnt being mostly Sir Joseph Paxton. Arriving at the beautiful entrance lodge, and passing up the carriage drive, we noticed on our right a fine cricket ground, made expressly for the club composed mostly of members on the estate, which Mr. Gillett prides himself as being one of the best local teams in Hampshire. The park is of considerable dimensions, well diversified by magnificent timber on an undulating surface. Finer specimens of many of our native trees it would be difficult to find. Adjoining the mansion is a terrace garden, which slopes gently from the house to the lower part of the park, at the bottom of which the river empties itself into the lake. Passing round into the kitchen garden we noticed a fine bed of Carnations of all the newest sorts, of which Mr. Gillett may well be proud. The kitchen garden itself is a picture of neatness, and full of a variety of everything required for use in a gentleman's establishment. In the frame yard is a large number of useful structures filled with Melons, Cucumbers, and double and single Primulas, in good condition. Mr. Carr, the gardener, may also feel proud of his Chrysanthemums, of which he has about 250, all standing out and tied up, averaging from 4 to 6 feet in height. Amongst others we noticed such sorts as Duchess of York, Lady Randolph, Miss Goschen, W. Fyfe, Mrs. H. T. Drewett, all giving promise of good blooms, and Mr. Carr, who has been a successful exhibitor at the Southampton shows, may be congratulated on the progress he has made.

We next come to the Orchid houses, which are the feature. Amongst the Cattleyas, all a picture of health and beauty, we noticed a fine specimen of Cattleya Mossiae elegans. The Odontoglossum houses are a sight worth seeing, as they contain the finest collection of Odontoglossums in Hampshire. In the stove house is a fine collection of specimen Crotons, looking the picture of health, besides hundreds of small plants for decoration. We were, unfortunately, too late to see the house of Gloxinias, an account of which was given in the Journal last season. After partaking of the kind hospitality of Mr. Gillett, and shaking hands with his excellent gardener, Mr. Carr, who has been at Fair Oak nine years, we were driven back to the station much pleased with our visit.—NORTH AND SOUTH.

SUCCESSION OF FOREST GROWTH.

LUMBERMEN say, "When the Pines are gone they are gone for ever." But what are the facts? From time immemorial such trees have grown in various parts of the Old and New World in the same places where Nature has been allowed to have her own way. The Pines of Maine have been cut over and over again on the same wild grounds. The ancient Oaks of Britain have replanted themselves times without number on the very spots where the Druids worshipped. The Redwoods of California and elsewhere yet live among their giant ancestors that date back even before the beginning of the Christian era.

Despite human rapacity, the great Cedars of Lebanon, whose sires were cut by King Solomon for his temple, have repeated themselves on those shaggy heights—a few yet lingering under religious protection. The Olive trees of Palestine, and the Fig trees, and the Willows on the lower banks of the Jordan, under whose shade the nomadic Israelites pitched their tents, have again and again during all the centuries since replanted themselves there, rebutting the lie that they do not succeed each other. If these instances are exceptions to the rule, they count for the rule when conditions warrant it.

If we rob the supports of the Pines or any other class of trees, of course they will die out and another species of less value may take the ground and hold it. The reason why we observe so many tree rotations is because we interfere and produce the conditions that necessitate them. "When the Pine forest is burned over," says Robert Douglas, "both trees and seeds have been destroyed, and as the burned trees cannot sprout from the stump, like Oaks and many other trees, the land is left in a condition for the germination of tree seeds, but there are no seeds to germinate. It is an open field for pioneers to enter, and the seeds which arrive there first have the right of possession." The cotton-winged seeds of the Aspens and other Poplars generally get ahead, taking root on high and dry soil, where some other seeds would die. The burnt land is their paradise, and their paradise is the forest retrogression which our lumbering methods have paved the way for.

Conifer and other seeds may sprout under their parent trees, but their young shoots speedily pale and die if the shade is too dense. The same result occurs, though in reverse order, where the trees are all cleared off. If they sprout, the sun's excessive heat soon kills them. If a fire burn up the leaf mulch and the root network in the soil, of

course the seeds are destroyed, and we have no succession of forest growth there, simply because "we cannot make something out of nothing." Observing there no reappearance of the old species, men aver, "The Pines once gone are gone for ever," and they ring the changes on this "lumber adage," to convince us that it is useless to try to save our Pines.

Some common sense needs to be drilled into some people's understanding. By the decay of fallen leaves and limbs, mosses, and other minor vegetations, aided by water thus conserved, forest trees manufacture their own nutrition and support; hence forest soil that is not raided by axe or fire does not "run out" like a farm soil planted with the same kind of seeds from year to year. It is plain that successive tree crops will continue to grow and do well on their own native heath under a practical system of forestry, whereby the forest conditions are improved by cutting for the market.—("Minnesota Forestry Association.")

HORTICULTURAL SHOWS.

BATH.—AUGUST 28TH AND 29TH.

ON the above dates the Bath Floral Fête Committee held its annual show in the Sydney Gardens. Taken as a whole the show was a good one, the best feature being the vegetables and the culinary Apples. Dessert Apples were not up to the mark, though the colouration of some of the specimens was very fine. Groups, which at the majority of horticultural shows at the present time are a great attraction, were by no means up to a high standard, but Fuchsias were splendid, especially those trained as standards, and staged by Messrs. Lye & Tucker.

One of the chief classes was for nine distinct Fuchsias. Mr. Tucker, gardener to Major Clark, Trowbridge, was first with grand examples of *Avalanche*, *Charming*, *Bountiful*, *Lustre*, *Improved*, *Marginata*, *Finale*, *Doel's Favourite*, *Mrs. Rundle*, and *Harriet Lye*. Mr. W. Marsh, Bath, was a good second. For four Fuchsias Mr. J. H. Willcox, Bath, was first; Mr. J. Elgy second; and Mr. J. A. Martin third. For a single specimen of a dark sort, Mr. G. Tucker was first with a superb plant of *Charming*. Mr. J. Lye, gardener to the Hon. Mrs. Hay, being second with a dwarf specimen of the same variety.

Mr. J. Cypher, Cheltenham, was the only exhibitor in the class for twelve foliage and six stove or greenhouse plants in flower, exclusive of Orchids, and received the premier award for a magnificent exhibit, comprising *Latania borbonica*, *Croton Baroness J. de Rothschild*, *Kentia Belmoreana*, *Croton Williamsi*, *C. Thompsoni*, *Thrinax elegans*, *Kentia Fosteriana*, *Croton Warreni*, *Cycas circinalis*, *Croton angustifolius*, *Phoenix rupicola*, *Erica Marnockiana*, *Rondeletia speciosa*, *Clerodendron Balfourianum*, *Statice profusa*, and *Dipladenia hybrida*. The same exhibitor took the first prize for eight foliage plants with *Cycas revoluta*, *Latania borbonica*, *Croton Queen Victoria*, *C. angustifolius*, *C. mortefontanensis*, *Kentia australis*, and *K. Fosteriana*. Messrs. E. S. Cole & Sons, Bath, were second; and Mr. J. T. Holmes third, with *Croton Chelsoni* in grand condition. Mr. J. Cypher was first in the class for a single specimen foliage plant, Mr. R. B. Cator taking the second place.

In the class for a group of plants, arranged in a space of not less than 100 square feet, Mr. J. Cypher was again to the fore, followed by Mr. R. B. Cator and Messrs. G. Cooling & Sons, Bath. For six stove or greenhouse plants in bloom, Mr. J. Cypher secured the leading award with *Bougainvillea Sanderiana*, *Erica Turnbulli*, *E. Eweriana*, *Clerodendron Balfourianum*, *Statice profusa*, and *Ixora Duffi*. Mr. G. Tucker was second, his best plants being *Allamanda Hendersoni*, *Bougainvillea glabra*, and *Ixora Morsei*. For three stove and greenhouse plants, Mr. H. Pocock, the only exhibitor, received the first prize. Mr. J. Cypher's plant *Ixora Duffi*, in the class for a single specimen, was superb; Mr. G. Tucker being second with *Bougainvillea glabra*. For a single greenhouse plant, Mr. G. Tucker, with *Statice profusa*, was first; and Mr. J. Cypher was second with a plant of the same kind.

For six Orchids Mr. J. Cypher was an easy first, his plants being well grown and flowered. Mr. J. T. Holmes was second. For six Heaths Mr. J. Cypher again secured the premier award, in this instance being the only exhibitor. As is usual from this grower, the plants were magnificently grown. The best were *Ericas Aitoniana* and *Macnabiana*. For a single specimen of a new or rare plant, in or out of bloom, Mr. G. Tucker was first with *Ixora Tuckeri*, Mr. J. Cypher being second with *Croton Reidi*. For twelve exotic Ferns Mr. G. Tucker was first, Mr. H. Pocock second, and Mr. Hall third. For six Ferns Messrs. C. Bailey and T. Carr took the prizes as named. Mr. E. Hall staged good plants in the class for fifteen British Ferns, having no opponent. For six Zonal Pelargoniums Mr. G. Tucker, and E. Hall second. For six Ivy-leaved varieties Messrs. J. Cray & Son were first, and Mr. W. Haskell second.

Mr. J. A. Martin was first for six Cockscombs with perfect plants, Mrs. Greaves being a very poor second. For six double Begonias Mrs. Counsell was a good first, Mr. D. S. Carr being second. For six singles Mr. W. Dunn was first and Mr. G. Tucker second.

For twenty-four show Dahlias Mr. G. Humphries was first with *Majestic*, *William Kieth*, *R. T. Rawlings*, *Victor*, *Miss Cannell*, *Arthur Ocock*, *W. Powell*, *Rev. J. Gooday*, *Mrs. Gladstone*, *Arthur Rawlings*, *Maud Fellowes*, *William Rawlings*, *Vice-President*, *Harry Turner*, *John Walker*, *Duke of Fife*, *Ethel Britton*, *Duchess of York*, *Mrs. Dodds*, *Glowworm*, *Mrs. Langtry*, *Reliance*, *Willie Garrett*, and *Earl of Ravensworth*. Messrs. Keynes, Williams, & Co., Salisbury, were

second. For twelve show Dahlias Mr. T. Carr was first and Mr. A. A. Walters second. For nine fancy varieties Messrs. J. Cody & Sons were first with *Buffalo Bill*, *Gaiety*, *Sport*, *Rev. J. B. M. Camm*, *Mrs. Saunders*, *Polly Sandell*, *Peacock*, *Sunset*, and *Prince Henry*, all in good form. Messrs. Keynes, Williams, & Co. were again second. For twelve bunches of singles Mr. T. Truckle was first and Mr. A. A. Walters second. The winning stand contained *Amos Perry*, *White Queen*, *Mauve Queen*, *Crown Prince*, *Victoria*, *Mrs. Bowman*, *Mrs. J. Cornick*, *W. C. Harvey*, *Mr. Kennett*, *Cetewayo*, and *Harlequin*.

Roses were not of special merit. Messrs. G. Prince, S. Treseder, T. Hobbs, and S. P. Budd were the most successful exhibitors. Bunches of Zonal Pelargoniums were well shown by Mr. G. Humphries, and Asters by Mr. A. A. Walters.

The chief fruit class was for twelve dishes, exclusive of Pines, the only exhibitor being Mr. W. Nash, gardener to Duke of Beaufort, Badminton, who staged *Black Alicante* and *Muscat of Alexandria* Grapes, *Moorpark Apricots*, *Blenheim Orange Melon*, *Brown Turkey Figs*, *Black Tartarian Cherries*, *Kirke's Plums*, and *Nectarines* all in good condition. For three bunches of *Black Hamburgs* Miss Marriott was first with large bunches much underthinned, and Mr. J. Gibson second. Other Grapes were fairly well shown. The prizewinners for Melons were Messrs. W. Strugnell, T. Jones, and J. Wright. For nine Peaches Mr. G. Pymm, gardener to Mrs. Gouldsmith, was first with *Exquisite*; Mr. W. Lewis, gardener to H. R. Carver, Esq., second; and Mr. J. W. Langdon third. For six Peaches Mr. A. R. Bailey, Mrs. Chalker, and Mr. J. Wright were successful as named. In the class for a dish of Nectarines Mr. J. Wright, with *Stanwick Elruge* in magnificent condition, was an easy first; Mr. W. Coombes second, and Mr. W. Strugnell third. J. Hinton, Esq., Bath-easton, was first for a dish of dessert Plums; Mr. E. Holden being second, and Mr. J. Lye third. Kitchen Plums, Cherries, and Nuts were also largely shown.

Mr. J. Gibson was first for three dishes of dessert Pears, Mr. J. Wilkins, gardener to Lady Guest, Inwood, second, and Mr. W. Strugnell a close third. For a single dish of Pears, Mr. R. Denton with *Prince Imperial* was first, Mr. E. Hall second with *Pitmaston Duchess*, and Mr. J. H. Little third with *Williams' Bon Chrétien*. For three dishes of dessert Apples Mr. E. D. Bourdillon was first with *Cellini*, *Worcester Pearmain*, and *Lady Sudeley*; Mr. G. Garraway being second, and Mr. E. Fisher third. With *Lady Sudeley* Mr. E. D. Bourdillon was first in the class for a dish of dessert Apples, Mr. G. Garraway being second with the same variety. For three dishes of culinary Apples Mr. R. Denton was first with *New Hawthornden*, *Bramley's*, and *Ecklinville Seedling*; Mr. A. Trimmer being second, and Mr. E. D. Bourdillon third. For a single dish of cooking Apples Mr. E. D. Bourdillon was first, Mr. W. Strugnell second, each with *Peasgood's Nonesuch*; and Mr. Burridge third with *Warner's King*.

In the open class for a collection of twelve vegetables Mr. J. Wilkins was a splendid first, staging in excellent style *Celery Giant White*, *Cauliflower Autumn Giant*, *Leek Lyon*, *Parsnip Student*, *Beet Perfection*, *Potato Perfection*, *Runner Beans Ne Plus Ultra*, *Potato Reading Giant*, *Cucumber Progress*, *Onion Ailsa Craig*, and *Carrot New Red Intermediate*. Messrs. G. Garraway and W. Whale were second and third respectively. Peas, Beans, Cabbages and other vegetables were well staged and in good numbers.

In the class for six vegetables, the prizes being given by Messrs. Sutton & Sons, Reading, Mr. W. Copp, gardener to W. E. S. Earl-Drax, Esq., was a splendid first, just beating Mr. T. Wilkins. The stand was composed of *Celery Solid White*, *Cauliflower Autumn Mammoth*, *Carrot New Red Intermediate*, *Potato Perfection*, and *Potato Satisfaction*. Mr. J. C. Scammell was third and Mr. J. Hinton fourth.

Mr. W. Copp also took the coveted position in Messrs. Webb & Sons' competition for the same number of vegetables, staging *Celery Red Mammoth*, *Cauliflower Early Mammoth*, *Carrot Defiance*, *Potatoes Satisfaction*, *Potato Sensation*, and *Pea Duke of Albany*. Mr. T. Wilkins was again second, Mr. G. Garraway, third; and Mr. J. Evry, fourth.

Miscellaneous exhibits were not very numerous, Messrs. G. Bunyard and Sons' collection of fruit being far the best feature in this section.

SANDY.—AUGUST 29TH.

STRANGERS visiting the horticultural exhibitions at Sandy, in Bedfordshire, cannot fail to be astonished that a display of such extent, diversity, and high quality could be obtained in a town numbering some two or three thousand inhabitants. Your representative has reported or judged at hundreds of the best shows in Great Britain, but it is asserted without hesitation that as a characteristic rural gathering of garden, farm, and market growers' produce, and small live stock the Sandy exhibition is one of the most remarkable in the kingdom. There is abundant evidence that it has been admirably organised and firmly established on a broad basis, and the record of its development from a show held twenty-seven years ago, when two small tents sufficed to contain all the exhibits, is a conclusive proof that the efforts of its promoters have been duly appreciated. It is now a thoroughly representative Midland Counties display, and is made the occasion of a general holiday, that is the great event of the year in the very wide district covered by the Society's operations.

One method adopted to extend an interest in the objects of the Society which has undoubtedly contributed largely to the success, is the formation of a Committee of special representatives for all the principal centres, and in this way sixty-seven towns and parishes return members who are concerned in the promotion of the Society's work. A strong

Committee of Management is also formed, large numbers of influential patrons have been secured as Vice-Presidents, and two officers of exceptional ability—namely, E. T. Leeds Smith, Esq., Hon. Secretary and Treasurer, and Mr. William Green, the active working Secretary, have helped in a material degree to bring the affairs of the Society into the present highly satisfactory condition.

The stimulus imparted to industries in country districts by such shows as these cannot be duly estimated, as fortunately the Society's income of nearly £800 permits the preparation of a substantial prize list, the money value ranging from £12 down to a few shillings. As a consequence the number of entries has now reached 3249, that being the total for the present year, and the largest yet obtained. A dozen huge marquees were required to contain the competing exhibits alone, but on the ground there were between twenty and thirty tents in all, a wonderful display of canvas in itself. The site is an excellent one, the Park of Sandy, place kindly lent by the proprietor, it is conveniently near the railway station, is pleasantly diversified, and forms a most agreeable resort for holiday makers, especially as excellent musical attractions are provided.

With the horticultural portion we are only concerned here, but special tents were also set apart for pigeons, poultry, cage birds, rabbits, dogs, bread, butter, honey, needlework, and various other objects that could not be enumerated. Prominent in importance were the fruit and vegetables, of which an excellent display was provided, the competition extremely keen, and the quality of the exhibits most creditable to the district. No less than 300 entries with fruit were actually staged, about the same number of vegetables, 350 in the farmers' and market gardeners' classes; while in the cottagers' division nearly 400 entries were received.

With a collection of eight kinds of fruit in the open classes Mr. G. R. Allis, gardener to Major Shuttleworth, Old Warden Park, Biggleswade, was awarded chief honours for excellent examples of Black Hamburgh and Buckland Sweetwater Grapes, compact bunches with large, clean, well coloured berries. Peaches, Nectarines, Fig, Cherries, Melon, and Plums constituted the other dishes, all fine table fruit such as we should expect from a skilful cultivator like Mr. Allis. Mr. R. Carter, gardener to Captain Duncombe, Waresley Park, was a good second, and Mr. C. Forbes, gardener to E. B. Foster, Esq., Cambridge, was third, both showing well developed fruits, but few points behind the first. Six collections of six kinds of fruit were staged. Mr. W. J. Empson, The Gardens, Ampthill House, won the premier prize with Alicante and Muscat of Alexandria Grapes, Brown Turkey Figs, Jefferson Plums, Hero of Lockinge Melon, and Noblesse Peaches of even quality throughout, and most creditable to this energetic exhibitor, who scored largely in many other classes with produce that proved his ability as an all-round gardener. Mr. T. Lockie, gardener to A. J. Thornhill, Esq., Diddington Hall, Huntingdon, was a very close second, showing remarkably fine examples of Jefferson Plums, Morello Cherries, Williams' Bon Chrétien Pears, and Sutton's Al Melon; but he lost a little on the other dishes. Mr. G. Claydon, gardener to Mrs. Astell, Woodbury Hall, Sandy, was third, his most notable dish being Royal George Peaches, very fine. Grapes were shown in good numbers, and generally in fine condition. With two bunches of Black Hamburgh there were eight exhibitors, Mr. Allis leading with capital solid bunches bearing a good bloom. Mr. J. M. Fowler, Clifton, and Mr. C. Moore, St. Neots, were second and third respectively. Mr. C. Moore had the best two bunches in the any other black variety class, showing Gros Maroc in fine condition, Mr. Empson following with Madresfield Court, large in bunch and berry and fairly coloured. The best Muscat of Alexandrias came from Mr. Allis, both bunches being beautifully coloured, while Messrs. Empson and Forbes followed with large bunches rather deficient in colour. Two unusually good examples of Buckland Sweetwater from Mr. Allis again secured him first honours, Messrs. Forbes and Empson taking second and third places with Foster's Seedling. Both indoor and outdoor Peaches with Nectarines were shown in good numbers and of meritorious quality, Messrs. Claydon, Forbes, Allis, Godby, Lockie, H. J. Rebow, and Empson taking the leading prizes. Apples were also numerous, and comprised some extremely fine examples of culinary varieties. Mr. Godby had the best six dishes of Apples in a very strong competition, staging even fruits of three culinary varieties and the same number of dessert varieties, clean and bright in colour. Mr. J. Bennett was second with fine kitchen Apples. Mr. Allis was a close third, and Mr. Empson fourth, there being very little difference between the whole of the prizewinning exhibits in this class.

Vegetables constituted a show in themselves, and were of wonderful quality throughout. In the gardeners' classes the collections of twelve sorts were the great feature, Mr. Lockie winning the first place with a superb assortment of well grown vegetables, including Ne Plus Ultra Beans, Sutton's Matchless Potatoes, Autocrat Peas, Autumn Giant Cauliflowers, Snowball Turnips, Perfection Tomatoes, large white Vegetable Marrows, Cardoons, Celery, Carrots, &c. Mr. Empson followed with a nearly equally fine exhibit, his Canadian Wonder Beans, Perfection Carrots, Satisfaction Potatoes, Snowball Turnips, Tomatoes, Beet, and Cauliflowers being of high merit; and Mr. R. Carter was third with a praiseworthy collection. The other vegetable classes were too numerous to particularise, but all the principal garden crops were largely represented, and it must be said that they were of high quality, even for a district where vegetable culture is a special industry. In the market gardeners' classes Onions and Potatoes were the chief exhibits, these being shown in great quantity.

Specimen plants with groups occupied one large marquee, the four collections of ten stove or greenhouse plants occupying considerable

space, as Mr. J. Cypher of Cheltenham brought his gigantic specimens looking as fresh as possible, and again won premier honours. Mr. Finch, gardener to J. Marriott, Esq., Coventry, was second, losing the leading place by a few points. Mr. W. Vause, Leamington, was third; and Mr. Redman, gardener to J. H. Goodgames, Esq., St. Neots, was fourth, with smaller plants. With six fine-foliage plants Mr. Empson took the lead, having well coloured specimens of Crotons Countess and Weissmanni, Dracenas Douceti and Baptisti, and a healthy Kentia Belmoreana. Fuchsias, Ferns, Pelargoniums, and Coleuses also occupied much space in this tent, the chief prizes going to Messrs. Redman, Claydon, Empson, and Dale; while for groups arranged for effect Messrs. Vause, Claydon, and Empson were placed in the order named with bright and tasteful groups, but in some cases containing rather too much colour.

Cut flowers were wonderfully good, and included extremely fine collections of hardy herbaceous flowers, for which Messrs. Harkness and Son, Bedale, Laxton Brothers, Bedford, the Rev. W. Crouch, Gamlingay, and Paul & Son, Cheshunt, were the prizetakers in that order. Dahlias of all kinds, Show, Fancy, Cactus, Pompon and Single, were extensively and beautifully represented, Messrs. Harkness, Keynes, Williams, Walker, Humphreys, Mortimer, Lockie, Burgin, Bright, and Paul & Son taking the honours. The best forty-eight Roses were staged by Messrs. Harkness, fresh, bright and excellent blooms for the season. Messrs. G. Burch & Co., Peterboro', were second, and Paul & Son, Cheshunt, third. Mr. W. Kingston, of Bedford, was the only exhibitor of twenty-four Roses, winning the first prize with a good stand. French and African Marigolds, Gladiolus, Asters, Phlox, Zinnias and other flowers were well shown in their respective classes. Floral decorations had a tent set apart for them, and the competitors were numerous, but there was a great uniformity in the styles of arrangement, Iceland Poppies, with Grasses, Gypsophila, Yellow Sultan, Sweet Peas, and a few Coreopsis constituting the chief feature, but nearly all were commendably light and graceful.

The non-competing exhibits were abundant in most tents. Messrs. Cutbush & Son, Highgate, sent a group of plants. Messrs. Laxton, Bedford, had several fine collections of cut flowers and Apples, and Messrs. Biddles & Co., Loughborough, showed a large collection of cut flowers. It speaks well for the arrangements of the railway companies that so many exhibits and such a concourse of visitors could be to and from Sandy in so short a time, but the public have the advantage of two Companies' lines, the Great Northern and the North-Western, so no doubt some advantage is derived from the rivalry.

ROYAL AQUARIUM.—SEPTEMBER 3RD, 4TH, AND 5TH.

THE early exhibition of Chrysanthemums, held under the auspices of the National Chrysanthemum Society, opened on Tuesday in conjunction with the exhibition of Dahlias and Gladioli, towards which the sum of £50 was provided by the Directors of the Royal Aquarium for prize money in the latter classes and show expenses. As might have been anticipated at so early a date, Dahlias formed the chief feature of the show, many of the open classes being well filled with excellent blooms. Nurserymen contributed largely to the display, and both Fancy, Cactus, Pompons and singles, were well represented. Among the Chrysanthemums competition was not so keen, though in most of the classes provided the examples staged were of good quality. A feature in the show was the numerous miscellaneous groups sent by nurserymen, which added no small share to the brightness and variety of the exhibition.

CHRYSANTHEMUMS.

Mr. S. B. Wheadon, gardener to R. Collier, Esq., Bickley, was first for twelve blooms of Madame C. Desgrange with creditable flowers; Mr. W. Webster, gardener to W. Higgs, Esq., Clapham, took the second place; and Mr. J. Wright, Camberwell, third. Mr. E. F. Such, Maidenhead, was awarded first prize for twenty-four bunches of Chrysanthemum blooms, the exhibit including Golden Fleece, Blushing Bride, Madame C. Desgrange, Mrs. Cullingford, Mr. G. Grunerwald, and Madame Jolivet. Mr. Chas. Shaw, Sherwood, Nottingham, followed with second. The premier prize for twelve blooms of any varieties went to Mr. C. Cox, gardener to J. Trotter, Esq., Hertford, who staged Edwin Molyneux, Edith Rowbottom, Louise, Stanstead White, and R. Dean. Mr. S. B. Wheadon, gardener to R. Collier, Esq., Bickley, took the second award; and Mr. J. Knapp, gardener to F. W. Amsden, Esq., Croydon, the third.

Miss Debenham, St. Peters, St. Albans, was first for twelve bunches of Pompons with Alice Butcher, Gorden Shower, Mdle. Jolivant, Golden Fleece, Strathmeath, California, Précocité, Blanche Colomb, and Bronze Bride. For six bunches of Lady Fitzwygram, Mr. J. Wright, Camberwell, was first, being the only exhibitor. Mr. W. C. Pagram was first for six bunches of any yellow varieties, staging G. Wermig, Mrs. Burrell, and Mrs. Hawkins. Premier honours for six distinct blooms fell to Mr. Charles Cox, who staged good examples of Miss Anna Hartshorn, R. Dean, Louise, Edwin Molyneux, and W. H. Lincoln. A bronze medal was granted to Mr. H. Wedekind, Paddington, for six blooms of Madame C. Desgrange. Mr. D. B. Crane took the premier award for a vase of Chrysanthemums with an elegant arrangement; the second prize falling to Mr. E. Cowell, Kensal Rise.

DAHLIAS.

Nurserymen.—In the premier class for forty-eight distinct blooms, not less than thirty-six varieties, the highest award fell to Mr. Charles Turner, Slough, for an exhibit in every way worthy of it, the flowers being well formed and of excellent substance. Amongst others were noticed fine

examples of Crimson King, Chieftain, Dante, Statesman, Mrs. Gladstone, Hope, Prince Bismarck, Maud Fellowes, Warrior, William Powell, Mrs. J. Downie, Duchess of York, and several good seedlings. Mr. John Walker, Thame, Oxon, was a good second, Messrs. Keynes, Williams and Co. taking the third place. There were five competitors in this class. Mr. George Humphries, Chippenham, took the highest award for twenty-four distinct blooms, in whose exhibit were creditable examples of Vice-President, W. Powell, William Rawlings, John Walker, Victor, Mrs. J. Downie, Mrs. D. Saunders, Duchess of Albany, Harry Keith, Miss Cannell, Comedian, Harry Turner, Mrs. Gladstone, Arthur Rawlings, J. T. West, Harry Keith, and H. Walton. Mr. J. T. West, Cornwallis, Brentwood, and Messrs. Saltmarsh & Son, Chelmsford, took the second and third places in the order named.

Mr. J. T. West was to the front with twelve distinct blooms, gaining highest honours with John Walker, Arthur Rawlings, J. T. West, John Hickling, William Rawlings, Maud Fellowes, Lord Chelmsford, Mrs. Langtry, Mrs. Gladstone, Duchess of York, R. T. Rawlings, and Shirley Hibberd. The second prize fell to Messrs. J. Cheal & Sons, Crawley, and the third to Mr. G. Humphries. Mr. J. Walker was a good first for thirty-six distinct blooms, staging amongst others T. J. Saltmarsh, Wm. Keith, Mrs. Gladstone, T. W. Girdlestone, R. T. Rawlings, John Standish, Perfection, Majestic, Mrs. Langtry, Purple Prince, Maud Fellowes, Henry Walton, Rebecca, Goldfinder, Comedian, Harry Keith, Seraph, Dorothy, Gwendoline, Hercules, and James Cocker. The second place was taken by Mr. Chas. Turner, and the third by Mr. S. Mortimer, Farnham.

Open.—Messrs. J. Cheal & Sons were awarded first prize for a superb exhibit of eighteen distinct bunches of decorative Dahlias, which included perfect flowers of Delicata, Apollo, Mrs. Wilson, Noble, May Picton, Beauty of Wilts, Ernest Glasse, Kaiserin, Harmony, Bertha Mawley, Blanche Keith, Matchless, and Purple Prince. Mr. Charles Turner was a creditable second, his stand containing fine flowers of Atalanta, Apollo, Lady Penzance, Robert Cannell, and others; and the third award went to Messrs. Keynes, Williams & Co. A tastefully arranged exhibit, staged by Mr. Chas. Turner, was awarded first prize in the class for twenty-four bunches of Pompon Dahlias. Conspicuous amongst others were charming flowers of Diana, Mars, Amber, Fabia, Whisper, Phoebe, Captain Boyton, Claribel, George Brickman, Crystabelle, Tommy Keith, Nerissa, Cecil, Douglas, Madoline, Bacchus, Ganymede, Pearl, Purity, Sunshine, and Favourite. Mr. F. W. Seale, Sevenoaks, was a creditable second; and equal thirds fell to Messrs. Keynes, Williams & Co. and Messrs. J. Cheal & Sons.

In the singles Messrs. J. Cheal & Sons obtained premier honours for twenty-four bunches with a showy exhibit, which contained good blooms of Lowfield Beauty, Florrie Fisher, Amos Perry, The Bride, Annie Hughes, W. C. Harvey, Rosebank, Cardinal, Alba perfecta, Demon, Miss Henshaw, Mrs. Wythes, Evelyn, Miss E. Moreland, Miss Roberts, May Sharpe, Northern Star, and Victoria. A varied stand staged by Mr. F. W. Seale was awarded the second prize. Mr. E. F. Such, Maidenhead, secured the leading place for twelve bunches of single Dahlias, showing Duke of York, Demon, Miss Roberts, Lowfield Beauty, Amos Perry, Duchess of Anhalt, W. C. Harvey, and others. Mr. C. Deman, Sutton, was a creditable second; and Mr. R. Morrow, Leominster, third. Messrs. J. Burrell & Co., Cambridge, took first prize for twelve bunches of Cactus varieties, which included Robert Cannell, Lady Penzance, Matchless, Countess of Gosford, Earl of Pembroke, Mrs. Peart, Delicata, and Gloriosa. The second place was taken by Mr. F. W. Seale, and the third by Mr. J. T. West. Messrs. J. Russell and Co. were first for twelve bunches of Pompons, staging amongst others good flowers of Eric, Emily Hopper, Bacchus, Irene, Captain Boyton, Arthur West, Mary Kirk, Eurydice, and Whisper. Mr. George Humphries was second in this class, and Mr. E. F. Such third.

Amateurs and Gardeners.—For twelve distinct blooms, Mr. James Stredwick, Silverhill, St. Leonard's-on-Sea, was first with J. Hickling, Shirley Hibberd, Duke of Albany, Colonist, W. Garrett, C. Rolls, H. Keith, Gloire de Lyon, H. Walton, and J. Cocker. Mr. A. Starling, gardener to H. H. Raphael, Esq., Havering, was second; and Mr. Herbert Bentley, Kilburn, third. The first prize for six distinct fancy blooms, open only to amateurs, was won by Mr. J. Stredwick with good flowers; Mr. W. Flight, Old Ford Road, E., followed with second; and Mr. E. Powell, Kensall Rise, was third. Mr. James Stredwick was also first in the class for six distinct blooms, open to amateurs and gardeners, with H. Keith, C. Rolls, Colonist, Perle de Lyon, J. Cocker, and Mrs. Langtry. Mr. A. Starling was second, and Mr. H. Bentley third.

Mr. Jas. Stredwick was again to the front in the class for six bunches of Cactus Dahlias, gaining first prize with a creditable exhibit. The second and third places were taken by Mr. G. Wyatt, gardener to G. Hilditch, Esq., Twickenham; and Mr. J. Hudson, Gunnersbury House Gardens, Acton, in the order named. Mr. J. Hudson was first for six bunches Pompons, staging Favourite, Golden Gem, Mars, Ariel, Leila, and Mabel. Mr. W. C. Pagram, gardener to J. Courtenay, Esq., Weybridge, was second; and Mr. Jas. Stredwick, third.

The first prize for a collection of Gladioli spikes was creditably won by Messrs. J. Burrell & Co., Cambridge, and for variety and general excellence of the flowers the exhibit nearly approached perfection. Many well-known varieties were noticed in the group, in addition to which was a large number of new seedlings. The collection staged by Mr. J. Morrow, Leominster, took the second place.

MISCELLANEOUS.

Miscellaneous exhibits were well represented, and amongst others a fine group of Begonias, Chrysanthemums, and Lilies, interspersed with

Asparagus plumosus, sent by Mr. H. J. Jones, Lewisham, was much admired, and was awarded a silver-gilt medal. A gigantic display of Dahlias of all kinds was made by Mr. T. S. Ware, who monopolised a large area with a superb exhibit arranged with taste, for which a silver-gilt medal was awarded. Mr. A. W. Young, Stevenage, Herts, sent a group of hardy flowers and Apples, and from Mr. M. Pritchard, Christchurch, came a varied collection of hardy flowers, gaining a bronze medal. Mr. Chas. Shaw, Sherwood, Nottingham, was awarded a bronze medal for a group of summer-flowering Chrysanthemums in pots.

Mr. J. Miller, gardener to the Right Hon. Lord Foley, Esher, sent a collection of fruit, consisting of Apples, Pears and Melons. The Jadoo Company, Exeter, sent a group of mixed plants. Mr. E. Cowell, Kensall Rise, staged floral designs, as also did Mr. J. R. Chard, Stoke Newington, whose exhibit attracted much attention, and was awarded a silver medal. Messrs. S. Spooner & Sons, Hounslow, sent a fine collection of hardy fruit, gaining a silver-gilt medal. Messrs. Dobbie & Co., Rothsay, staged a large collection of both single and double Dahlias. Mr. E. F. Such, Maidenhead, staged Dahlias and Pyrethrums, for which a bronze medal was awarded. Mr. J. Williams, Ealing, sent table decorations. Messrs. J. Cheal & Sons were awarded a silver-gilt medal for a superb exhibit of hardy fruit. Messrs. John Laing & Sons, Forest Hill, sent a large and pleasing collection of hardy flowers and also dishes of Apples, for which a silver-gilt medal was awarded.

LINDELOFIA SPECTABILIS.

ALTHOUGH comparatively little known in gardens generally this beautiful Boragewort (fig. 33) has been grown in a few collections for



FIG. 33.—LINDELOFIA SPECTABILIS.

many years, and must be placed amongst the neglected favourites of past days. An illustration appeared in the "Botanical Register" for 1840, where Lindley gave the following particulars:—"Of this fine species of Hounds-tongue the characteristic marks are derived in part from the great length of the tube of the corolla, and in part from the elongation of the processes which rise up from the mouth of the corolla, and alternate with the stamens. They are as long as the projecting filaments, curved inwards and emarginate at the apex, and hollow, which latter circumstance renders it probable that they are mere folds of the corolla and not abortive stamens. According to Brown the species with projecting stamens are to be excluded from the genus, and if so this plant is not a Cynoglossum. But the fruit is that of the latter genus, not of Anchusa, to which I presume the species must otherwise be referred. This is a very pretty hardy perennial, growing about 1½ foot high if planted in any good garden soil, and flowering freely from the end of May to the beginning of August. It is increased

by seeds or divisions of the roots; but by seeds is the best way, as they are produced abundantly. However, the plants so raised will not flower before the second season after sowing. It was raised from seed received from the Honourable East India Company, through Dr. Royle, in May, 1839, and collected in Cashmere. It stood out last winter in the open border without any protection." The flowers are of a variable metallic blue tint, the centres pink, and the tube pale blue.



FRUIT FORCING.

Peaches and Nectarines.—*Earliest Forced Trees.*—These will soon have shed their leaves, and may be syringed with water at a temperature of 140°. It must not be used carelessly; if too hot it will injure the trees, and if lower in temperature it is useless as regards brown aphis, red spider, brown scale, and thrips; but at the heat named it is quite safe to the trees, whilst fatal to the insects it reaches, and has a cleansing effect on the whole house, which should be treated with the hot water in every part. The trees being loosened from the trellis, and tied in small bundles for facilitating cleansing operations, wash the woodwork with a brush and soft soap, reaching every angle and crevice. Lime-wash the walls, and if required paint the wood and ironwork. Pruning will be a light affair, merely thinning the shoots where too crowded or too weak for carrying fine fruits, no shortening being necessary except for the production of shoots for furnishing the trees with bearing wood. Wash the trees with an insecticide, or a solution of soft soap, 3 ozs. to a gallon of water, using a brush, and being careful not to dislocate the buds. Tie the trees to the trellis loosely, leaving sufficient room for the swelling of the branches and shoots. Remove the loose surface soil down to the roots, and supply a couple of inches depth of fresh loam, containing a 9-inch potful of a mixture of two parts wood ashes and one part bonemeal to every barrowful. Avoid heavy surface mulchings of manure; they only exclude air. If the lights have been removed they need not be replaced until the time arrives for starting the trees, as with proper drainage the borders are not unduly saturated by the autumn rains; but where the drainage is not thorough, it may be expedient to replace the lights before the borders are soddened by the cold autumnal rains. For very early forcing Alexander Peach and Rivers' Early Nectarine are valuable. Some growers, however, object to Alexander Peach as notorious for dropping its buds, and insist that it should be grown on the natural system, so as to produce fruit on spurs and stopped growths. We find Early Louise, Stirling Castle, and Royal George Peaches, with Rivers' Early and Stanwick Elruge Nectarines, thoroughly reliable for early forcing.

Second Early Forced House.—The trees started at the new year and ripening their crops at the end of May and beginning of June are giving indications of maturing the foliage, some of the leaves being shed. Where the lights were removed in August the buds are well plumped and not over-matured, as occurs under fixed roofs, especially with the large flowered varieties, such as the Early York, Grosse Mignonne, and Noblesse races of Peaches. If the trees are in an unsatisfactory condition, either from being too stunted in growth on the one hand and too vigorous on the other for the satisfactory production of fruit, they should be taken in hand immediately the leaves give indications of falling. Weakly trees should have the soil removed from amongst the roots and fresh material supplied, so as to encourage root formation during the autumn, and by thinning the shoots, leaving the most promising wood for bearing, better growths and crop may be had next year. When the trees are too vigorous, making long-jointed and sappy growths, they should be carefully lifted when some of the leaves have fallen, shading the house and exposing the roots as little as possible; then rectify the drainage, making it thorough and providing fresh compost or mixing suitable material with the old, such as fresh loam, old mortar rubbish where there is a deficiency of calcareous matter, or when loose adding a fair amount of clayey marl dried and crumbled. In replanting lay the roots within the top foot of border, spreading them out evenly in layers with soil between, having the topmost not more deeply covered than 3 inches, making the soil firm about and over the fibres, giving a good watering so as to settle it about them. An occasional light syringing will be of benefit to the wood and remaining foliage, but there must not be any attempt at keeping the house close so as to induce growth, gradually withdrawing the shade and admitting air. A light mulching of sweetened horse droppings or thoroughly decayed manure will be of service in enriching the surface soil and attracting the roots to working therein. When the leaves are all down treat in the manner as advised for the earliest house except as regards the border where renovation or lifting has been resorted to.

Midseason Houses.—Trees from which the fruit has been gathered should have the bearing wood of the current year cut out, always excepting parts needful for extension. This will admit of the trees being thoroughly cleansed by syringing, and if necessary applying an insecticide, it being of the greatest importance that the trees retain the foliage clean

and healthy until the buds are thoroughly formed and the wood properly matured. This will be assisted by the increased light and air. If the growths are too crowded thin them, leaving sufficient wood for next year's bearing. It is better removed now than at the winter pruning. The remaining parts are benefited, and there is less danger of inducing gumming. Ventilate freely, and afford water as required to keep the soil duly moistened to the drainage.

Any trees that have a tendency to over-luxuriance should, as soon as the wood is sufficiently firm, have a trench taken out one-third the distance from the stem the trees cover in trellis, and quite down to the drainage, so as to detach all roots, and this may be left open for a fortnight, then the soil may be removed down to the roots and picked from amongst them with a fork, laying-in the fibres in fresh compost, good loam, stiff rather than light being the best, with about a sixth of old mortar rubbish. If a good watering be given the roots will soon grow freely in the fresh material, and the fruits invariably set well afterwards. In removing the soil care must be taken not to disturb the roots enough to cause the sudden collapse of the foliage. The above plan is more especially necessary with young trees, the taking out of the trench being very effectual in assisting the wood to ripen thoroughly. Defer root-pruning and lifting until the leaves give indications of falling.

Late Houses.—The fruit is swelling well and liberal supplies of water are required until the ripening is well advanced, when moderate supplies will be sufficient; enough, however, should be given to maintain the foliage in a healthy state. Trees that are making gross growths and have a tendency to late growth should be marked for lifting, an infallible remedy for indifferent setting and uncertainty of stoning. A circulation of air is necessary at night and free ventilation in the daytime. If kept too warm and dry the fruit is apt to be deficient in juice. If the fruit is backward sun heat may be utilised, allowing the temperature to rise to 85° or 90°, but with free ventilation in the early part of the day, this being of infinitely more value than fire heat at a later period. Keep the wood thin, stop any growing shoots to about 15 inches, and all laterals closely to one joint as growth is made.

Melons.—In order to enhance the flavour of the fruit maintain a brisk heat by day with sufficient ventilation to insure a circulation of air constantly. Keep water from the house when the fruit commences ripening, yet not allowing the foliage to flag for lack of it at the roots, but no more than necessary to prevent this should be supplied. Plants swelling their fruit should be assisted with weak liquid manure whenever they become dry. Keep the laterals well in hand, also a sharp look out for canker, rubbing quicklime into the affected parts, repeating as the parts become moist by exudation or spread of the canker, for it is next to hopeless striving to avert the evil at this late period of the season, except so far as to secure the ripening of the fruits. If there is any fear of cracked fruits cut the stems about half way through a little below each fruit. It will check the flow of sap. But the chief cause of cracking is a moist atmosphere, causing the deposition of moisture on the fruit during the night and in dull weather, especially after a period of bright sun. Ventilate freely, and keep the air moderately dry by a little ventilation constantly, as a preventive of canker and cracking.

Latest Plants.—These are now well up the trellis and showing fruit blossoms, which should be fertilised daily when fully expanded, the atmosphere being kept dry, a little ventilation being given at night so as to insure a circulation of air and prevent the deposition of water on the flowers. Stop the shoots at the time of fertilisation one joint beyond the fruit. As soon as a sufficient number of fruits are set on a plant remove all the staminate and pistillate flowers, reducing the fruit to three or four on a plant, or according to their vigour. Earth up the roots after the fruit is fairly swelling, and be careful in syringing the foliage, only doing it on fine afternoons, but maintain a genial condition of the atmosphere by damping in the morning and afternoon. Be careful not to give too much water, but encourage healthy root action by moderate moisture in the soil. The temperature may be maintained at 70° to 75° by day artificially, and 80° to 90° from sun heat, with 65° to 70° at night.

Plants in Pits and Frames.—These will not require much further damping over the foliage, and should only have sufficient moisture in the soil to prevent the foliage flagging, which should be kept rather thin, and the fruit well elevated above it on flower pots. Each fruit should be placed on a piece of slate, applying good linings for affording the requisite heat to finish the fruit satisfactorily, maintaining also a dry atmosphere with free ventilation.

Strawberries in Pots.—Late runners may yet be potted, giving them 5 or 6-inch pots, and if these are filled with roots before winter the plants will produce good fruit, though not so plentifully or large as those potted earlier, nor are they available for early forcing, but they do well for succession, especially when brought forward gently. Plants potted some time ago should be examined, and if making side buds these should be removed with a pointed piece of hard wood so as to throw the vigour into the central crown. If the plants grow vigorously liquid manure will not be necessary, but those that are weakly should be supplied with it twice a week. Remove all runners as they appear and loosen the surface of the soil, especially round the sides of the pots, so as to secure the more thorough moistening of the ball. As the plants grow set the pots wider apart. If red spider attacks the plants hold each inverted with one hand, and with the other dust the under side of the leaves with soot from a dredger.

THE FLOWER GARDEN.

Propagating Zonal Pelargoniums.—During the dull, wet weather in July and August much soft, sappy growth was made by the

plants in the beds and borders, and this is not of the best description for propagating purposes. Where possible select the firmer, short-jointed shoots, taking these off without disfiguring the beds more than can be helped. The more vigorous Zonals may be kept somewhat thickly in boxes, but the more delicate and silver variegated bronze and golden tricolors must be placed in small pots and stored on dry shelves. Five or six cuttings may be placed in each 5-inch pot, and in this way large numbers may be wintered in comparatively close quarters. It is somewhat late to place these cuttings in the open air, the better plan being to cover with glazed lights so as to ward off heavy rains. Ivy-leaf Pelargoniums are now largely used in beds and borders. The cuttings of these root the best when given the benefit of gentle heat.

Propagating Other Plants.—A mild hotbed is required for the propagation of Alternantheras, Iresines, Coleuses, and Heliotropes. Cuttings of these are plentiful enough, and abundance should be rooted and kept through the winter, and there will then be less difficulty in working up a big stock of plants for the beds than is usually the case. Selected Pentstemons and Antirrhinums are admirably adapted for bedding out purposes, and a stock of plants can be as readily rooted and wintered in the same manner as Calceolarias. Sow seeds of bedding Lobelias on the moistened surface of pans filled with fine loam, leaf soil, and sand, place in cold frame, cover with squares of glass, and shade heavily, the tiny seedlings to be left undisturbed till the spring, when they will be found much sturdier than any raised in January or February.

THE KITCHEN GARDEN.

Cabbage.—It is not yet too late to sow Cabbage seeds with a view to having abundance of plants for placing out next spring. Always avoid sowing thickly, and in this instance sow broadcast, covering the seeds with fine soil. If those resulting from the July sowing are too crowded prick out some of them in nursery beds for a time, transplanting these before they become very large. Where slugs are troublesome dust over the young plants occasionally with soot and lime, doing this while yet damp from dew. Cabbage forms an admirable succession to Onions or Coleworts, June-raised plants following Tripolis, and those raised later, succeeding spring-sown varieties. There should be no manuring or digging, as the ground is already rich enough; while a firm root run favours the growth of neat hearts rather than outside leaves. Ellam's Dwarf Spring, Wheeler's Imperial, and such like varieties of a neat habit of growth, may be dibbled out 15 inches apart each way. Continue to put out June-raised plants thickly wherever room can be found for them, as these will do good service before midwinter.

Cauliflowers.—Since the introduction of the small quick-hearting forms, of which Dean's Snowball is the type, there has been less need to keep so many autumn-raised plants of different varieties through the winter, as it is possible to have the former good in May without sowing the seeds before February. If the old-fashioned plan of keeping small plants through the winter is adopted the time has arrived for sowing the seeds. With either Early London, Dwarf Erfurt, Mammoth, or Walcheren should be sown Magnum Bonum and Veitch's Autumn Giant, these two latter giving an admirable succession. Select a sunny and not too sheltered spot, and the bulk of the plants raised should be duly pricked out in frames, boxes, and pots, as they will need rough protection. Late-planted Autumn Giant should have the benefit of occasional good soakings of liquid manure, and they will then become strong enough to produce very acceptable hearts late in the season.

Celery.—Celery planted at this late date cannot be depended on to attain to a serviceable size. Much that is already established in trenches will also need to be kept supplied with liquid manure during the next few weeks, or otherwise the size and quality of "sticks" will be second-rate. The more forward rows rapidly absorb the moisture in the trenches, and should be kept well supplied with it in the shape of either pond water or liquid manure. They must not be allowed to open out badly before earthing up commences, or otherwise splitting of stalks will result when they are gathered up together. First remove short leaves, sucker growths, and weeds, then give a liberal dressing of soot, and water freely; enough soil being chopped down and distributed about the stalks to keep them well together. Before placing more soil round the plants see that the hearts are well above that first disposed about them, and also that the soil and manure principally occupied by the roots are not dry. If slugs are troublesome distribute soot freely about the rows, and then bank another 4 inches or so of fine soil about the stalks, first fastening the latter with raffia ties, or by holding with the hand so as to effectually exclude the soil from the hearts. A final earthing up should take place three weeks before the Celery is required for use. Never leave the stalks tied up tightly after soil has been banked around, and avoid pressing a heavy weight of soil against them at the earlier earthing up, as this causes the base of the stalks to bulge and split. Enclosing the stalks in two or more folds of brown paper, adding more according as the stalks lengthen, excludes the light, and the blanching is more cleanly effected than is the case when soil is used.

Lettuce.—Care should be taken of any plants only about 4 inches in height, as these may heart before severe frosts are experienced and prove very acceptable for mixing with Endive. Transplant where they are too thick, a warm border answering well for these late breadths. Much that has been stated concerning keeping a number of small Cauliflower plants through the winter also applies to Lettuces, as in the latter instance early raised plants of Early Paris Market and Golden Queen Cabbage varieties will heart more quickly than stored plants of

Black-seeded Bath Cos, Hicks' Hardy Green Cos, and Hammersmith. From the middle to the end of this month are the best times for sowing the hardy varieties named, and if the seed-bed is formed quite in the open, and thin broadcast sowing be resorted to, the plants will stand more frost than they would do if raised on a warm border.

Onions.—In many instances the spring-sown breadths are still growing very strongly, and are not "bulbing" satisfactorily. Giving the necks a twist down, so as to bring the tops down to the ground favours early maturation, as well as increasing the size of the roots. Mildew has also greatly injured many breadths of Onions. This militates against the growth of the bulbs, and injuriously affects their keeping properties. Not till the roots separate freely from the ground should they be drawn, and they will not keep well if left long enough on the moist soil to cause them to commence rooting afresh. All, prior to storing, should be thoroughly harvested. Either place them on dry shutters, wattled hurdles, or mats in the full sunshine, or on a dry bottom under glass, an empty cool pit or a vinery cleared of Grapes answering well for this purpose. The Tripoli section should be used first, as these keep badly. If seed of either Tripoli or White Spanish varieties is sown now on a well-prepared firm border, in drills 6 inches apart, abundance of plants, strong enough to stand through the winter, and which may even do better service than those raised earlier, may be obtained.

Spinach.—Rows of Spinach that are to give good gatherings whenever the weather is mild during the winter should now be forward enough for thinning out. Do this lightly at first, but when the plants touch each other thin to 6 inches apart. Small Spinach will transplant fairly well, especially if the work can be done with a trowel, and the attempt should be made rather than have great gaps in the rows. More seeds may yet be sown, the plants obtained attaining a serviceable size early next spring.

THE BEE-KEEPER.

APIARIAN NOTES.

UPPER CLYDESDALE BEE-KEEPERS' ASSOCIATION.

THE first annual exhibition of the above Society was held on the 30th August in the pleasure grounds of Abington House, the property of Sir Edward Colebrooke, Bart. As the show is open to bee-keepers over a radius of at least twenty miles, and in one of the best districts for Clover and Heather in Scotland, it is likely to increase in popularity. Lady Colebrooke, with J. Kerr, seedsman, Dumfries, acted as Judges. The principal prizewinners were Mr. Wm. McMutrie, gardener to Sir Edward Colebrooke; Mr. Robert Colthart, Mr. Walter Rae Biggar, and Mr. James Pettigrew. A design by Mr. Rae was much admired, and the honey was superior in quality. Mrs. Colthart has established her name as champion baker of honey cakes, for several years taking the first prize at the principal shows. It was gratifying to see gardeners taking the interest they did in bee husbandry, and more so to see the produce of cottagers purchased by the visitors.—A LANARKSHIRE BEE-KEEPER.

FEEDING BEES.

ALL stocks should now be supplied with the necessary stores to carry them through the winter. I am an advocate of early feeding, as with the present spell of fine weather bees will store syrup readily which will at once be sealed over in the same form their natural stores were, and of which they were deprived during the honey flow. Many bee-keepers through various causes do not feed their bees till late in the autumn. This, I am convinced, is a mistake, as with the advent of cold frosty nights they will not take the syrup as readily as when the weather is warm, consequently they are unable to properly seal it over; there will then be a great amount of dampness in the hives, and owing to the cold weather the bees will be confined to their hives probably for several weeks without the chance of a cleansing flight, causing dysentery. Its presence is known by the bees voiding the excrement on the combs, and the first fine day after the bees have been confined to their hive for several days they will leave their excrement on everything in the neighbourhood of their hive. The chief cause of this disease is dampness in their hive through late feeding, the heat in the hive not being sufficient to evaporate the moisture, causing the syrup to ferment. Bees affected by this disease die off rapidly during the winter, and stocks badly attacked are often quite worthless in the spring; the bees being few in number will fall a prey to the robbers from strong colonies, who will clear out all the remaining stores in a short space of time, whereas had the stock been supplied with stores a month earlier they would have come out strong and healthy in the spring.

All stocks should have from 20 to 30 lbs. of sealed-up stores, according to the strength of the colony, and under ordinary circumstances this amount will carry them safely through the

winter and spring, until the early spring flowers and fruit trees are in bloom. Before putting the feeder on, each stock should be examined to see the amount of natural stores there is in each hive, and a note made of the probable weight in each; and as a frame, standard size, will hold about 6 or 8 lbs., it will be an easy matter to form an estimate how much each stock contains. It is better to err on the safe side by giving too much than too little, for the less the bees are disturbed during the winter the better chance there is of them doing well. I usually feed mine from the top of the hive, placing the feeder directly on the frames, covering it up warm. The food should be given them in the form of syrup, made from pure cane sugar. I prefer the granulated, and use it in the proportion of 7 lbs. of sugar to three pints of water, placed over a clear fire, and kept constantly stirred until it boils, when it is at once taken off, and is ready for use as soon as cool enough. If allowed to boil for any length of time it will be too thick for the bees to take it readily.

It should be given to them warm, and evening is the best time to place it on the hives, for if given in the middle of the day it will cause a commotion in the apiary, and may result in the robbers from other stocks gaining an entrance, when fighting will occur, and many bees be lost. The next thing to consider is, What is the best kind of feeder for rapid feeding in the autumn? I have several kinds in use, one called the "New Bee-feeder," and was awarded a prize at the Crystal Palace Bee show. This feeder is made of wood, and holds about 2 lbs. of liquid food. It is adapted for feeding upon the top of any hive that has a hole in the crown board. The food has to be poured into the outer trough, the glass being slightly set aside for that purpose. The bees ascend through the centre hole and come to the inner trough, at which they imbibe the food without inconvenience. This is a very simple apparatus; there is nothing to get out of order. This is a good feeder when only a small quantity is required, so is the bottle feeder, which is an ordinary wide-mouthed bottle, over which is placed a piece of muslin or fine net, to prevent the food coming out except when taken by the bees, this is inverted over a hole on the top of hive. The best rapid feeder I have yet tried is the "Improved Canadian Feeder." This is one of the latest improvements in rapid feeders for autumn use. A number of slats of wood are fixed into a frame, which is placed in a tin-lined box. The bees gain access to the food through openings on either side underneath, and are prevented from escaping by the wooden lid. This may be slipped along when a further supply of food is necessary, which may be poured into the receiver at the end without inconvenience to the bees. This feeder will hold from 5 to 6 lbs. of liquid food, and is admirably adapted for feeding up stocks that are short of stores, or driven bees. It is good value for money, being only 2s. 9d., post free, from Messrs. Geo. Neighbour & Sons, 127, High Holborn, London, W.C.—AN ENGLISH BEE-KEEPER.



* All correspondence should be directed either to "THE EDITOR" or to "THE PUBLISHER." Letters addressed to Dr. Hogg or members of the staff often remain unopened unavoidably. We request that no one will write privately to any of our correspondents, as doing so subjects them to unjustifiable trouble and expense.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Bee subjects, and should never send more than two or three questions at once. All articles intended for insertion should be written on one side of the paper only. We cannot reply to questions through the post, and we do not undertake to return rejected communications.

Japanese Wineberry (*R. A. A., Cheltenham*).—The name of the specimen sent is *Rubus phoenicolasius*, commonly known as the Japanese Wineberry, and sprays of it were awarded a first-class certificate at a meeting of the Royal Horticultural Society August 14th, 1894. As the name implies, it is a native of Japan, but has not found its way into many English gardens. As you say the plants were raised from seeds, we should be interested to know the period of time which elapsed from the sowing of the seeds until the plants bore fruit.

Zonal Pelargonium Petals Falling (*J. S.*).—This is not an unfrequent occurrence when the plants receive any sudden check either from closeness or dryness, or rather the changes from these suddenly one

way or the other. For these reasons most exhibitors gum the flowers, placing a drop of prepared or floral gum in the centre of each flower, which secures the petals at the base, preventing their dropping, and a delight alike to visitors as to exhibitors. Gumming is always resorted to by growers of Pelargoniums for market, or there would be few good trusses left after the jolting and shaking in transit. An excellent mixture for this purpose is made by placing 8 ozs. of gum in 5½ pints of soft water, allowing it to remain about two days to dissolve; then strain it through a piece of muslin, and use it from small tins such as ladies use for oiling their sewing machines. The gumming process can be done very quickly with these, as one drop is sufficient for a flower.

Cineraria Seedlings Dying (*T. S.*).—The plant sent is destroyed by the mycelium of a fungus which has entered by the radical root and passed upwards between the bark and woody tissue, appropriating the nourishment and destroying the plant at the collar. The fungus is the well known destructive *Sclerotinia libertiana* of Fuckel, *Peziza sclerotiorum* of Libert, and *Peziza postuma* of Brk. and Wils., which grows from sclerotia formed in the stems of Potato, Cabbage, Beet, and many other plants, including Tomatoes. The only remedy is to disinfect the soil, which may usually be effected by using a tenth of freshly burned and slaked with the compost, mixing thoroughly a short time before use. Or you may use some other disinfectant in liquid form, such as soluble phenyle, a wineglassful to 3 gallons of water, or corrosive sublimate quarter of an ounce to 3½ gallons of water, bearing in mind that the latter is a terrible poison to animals.

Orange Fungus on Rose Leaves (*C. H. Aldridge*).—The Rose leaves are badly infested by an Orange fungus named *Coleosporium pinque*, which produces innumerable small pustules on the under sides. These are caused by the growth of the mycelial hyphæ of the fungus within the tissues of the leaf, on the substance of which this feeds and grows, ultimately developing spores on short stalks, or concatenate, and burst through the cuticle by sheer force of growth, forming the orange yellow dots visible to the unaided eye, and ultimately coating the leaf attacked with an orange coloured dust on the under side. The dust consists of the spores of the fungus, and are capable of spreading the disease. Here and there, especially on the midribs of the leaves, long narrow pustules appear, and are caused by the running into one another of adjoining centres, or from the mycelial hyphæ following the course of the spiral vessels. These elongated pustules bear a corresponding large number of spores, and are very conspicuous to the unaided eye by their bright colour. In these patches a small orange-coloured grub is almost invariably present, and may be detected by the unaided eye, but more readily with a pocket lens. It is the larva of a dipterous fly, and feeds on the damaged leaf tissue—some say on the fungus—and aids in the work of destruction. Amidst the orange spores, which are elliptical or subglobose, other bodies sparingly appear, and are readily distinguished by their cylindrical form with a nipple at the apex and a rather short stout stalk, as in a toadstool. These are well seen with a microscopic power of 260 diameters, and as they are now in a very interesting condition for examination, each teleutospore being capped by a Custard Marrow-like body, we have entered on the matter at length, as you may possibly like to see a very interesting and not hitherto noted means of Puccinia fertilisation. The leaves are badly infested—worse we have not seen—the fungus, as you describe, causing the complete destruction of the foliage. The best remedy is spraying with Bordeaux mixture, which for Roses may be prepared as follows:—Copper sulphate, genuine, powdered, 4 ozs.; lime, unslaked, freshly burned light lumps, 4 ozs.; water 7½ gallons. Slake the lime in a vessel by itself and form into a thin whitewash; dissolve the sulphate of copper in another vessel, using about the same quantity of water, or about 1½ gallon in each case, and when dissolved it will be a bright blue coloured solution; pour the limewash slowly into the sulphate of copper solution through a hair sieve so as to remove lumps, mixing thoroughly and adding the remainder of the water, stirring well. Apply with a spraying apparatus, or a fine-rosed crank-jointed syringe may be used, so as to wet the leaves thoroughly on the under side, but for syringing the mixture should be diluted to 15 gallons, spraying the most efficacious as the mixture is corresponding stronger, and a much less quantity can be administered. Repeat in the course of about ten days. In winter dress the bushes with a solution of sulphate of copper, ¾ oz. to a gallon of water, applying with a brush whilst the growths are quite dry. If you prefer powder use "Fostite," which has been advertised in our columns, following the directions. Condy's fluid diluted with an equal quantity of water may be used for spraying, or diluted to a rose colour for syringing.

Tomatoes Affected with Black Rot (*S. G. Randall*).—We have examined the root, leaves, and fruits of the specimen you forwarded. We found the roots quite normal and perfectly healthy, there not being any trace of eelworm or of drooping disease fungus (*Fusarium solani* or *lycopersici*), nor parasitic micro-organism of any description. This settles the matter in your case as regards disease proceeding from the soil. The stem also was quite healthy, the disease not having ascended by it in this instance. On a young leaf, and one about fully developed, we found traces of the micro-organism causing the disease. In the yellow patches on the youngest leaf we detected the mycelial hyphæ of a fungus that proved, on comparing with sketches from previously examined plants, to accord with *Peronospora lycopersici* (the fungus causing black rot in Tomatoes), which is well known to cultivators as "black stripe" in the fruit. We have found on close examination that the spores penetrated the tissue at the point of contact. Passing on to the fruits, we found the ripest quite rotten, burst, and nauseous smelling. Some of the seeds were diseased (discoloured), others healthy (clear and

unstained). The former contained the plasma of the fungus between the outer and inner integuments, where it lies dormant indefinitely, and appears to be influenced by nothing, under ordinary conditions, but the development of the plant. The other fruits were infested at the eye with the usual black or discoloured blotch, and beneath the skin in the cellulose was the mycelium of the fungus (*Peronospora lycopersici*), which as a rule infests about one-third of the seeds in the manner before described. Our observations lead conclusively to the fact that disease is carried over by the seed, or, in the case of Potatoes, by the "set." In the same fruit we found both diseased and clean sound seeds. They are mixed indiscriminately, and they give rise to clean and healthy plants or otherwise. The diseased seeds germinate, the fungus develops, and the plants collapse when about 2 feet in height. We know of no preventive but clean sound seed and dusting the plants when they are a foot high and onwards, so as to keep the foliage as made coated with Fostite or some other advertised fungicide. All diseased plants and fruits should be burned. The lime and charcoal you suggest will be useful mixed with the soil, though they will not affect this particular fungus. Lime is good for preventing the drooping disease as caused by either slime fungus, *Plasmadiophora tomati*, or the sleepy fungus called *Fusarium solani* or *lycopersici*, while the charcoal tends to keep the soil sweet. The resting spores of the *Peronospora lycopersici* are not affected by any dressing short of sterilising the soil, for they are frost-proof, waterproof, and drought-proof, and until they burst of their own accord and liberate the contained spores, are practically unassailable, but rise in the air, and in contact with its warmth and moisture acquire such gravity as to cause their descent, and when, alighting on a Tomato plant, they set up "black stripe" through the eye of the embryonic fruit.

Names of Fruits.—*Notice.*—We have pleasure in naming good typical fruits (when the names are discoverable) for the convenience of regular subscribers, who are the growers of such fruit, and not collectors of specimens from non-subscribers. This latter procedure is wholly irregular, and we trust that none of our readers will allow themselves to be made the mediums in infringing our rules. Special attention is directed to the following decision, the object of which is to discourage the growth of inferior and promote the culture of superior varieties. *In consequence of the large number of worthless Apples and Pears sent to this office to be named, it has been decided to name only specimens and varieties of approved merit, and to reject the inferior, which are not worth sending or growing.* The names and addresses of senders of fruit to be named must in all cases be enclosed with the specimens, whether letters referring to the fruit are sent by post or not. The names are not necessarily required for publication, initials sufficing for that. Only six specimens can be named at once, and any beyond that number cannot be preserved. *They should be sent on the first indication of change towards ripening. Dessert Pears cannot be named in a hard green state.* (*C. Roscoe*).—1, Irish Peach; 2, unknown, probably a local variety; 3, probably a malformed specimen of Lord Grosvenor; 4, specimen too green, possibly Small's Admirable; 5, uncertain, possibly Manks Codlin. (*J. B.*).—Tower of Glammis. (*C. F. H.*).—You have overlooked what has been many times stated, that young shoots, for showing whether they are smooth or downy, are necessary, as well as not overripe fruit, for determining the names of Plums; also, as has been repeatedly stated, leaf-bearing shoots, for showing the glands, are essential with ripe Peaches for naming, also information as to whether the flowers are large or small. No person in the world could name correctly the hard fruits you have sent. (*J. L. S.*).—1, Gloria Mundi; 2, Resembles the Early White Transparent, figured on page 173; 3, Williams' Bon Chrétien. Plums.—1, White Magnum Bonum; 2, Pond's Seedling. (*W. R.*).—We do not know the name of the Apple, and scarcely think it worthy of a name. (*H. W.*).—One of the many coloured Crabs, originates from seeds, and which have no recognised names. (*S. Bricknell*).—For the purpose of naming Peaches it is necessary to state whether the flowers are large or small. In the absence of this information we regret that we are unable to name your fruit. (*W. B. H.*).—Comte de Lamy, one of the most prolific and delicious of our small Pears.

Names of Plants.—We only undertake to name species of plants, not varieties that have originated from seeds and termed florists' flowers. Flowering specimens are necessary of flowering plants, and Fern fronds should bear spores. Specimens should arrive in a fresh state in firm boxes. Slightly damp moss, soft green grass, or leaves form the best packing, dry wool the worst. Not more than six specimens can be named at once, and the numbers should be visible without untying the ligatures, it being often difficult to separate them when the paper is damp. (*Ross-shire*).—3, Erica codonodes; 4, Aster pulchellus; 5, Serratula tinctoria; 6, Lychnis viscaria. The Plum is Denniston's Superb. (*J. F. R.*).—1, Hypericum calycinum; 2, Stachys lanata; 3, Saxifraga ceratophylla; 4, Hippeastrum reticulatum; 5, Acalypha musaica. (*S. H., Cheshire*).—1, Hibiscus syriacus; 2, Rudbeckia triloba; 3, Eupatorium ageratoides; 4, Retinospira ericoides.

GARDENERS' CHARITABLE AND PROVIDENT INSTITUTIONS.

THE GARDENERS' ROYAL BENEVOLENT INSTITUTION.—*Secretary*, Mr. G. J. Ingram, 50, Parliament Street, London, W.C.

UNITED HORTICULTURAL BENEFIT AND PROVIDENT SOCIETY.—*Secretary*, Mr. W. Collins, 9, Martindale Road, Balham, London, S.W.

ROYAL GARDENERS' ORPHAN FUND.—*Secretary*, Mr. A. F. Barron, Royal Horticultural Society's Gardens, Chiswick, London, W.

TRADE CATALOGUES RECEIVED.

Barr & Son, King Street, Covent Garden, London.—*Bulbs*.
William Bull, Chelsea.—*Bulb Catalogue*.
George Bunyard & Co., Maidstone.—*Fruit Trees*.
Dobbie & Dicks, Manchester.—*Bulb Catalogue*.
Dobbie & Mason, Manchester.—*Bulbs*.
Fotheringay & King, Dumfries.—*Bulbs*.
Kent & Brydon, Darlington.—*Bulb Catalogue*.
W. Lovel & Sons, Driffield.—*Strawberry List*.
Amos Perry, Winchmore Hill, London.—*Bulbs*.
Anthony Roozen, Overveen, Holland.—*Bulb Catalogue*.
Robert Veitch & Son, Exeter.—*Bulbs*.
James Yates, Underbank, Stockport.—*Catalogue of Bulbs, &c.*

COVENT GARDEN MARKET.—SEPTEMBER 4TH.

SUPPLIES heavier with prices falling all round.

FRUIT.

	s.	d.	s.	d.		s.	d.	s.	d.
Apples, per bushel	1	3	to	3	0	Filberts, per 100 lbs.	35	0	to 0 0
„ Nova Scotia, per barrel	0	0	0	0	Grapes, per lb.	0	6	1 6	
„ Tasmanian, per case	0	0	0	0	Lemons, case	10	0	15 0	
Cobs, per 100 lbs.	40	0	0	0	Peaches, per dozen	1	0	6 0	
					Plums, per half sieve	1	6	2 6	
					St. Michael Pines, each	2	0	6 0	

VEGETABLES.

	s.	d.	s.	d.		s.	d.	s.	d.
Beans, Kidney, per lb. ..	0	3	to	0	0	Mustard and Cress, punnet	0	2	to 0 0
Beet, Red, dozen	1	0	0	0	0	Onions, bushel	3	6	4 0
Carrots, bunch	0	3	0	4	0	Parsley, dozen bunches ..	2	0	3 0
Cauliflowers, dozen ..	3	0	6	0	0	Parsnips, dozen	1	0	0 6
Celery, bundle	1	0	1	3	0	Potatoes, per cwt. ..	2	0	4 0
Coleworts, dozen bunches	2	0	4	0	0	Salsafy, bundle	1	0	1 6
Cucumbers, dozen	0	9	1	6	0	Seakale, per basket ..	0	0	0 0
Endive, dozen	1	3	1	6	0	Scorzoneria, bundle ..	1	6	0 0
Herbs, bunch	0	3	0	0	0	Shallots, per lb.	0	3	0 0
Leeks, bunch	0	2	0	0	0	Spinach, bushel	1	0	1 6
Lettuce, dozen	0	9	1	6	0	Tomatoes, per lb. ..	0	3	0 4
Mushrooms, punnet ..	0	9	1	0	0	Turnips, bunch	0	3	0 6

AVERAGE WHOLESALE PRICES.—OUT FLOWERS.—Orchid Blooms in variety.

	s.	d.	s.	d.		s.	d.	s.	d.
Arum Lilies, 12 blooms ..	3	0	to	4	0	Maidenhair Fern, dozen			
Asparagus Fern, per bunch	2	0		4	0	bunches	4	0	to 6 0
Asters (English) doz. bchs.	2	0		4	0	Orchids, various, dozen			
Asters (French), dozen						blossoms	1	6	18 0
bunches	8	0	12	0	Pansies, various, dozen				
Bouvardias, bunch	0	6	1	0	bunches	1	0	2	0
Carnations, 12 blooms ..	1	0	3	0	Peas, Sweet, doz. bunches..	1	6	3	0
dozen bunches..	4	0	8	0	Pelargoniums, 12 bunches	4	0	9	0
Chrysanthemum, dozen					Primula(double), doz. spys.	0	6	1	0
blossoms..	1	0	2	0	Roses (indoor), dozen ..	1	0	2	0
doz. bunches	3	0	6	0	Tea, white, dozen ..	1	0	2	0
Cornflower	1	0	2	0	Yellow, dozen (Niels)	3	0	6	0
Dahlias, dozen bunches ..	2	0	4	0	Safrano. (English),				
Eucharis, dozen	1	6	2	6	dozen	1	0	2	0
Gaillardias doz. bunches..	1	0	2	0	Yellow, dozen blossoms	0	6	0	9
Gardenias, dozen	2	0	3	0	Red, dozen blossoms ..	1	0	1	6
Geranium, scarlet, doz.					various, doz. bunches	3	0	6	0
bunches	4	0	6	0	Smilax, per bunch	2	6	4	0
Lilium lancifolium, twelve					Stephanotis, dozen sprays	2	0	3	0
blossoms	1	6	2	6	Sunflowers (small) dozen				
longiflorum, 12 blossoms	3	6	4	0	bunches	2	0	3	0
Marguerites, 12 bunches ..	1	6	3	0	Tuberose, 12 blooms..	0	2	0	4

PLANTS IN POTS.

	s.	d.	s.	d.		s.	d.	s.	d.	
Arbor Vitæ (golden) dozen	6	0	to	12	0	Foliage plants, var. each	2	0	to 10	0
Aspidistra, dozen	18	0	36	0	Heliotrope, per dozen ..	4	0	6	0	
Aspidistra, specimen plant	5	0	10	6	Lilium lancifolium, 12 pots	12	0	18	0	
Campanula, per doz... ..	5	0	9	0	Lobelia, per dozen	3	0	4	0	
Chrysanthemums, per doz.	6	0	18	0	Lycopodiums, dozen	3	0	4	0	
Coleus, per doz.	2	6	4	0	Marguerite Daisy, dozen ..	6	0	9	0	
Dracæna, various, dozen ..	12	0	30	0	" Yellow " 	9	0	18	0	
Dracæna viridis, dozen ..	9	0	18	0	Myrtles, dozen	6	0	9	0	
Euonymus, var., dozen ..	6	0	18	0	Palms, in var., each	1	0	15	0	
Evergreens, in var., dozen	6	0	24	0	" (specimens)	21	0	63	0	
Ferns in variety, dozen ..	4	0	18	0	Pelargoniums, per dozen ..	8	0	12	0	
Ferns (small) per hundred	4	0	6	0	" scarlets, doz. ..	3	0	6	0	
Ficus elastica, each	1	0	7	0						



MILK.

As we sit down to write this article in a London suburb the cry of the sellers—the retailers of milk—rings in our ears, for it is the time of the second or "pudding round," when milk is purchased for culinary purposes, and when street sellers have often been found to add water to the milk with a free hand, presumably because it is not examined so critically as when placed on the breakfast table. Producer and consumer are both victimised by the middleman and his satellites—the keen

shrewd middleman who has seized the rare chance open to him of sure profit and quick returns on an article which he has simply to receive and sell at once. He buys it very much at his own price, and sells it very much to his own advantage. For 6d. per gallon the farmer has to provide and maintain the cows, to do the milking, pass the milk through the refrigerator, cart it to the railway station, and pay carriage by rail. For 1s. 4d. per gallon the middleman has simply to fetch it from the station nearest to him and to deliver it to the consumer. His trade plant consists of a horse and cart, one or more handcarts, and milk cans of various sizes. If he is a "company" with a large connection he requires more vehicles, cans, and assistants. In either case he thrives. By way of example we mention one case well known to us where the man and his two sons serve a long "round," while the wife attends to the shop, where milk, eggs, bread, and occasionally butter are sold. They all work hard, and he is the owner of several good suburban houses in which he invests his profits derived from that 10d. per gallon which the farmer allows to slip (literally to enter by oversight) into his hands.

When shall we have farmers' co-operative stores, each supplying its round of consumers not only with pure milk and cream, but with butter and cheese of the highest quality, and poultry, eggs, bacon, hams, and pork? That such stores would prove profitable there can be no doubt, provided they were run on sound principles, an essential fundamental being purity, high quality, and a full unfailing supply. To judge from the report of a special commission appointed by the "British Medical Journal" to inquire into the quality of the milk sold in some of the poorer districts of the metropolis, we should say that such a thing as pure, wholesome milk is not to be had. Of fifty samples of ordinary milk analysed twenty-four were found to be more or less sophisticated by the addition of water, or separated milk, or by the whole of the milk having been passed through the separator. Nearly half of the samples were thus reduced, and a still larger number—28 per cent.—had been tampered with by the addition of preservatives. So far the Commission did good by exposing the dishonesty of dealers, but we really do not see how it is to be prevented while milk passes through so many hands before it reaches the consumer. The best method which has come under our notice is that of Mr. Sturley Nunn, who sends the milk from his farm to his customers at Bury St. Edmunds in glass bottles, with an adhesive label fastened over the stopper bearing the appropriate motto, "Safe bind, safe find."

But the Commission makes an accusation of even more serious character against the farmers, the most disgusting part of the exposure of this milk business being the bacteriological proof of the kind of dirt which gains access to the milk. Every sample examined contained specimens of the *Bacillus coli communis*, a microbe which has its natural habitat in the intestines; in fact, this particular microbe constituted fully 90 per cent. of all the micro-organisms found in the milk. The occurrence of this organism, proving as it does the fact of faecal admixture with every sample of milk, shows well enough the grossly defective sanitary conditions under which milk is so commonly obtained, stored, and distributed. We think the presence of faecal matter shows conclusively how generally filthy are the coats of the cows, the places in which they are milked, and the milkers themselves. It tends to prove the soundness of our oft-repeated advice of rigid cleanliness in the cow hovels, the milkers' dress and hands, and a daily use of the curry comb on the cows when they are shut in the yards. It is certain that much dust-like faecal matter is rubbed off the coats of dirty cows by dirty milkers into the milk pails, and the straining of the milk subsequently is very generally insufficient. The ordinary milk sieve may retain hairs, but finely divided filth passes through it. In Danish dairies the milk is filtered

through sand, leaving a marvellous accumulation of impurity behind it in the sand. Government action is obviously called for in this matter, no radical improvement being possible without it, and a measure by the Legislature to insure pure wholesome milk to the consumer must be regarded as right.

WORK ON THE HOME FARM.

During the present month yards and all buildings connected with them should be put in good order for winter. This is a matter of so much importance that it should have attention early in the month, so as to be ready for cold rain, which is often so heavy in October. Fences, gates, drains, water supply, and fodder racks should all be examined and repairs done before much litter is placed in the yards. Roofs, walls, floors, doors, windows, ventilators, drains, and gutters of buildings must all be put in sound, clean, working order. Fill all hollows in floors, wash and paint woodwork, whitewash, or rather limewash, walls, using one part common salt to three parts fresh lime. The addition of salt gives a hard surface, preventing the lime from being rubbed off. This may appear a trifle, but it is worthy of attention, as we are frequently in cow hovels where the limewash rubs off at a touch, and we hold that walls properly whitewashed are excellent as an incentive to general cleanliness in the cow house.

Wherever bracken, heather, sedges, rushes, or other litter can be had in quantity a stack of it should be made in or near the centre of every cattle and cow yard, now, in readiness for winter. Failing this there is no alternative but to use straw, but we always deplore having to trample down good wholesome fodder. We have just built a commodious additional cow hovel for a tenant who really required more accommodation, and as the cow yard was open to the north we have placed the hovel on that side, shutting in the yard, so as to afford shelter for cows in it. At one end is a large loose box for calving, at the other a fodder room, with access to both old and new hovels. A water cistern has been fixed high up inside the roof; it will be kept filled by means of a ballcock in a feed cistern connected with a pool above the homestead. In winter this water will be of the same temperature as the hovel, and the cows will be supplied by a trough at the back of the manger.

Let equal care be taken with all buildings used for pigs. Swine fever is rampant; it is positively increasing, which may be regarded as an outcome of carelessness both at farms and in the importation of infected pigs from Ireland without supervision or inspection of any sort. The pigs are now out in the open, only coming into yards at night; now, therefore, is the time to prepare their winter quarters, to limewash walls, and make sound faulty roofs and floors.

THE TWENTIETH LONDON DAIRY SHOW, to be held in the Royal Agricultural Hall in October next, should be a great success, for prizes to the value of £2515, in addition to 142 gold, silver, and bronze medals, are offered for competition in 451 different classes, in many of which a keen contest is already assured. This handsome total is due to the fact that the British Dairy Farmers' Association have this year been generously supported by liberal contributions to the prize fund from the Corporation of the City of London, the Poulterers' Company, the President (Lord Derby), Mr. Titus Barham, Sir James Blyth, Bart., and others, the last named gentleman giving £400 as prizes for plans and models of dairies adapted for the manufacture of butter and cheese. A vigorous attempt is being made to give a helping hand to this important branch of agriculture and its allied industry of poultry raising.

METEOROLOGICAL OBSERVATIONS.

CAMDEN SQUARE, LONDON.

Lat. 51° 32' 40" N.; Long. 0° 8' 0" W.; Altitude 111 feet.

DATE.		9 A.M.				IN THE DAY.				Rain.
1895. August.	Barometer at 32° and Sea Level.	Hygrometer.		Direc- tion of Wind.	Temp. of soil at 1 foot.	Shade Tem- perature.		Radiation Temperature		
		Dry.	Wet.			Max.	Min.	In Sun.	On Grass.	
	Inchs.	deg.	deg.		deg.	deg.	deg.	deg.	deg.	Inchs.
Sunday .. 25	30.308	59.1	53.1	N.	62.1	69.4	46.0	119.1	41.0	0.142
Monday .. 26	30.103	59.4	53.4	W.	61.9	68.9	55.7	92.9	52.3	0.010
Tuesday .. 27	29.826	61.8	59.4	S.W.	61.1	71.9	57.1	110.9	52.1	0.012
Wednesday 28	30.154	63.2	57.2	W.	60.3	73.3	51.7	118.2	45.9	—
Thursday .. 29	30.232	63.6	53.8	S.W.	61.1	75.0	57.6	122.0	53.9	—
Friday .. 30	30.096	66.3	58.9	S.W.	62.0	73.1	57.9	118.9	53.1	—
Saturday .. 31	30.241	59.9	55.1	N.W.	62.0	69.9	51.7	122.4	47.0	—
	30.39	61.9	57.3		61.5	71.6	54.0	114.9	49.3	0.164

REMARKS.

- 25th.—Bright all day; overcast in evening.
 26th.—Rain 4.30 A.M. to 11.30 A.M.; dull and breezy; sun about 1.45 P.M., but generally overcast.
 27th.—Spots of rain early, and rain at 9.30 A.M.; dull and breezy; shower 11.5 A.M.; bright afternoon and evening.
 28th.—Bright early and all day and evening.
 29th.—Bright early and throughout.
 30th.—Bright early; overcast from 1 to 2 P.M., then bright with fresh breeze; fine night.
 31st.—Bright and fine all day.
 A fine week; cooler than the previous one, but still above the average.—
 G. J. SYMONS.

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**Journal of Horticulture.**

THURSDAY, SEPTEMBER 12, 1895.

AUTUMN GLORIES.

THE gorgeous mantle of a dying year, with all its marvellous tints, has yet to be put on. There is, indeed, but little evidence at present of the "sere and yellow leaf," and probably peculiarities of weather during the past summer, which have had some tendency to reverse the order of growth and rest in vegetation, will defer the transformation scene to a little later than usual. Anyway, it is yet premature to call attention, if it was necessary to do so, to what is still in the distance, be that distance near or far. The present may now be dealt with, and beyond one distant, glorious view of mountains daily deepening in the glow of Heather bloom this brief review is confined exclusively to the garden.

Perhaps at no season of the year are we so much dependent on a spell of fine weather to reap the full enjoyment of what may be rather the glories of the waning summer than of autumn proper. So rich and varied in colour are the many things that greet the eye, and so grateful is the perfume of things unseen, that one would fain believe that the end is still far off. Yet in hoping that such may be the case, we know how little the aged year possesses of recuperative force; how one brief gale is sufficient to shatter our idol beyond recovery; hence an especial interest is attached to the life which hangs by slender threads. Certainly at no period of the past year have we had such a rich display in the garden as is now to be found there, and on all sides are we more than compensated for those things which are "faded and gone." Without employing comparison between those which add to the autumnal glory of the garden, there is one border standing out pre-eminent in its unique colouring, and one, too, which is contributing so abundantly and satisfactorily to the decoration of the mansion. This is a border, 60 feet long by 4 feet wide, running east and west, of *Montbretia crocosmæflora*. From early morning, when the rising sun glints through the myriad of warm hued blossoms, until his last rays linger lovingly amongst them, is our *Montbretia* border a thing of beauty.

Alternantheras in three varieties, entering largely into some composite work dear to the

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heart of the carpet-bedder, have grown satisfactorily, and are now the perfection of colour; seen in the dim light of "the gloaming," outlined with *Echeveria*, the effect is magical. Not less does other bedding bravely hold its own. Yellow and brown *Calceolarias* are now resplendent in their second crop of bloom, and Tuberous *Begonias* bear witness to the benefits of recent rains. A rich dark *Heliotrope* in masses accounts largely for the incense-laden atmosphere, and a long line of single Dahlias, raised from seed this season, are interesting in their variety of form and colour. Even those pointed starry flowers, bad from a florist's point of view, are good for cutting, and when arranged in trumpet vases with a few plumes of common *Asparagus*, I am inclined to give them the preference over their better-bred brethren.

Blue Cornflowers sown liberally through the borders where blank spaces permitted now give that true blue we should otherwise miss. Blank spaces? Save the mark. The sower inadvertently bestowed his seeds over the, then dormant, bulbs of *Hyacinthus* (*Galtonia*) *candicans*. The latter with their pure white waxy bells steeped over the Corncockles has proved to be one of those happy accidental hits worth mentioning. Asters tall and Asters dwarf are exceptionally good, being in themselves a host of colour. One notable clump is provided by *Antholyza coccinea*, but notable only in its bold plicated sword-like foliage of vivid green; the *Montbretia*-like blossoms appear unworthy of the handsome scabbards they arise from.

Here and there a bright *Carnation* lingers, seemingly as a reminder that they should not be forgotten, but the "last Rose of summer" is exceedingly well represented. Very bright is *Ulrich Brunner*, atoning for early summer shortcomings. The rule of the Rose appears to be that of making one grand effort during the season, hence some which earlier accomplished their object—*Her Majesty* for example—are now unrepresented by a single blossom. Climbers, too, such as *Belle Lyonnaise* (noticed in a previous sketch), that made an unrivalled early display, are now content to yield from a long stretch of trellis an occasional faultless bloom. If any further observation was necessary to confirm this opinion it is afforded by an ancient *Safrano* on the wall, now a sheet of bloom, but previously all but bare.

Sedum spectabile, and I know of no plant in its flowering period which more conspicuously marks the season of the year, is just sufficiently opening to attract the usual bevy of bees and butterflies, which appear to forsake all else in the garden, such enjoyment do they find in the massive pink Cauliflower-like inflorescence. At all times of the year there appears to be something that particularly attracts the attention of bees, and earlier in the season these small winged worshippers have paid as much devotion to the *Marjoram* in bloom. The white *Anemone japonica*, which here is a weed in its luxuriance, is in its prime of beauty. *Yucca filamentosa*, a variety precocious in flowering, is the most stately of white flowers now in bloom. Old plants of this when killed to the ground by frost are apt to send up a ring of suckers from the base. Bright yellows are abundant in the perennial *Sunflowers*, which add no small share to the brightness of the garden at this period, but there is a sheet of gold, Californian red gold, on a distant border so much admired, whilst distance lends enchantment to its charms. Only *Marigolds*. "I am surprised you have them in the garden," and but recently I was surprised—pleasantly surprised—to find a low bowl in the drawing-room filled with them by a lady who despised them not for their commonness.

One plant which should be banished from the border for its aggressive habit is a stately *Polygonum*, now feathered with minute blossoms. One feels that they could not do without the dwarf *Rudbeckia Newmanni*, just opening its black-buttoned discs. Other things, too, might be mentioned, but sufficient tribute has, I think, been paid to the glories of autumn—that is, as far as our garden is concerned by—THE GARDENER.

A RACE TO THE NORTH.

IN the midst of the exciting rivalry between two of our great railway companies I paid a visit to that queen of Scottish watering-places—*Rothsay*. After a splendid run from Euston in one of the London and North-Western Co.'s expresses, stopping only at Rugby, Crewe, Preston, and Carlisle, I reached Glasgow, and left immediately afterwards by a Caledonian train to Gourock, the latter bearing about the same relationship on the Clyde to Glasgow, as Tilbury does to London. At Gourock the fine new steamer, "The Duchess of Rothsay" of the Caledonian line, was awaiting our arrival. Proceeding down the Firth of Clyde the beauty of the scenery is at once apparent. In front we have the Argyshire hills, with Loch Long on the right and Ben Lomond in the distance. Our first stopping place is Dunoon, a picturesque spot with Ben More rising in the background. On reaching Loch Fyne the peaks of Arron come into view, and then we arrive at our next stopping place Innellan with its well wooded fields and charming villas. We now pass the Cowal hills, and our steamer is heading for the Bute shore. On our extreme left we catch a glimpse of Mount Stuart House, the seat of the Marquis of Bute, and after a stoppage at Craigmore we reach Rothsay pier, situated in a beautiful bay, and this is to be my headquarters for the next few days.

Passing from the pier, and entering High Street, the bold sign-board of Messrs. Dobbie & Co., Seed Growers and Florists to the Queen, attracts attention; and it is with feelings of pride that a southern amateur *Viola* grower enters the spacious offices of this celebrated firm, and pays his first visit to the "Home of Flowers" in the North. Here Mr. Wm. Cuthbertson (a gentleman whose characteristic courtesy is almost as proverbial in the South as in the North) gave me a hearty welcome, and a series of visits to their nursery grounds are arranged. I afterwards found that on account of the scattered positions of the various grounds a visit to the home nursery only gives one a very small idea of the extensive cultures of this firm. The *Viola* plantation was naturally my first attraction. I found the plants growing on the side of a hill, a position in which, with the cool air and frequent rains of Rothsay, they seemed to be quite at home, and still carrying an abundance of bloom. Such a position in the South would insure disaster. Each variety was given an entire row to itself, and only in this way can the splendid effect in colour which it is possible to produce with *Violas* be attained. Large numbers of cuttings were being sent to all parts of the kingdom, and a large stock had already been taken to send out as rooted plants either in October or next spring. Here also were beds containing thousands of seedling *Violas* in bloom, several of which I noticed are destined to keep up the great reputation of Messrs. Dobbie & Co. as *Viola* raisers.

In an adjacent ground were growing a quantity of *Phloxes* bearing immense heads of bloom—an imposing sight. Dahlias are a great feature here; the new single *Cactus*, having "caught on," is grown in large numbers, and new varieties will be sent out. As decorative flowers these would be hard to beat—the effect of a handful of blooms placed loosely in a vase is exquisite. The demand for the ordinary *Cactus* type will be met, for I saw entire rows of such favourite varieties as the dark velvety *Matchless* (well named), the beautiful yellow *Lady Penzance*, and the white *Mrs. Peart* (remarkably good when it comes true). The Show and single types are also very extensively grown. So many interesting things attracted my attention in these nurseries, if space would permit of a notice of them all; but the grand new strain of *Cannas* cannot be passed over. Both the foliage and blooms of these have such a striking effect that when better known they will undoubtedly be found in every garden. I was informed that they are very easy of cultivation, the roots being treated in winter in a similar manner to Dahlias. The seed department is most interesting, giving, as it does, employment to a large staff of assistants. This department is fed almost entirely from the newly established grounds at Orpington in Kent, and the older grounds at Beaulieu in Hants. I also paid a visit to the founder of this remarkable business—Mr. J. Dobbie—a fine hale old Scotsman, well past the allotted span of life, but full of vigour, living quite a retired life, evidently taking as great an interest in his garden and as eclectic as ever, here and there pointing out blooms of exceptional merit which the grand old veteran had instinctively marked.

In the Barone Nursery I found that noted grower and exhibitor of Pansies, Mr. Alex. Lister. A border of splendid *Carnations*, all of which Mr. Lister assured me were his own seedlings, first attracted my attention. Many of them were of great merit, and all of extraordinary habit. I expressed a wish to see his *Violas*, but found my host was not very enthusiastic upon this subject, so I ventured to suggest to him that it was probably only a question

of time for the Fancy Pansy to follow in the footsteps of its more aristocratic relative the Show Pansy, and would be no more seen in the South. The Viola was making such rapid strides that it would soon have the field entirely to itself, and that I for one had grown the Fancy Pansy for the last time. This was a little too much for my friend, and the following five minutes were about the worst I spent in Rothesay. He used his best endeavours to arouse my enthusiasm over some beds of Fancy Pansies, all very lank and lean, beautifully staked, and one very fine bloom or bud on the top of each; but my heart had gone out to a bed of Violas under the hedge, and another bed a little lower down exhausting themselves under a huge tree. Near at hand were the nurseries of Mr. Michael Cuthbertson, another great Pansy grower, and here is also quite a unique collection of herbaceous plants.

Mount Stuart House, the residence of Lord Bute, formed a most interesting object for a visit. The mansion is built in the Gothic style, the greater part of it being modern, replacing as it does the old mansion which was nearly all destroyed by fire in 1876. The grounds are very extensive, and rich in a variety of natural beauty, bold avenues of Limes and Beech, a gorge with Ferns growing in great luxuriance, massive rocks, and glens with streams of water, the historical summer house which is now a ruin, while Bamboos and other sub-tropical plants winter here in the open air. A herd of kangaroos, a colony of beavers which the Marquis has succeeded in naturalising, and hundreds of pea fowl in the trees, all make this a resort of great interest.

A day on that splendid steamer "The Columba" of Mr. David MacBrayne's line is worthy of mention. Shortly after leaving Rothesay Pier we enter the Kyles of Bute, a narrow strip of water with the mainland on our right and the Island of Bute on our left, and just as we appear to be entirely hemmed in by land on all sides a small arm of water opens out in front to the left, and we enter Loch Riddew, with mountain and glen in front, truly a magnificent sight. We presently pass the pretty little village of Tighnabruaich, and the house and garden of another old Pansy friend, Mr. Andrew Irvine, is pointed out to me. On the same shore Ardlamont House comes in view, a name which most readers will remember in connection with a mysterious death some time ago. To the south the island of Arran may be seen, with "Goatfell" towering 3000 feet above the sea. We now enter Loch Fyne, and finally reach Arbrisbaig, from which point we return. This is indeed a trip full of pleasure and great interest, and all our wants were carefully anticipated on board "The Columba." But all things come to an end, and the Southerner has at last to say good-bye to Rothesay, resolving, however, to come for a longer stay next time.

I cross to Wemyss bay by steamer, and there find the Caledonian train for Glasgow waiting; but my visit to Scotland is not quite over, as I willingly sanction a proposal to spend a night in trains for my journey south to allow time for a pilgrimage to the shrine of that splendid old Scottish gardener, Mr. John Baxter of Daldowie, raiser of Viola Duchess of Fife, Goldfinch, White Duchess, and many other good ones besides. In raising Duchess of Fife alone John Baxter has immortalised himself to all true lovers of the Viola. An original character, a perfect genius, a great treat, I found him busily engaged in his garden, the same garden, he told me, he had worked in for forty years, and which in this hurried visit, all too brief, he showed me many good things. Our southern gardener is enthusiastic, but takes it quietly; whereas this fine old man fairly boiled over with the heat of his enthusiasm.

Well, good-bye, John Baxter; good-bye, Scotland, and the Southerner now begins to realise that his face is towards his own garden. The one thought that cheers him on his homeward journey is that he has not seen better Violas in Scotland than are grown in the South.—SOUTHERN VIOLA.

LESSONS BY THE WAY.

WYE.

SOME persons are so constituted as to be able to sit by the sea for a month and enjoy it. They like to watch wave racing wave, sometimes in smooth stately order, sometimes with a howl and a rush as they roll up the pebbly beach. Happy are those who have the opportunity and can thus rest and recuperate. Your correspondent is not one of them. For him an hour on the "marine parade" is enough at a time; after that the ceaseless roll becomes monotonous, and he darts off into the country in search of variety—something of greater interest to him than are the "sad sea waves."

In the *Journal of Horticulture* of July 25th, is a remarkable article by Mr. G. Abbey, headed "Science and Practice," and having special reference to the eradication of eelworms, mites, and wireworms from the soil. This article is founded on a report that he appears to have read, in which are embodied the objects

and proceedings of the South-Eastern Agricultural College at Wye, Kent. As Wye is not far from the restless sea, near which a restless man was told he ought to be resting, and as he had a cordial invitation from the Principal of the college, an "escape" was made for an inspection. Lord Winchelsea either is or was lord of the manor of Wye, where a college existed for centuries, founded by Cardinal Kempe in 1447. The picturesque old building was purchased by the Kent and Surrey County Councils, and with restorations and additions is now a splendid educational establishment, adapted to all modern needs, and equipped with all requisite means for teaching the science and practice of agriculture in its widest scope to students who may be so fortunate as to avail themselves of the privileges afforded. Many have done so, and so many more are in view that further extensions in the way of buildings will be necessary for their accommodation.

All the sciences bearing on the most important of all industries are taught thoroughly by a body of accomplished professors under Principal A. D. Hall; botany and plant diseases by Professor Percival; chemistry by Mr. Cousins; entomology by Mr. Theobald, and so on; then Mr. Monson devotes his attention to Hops, Mr. Smith to mensuration, Mr. Deadman to fruit and gardening generally, and Mr. Beddome to farming; in addition, the services of Mr. Cobb are secured for poultry, Mr. Garrett for bees, and Miss Hope Johnstone (resident) for dairying; 130 acres of arable, and 120 acres of grass land being available for demonstrations in practical work on an adequate scale, also for trials, demonstrations, and instructive experiments. Teaching, sound and substantial, on all these and collateral subjects, is provided for the sons of residents in Kent and Surrey, chiefly, but not exclusively—young men who intend to become occupiers of land, either as owners, tenants, or agents—and it will be simply impossible for any intelligent student to spend two or three years in such a centre of light as Wye without acquiring knowledge that will be of great, and it may be of incalculable, benefit to him in after life. This is the more certain to be so, not only because the means are so complete, but because the Principal and his departmental assistants, one and all, combine with admitted knowledge untiring zeal and professional enthusiasm, which cannot fail to exert a most wholesome influence on the minds of those whom they are determined to teach by making them love the teaching. It is no mere dry-as-dust, prosy routine that suffices, but real, earnest, hearty work is the rule at Wye, and a happier family of mentors and students it would be hard, if not impossible, to find.

Not content with the ordinary term-teaching to resident students, so earnest is the governing body that the College shall be to the fullest extent useful, its advantages are placed at the disposal of others during at least a period of the summer vacation; and at the time of my visit the College was filled to overflowing with schoolmasters from various districts in the two counties. Thus, while the regular students were taking their holiday from the College, the teaching heads of the schools represented were enjoying theirs in it; the professors meanwhile, who one might have thought would have been glad of relaxation, apparently thoroughly enjoying, as if it were a treat, the teaching of a new body of men, anxious, and even greedy, for information.

The more closely the teachers of the young in our elementary and advanced schools are come in contact with the more they must be respected. They do undoubtedly, as they ought, take a serious view of their duties, and the more knowledge they possess the more anxious are they to acquire still more in order that they may impart it to the "men of the future" at present under their tuition. The devotion of these men to the subjects treated at Wye—a charming botanical lecture by Mr. Percival, for instance, or an equally fascinating and instructive discourse by Mr. Cousins, with demonstrations in chemistry—their keenness of observation, their penetrating questions, their diligence in note-taking and sketching, all this was something to admire. The idea thus quickened into action of spreading the light of Science and Practice on important subjects through the different parishes was a happy inspiration, and positively nothing but good can be the eventual outcome.

The audiences on the occasion referred to at Wye—men of bright intelligence, educational acquirements, and no small accomplishments, taught a lesson by the way that should not be lost on the "gardeners of the future" as represented by the probationers of the present, or on those older "know enoughts" both in the horticultural and agricultural world. The case of the latter as a body is perhaps hopeless, but now and then one is found not to be invulnerable to the inroads of knowledge other than his own, and then it is indeed that he feels the need of more. To the young the case is more serious, and those of them in the gardening ranks whose minds too strongly tend to the sports and frivolities of life, might pause to think that if schoolmasters who have passed with credit and honours many a trying "exam," several of them in

horticulture, feel it advantageous to pass a portion of the time when they might be resting, in acquiring and storing their minds with still more information that may be helpful to them in their vocation, how much greater is the necessity that the men of infinitely less knowledge on the science and practice of their calling should avail themselves of every possible means of making good their all too obvious shortcomings. Yet hundreds of them do nothing of the kind, and we may be sure that these mere pleasure seekers of the present will be the grumblers of the future, just as so many incompetents are grumblers of to-day.

The truth is, and it is coming straight out, there are numbers of young men who in some way or other have found positions in gardens who never ought to have been there, and who have no right to expect promotion or prosperity. They are not likely to attain either, and the sooner they find different occupations the better it may be for them, and will be for others who have striven by all available means to equip themselves by knowledge and the acquisition of accomplishments to become competent and creditable members of the craft, such as gentlemen who have the power are only too glad to help onwards. They pass by the thoughtless and careless all unknown to themselves, and so it will ever be, assisting the striving student of proved or promising capacity, who is also a trustworthy and conscientious worker of appropriate demeanour whenever they can.

So much for the schoolmaster's lesson. What did these earnest truth-seekers learn at Wye? They learned what numbers of men have had the opportunity of learning if they had been watchful for opportunities by County Council and University Extension teachers in various towns and villages near where they reside; and what, in a small measure, the writer of these lines was once glad to walk eight miles to learn on rare occasions during winter evenings, when his fellow working "know enoughts" sneered, and spent their time in playing dominoes. Where are they now? Most of them out of the gardening ranks, and not one of them in a position to be envied. The schoolmasters learned more of the nature and functions of plants, as demonstrated by Professor Percival in his daily lectures, than any gardener could learn at home—though he can learn a great deal if he is a close and thoughtful reader and persistent student when his daily work is done, also a good deal in the doing of it. The roots, the leaves, the changes and motion of the sap, the production and extraction of chlorophyll and of starch, with the impediments or hindrances to the smooth working of Nature's beautiful machinery; the very life of plants, and so far as human mortals know, the life of everything that lives, they could see in verity moving more or less actively in the cells, according as the conditions were favourable or the reverse—the wondrous protoplasm; they could see the invisible enemy causing distortion in the bud of the Black Currant, laid bare under the microscope as "big as a shrimp." They could see the truth revealed of the statements made on various points as each man followed them under the instrument, for there are microscopes for many at Wye. All interesting, but what is the practical use? This could be seen in the form of actual work, conducted in harmony with scientific teaching, as all work should be, in pruning root and branch, in planting, and various other processes that Mr. Deadman, the intelligent gardener, is competent to display in lecture room, garden, or field. A valued helper in practical matters is Mr. Deadman to the scientific staff of Wye. They have been fortunate in obtaining him, and he is proud of his learned associates, who have opened his eyes to see clearly truths of which he had a glimmering before, and he will carry out with fidelity and scrupulous care all desired experiments with roots and cereals, vegetables, fruit, and Hops.

Hops! The mention of the name brings to mind what had nearly been a great omission, and we hark back to Mr. Abbey and his easy means of extirpating the Hop eelworm (*Heterodera*), as narrated in the issue of the *Journal of Horticulture* mentioned at the head of these notes. It is an interesting, suggestive, and also to some persons and for some purposes a valuable article, and had been read at Wye; but his formulæ of fertilisers, however useful, will not kill the eelworm that causes the "nettle-headed skinkly" disease in the Hop gardens at Wye, and in Germany. Perhaps they might if the "gardens" could be placed in solution for a few hours, as in a bottle; but as a top-dressing at the strength recommended, and up to five times greater, they had no effect; at "ten-strength" doses they killed the plants, but not the enemy in the soil. Thirty thousand pounds have been spent in finding effective remedies abroad and at home, but the pest remains; and a fortune is open to Mr. Abbey or anyone else who can find a practicable method of eradication without injuring the plants. The particular form of *Heterodera* discovered by Professor Percival is admitted as new by the most learned of German savants, and has excited much interest among them, though it is not suggested that it is more difficult to destroy than the familiar

(to investigators) species known as the Beet eelworm, *H. Schachtii*, than which it is very much smaller.

A desire being expressed to see a specimen the Professor at once said he would try and find one, though he was not sanguine about succeeding. Hops do not grow in the laboratory, and there was no time for going to an infested plantation. As a trial a lump of dried clay, weighing 3 or 4 lbs., was hunted from a treasure heap. It was dug from the garden twelve months ago. The lump was broken and searched with the magnifier for roots. A few dead and dried hair-like threads were found, and it was thought a "specimen" might be discovered dead or alive. Bits of roots scarcely large enough to be seen were placed under the instrument in a drop of water. A search was followed by a regretful "No, we must try again." Another trial and another "No." A third, a long search, and a glimmering of something. More power applied, and a breathless pause; still more power, and then a jubilant shout from the patient but enthusiastic searcher of "Hurrah, splendid!" and there, sure enough, was the enemy revealed by the magnificent instrument, like a glistening oval-shaped fish, the eggs shining through the cuticle, the normal number of these being 300. Its tenacity of life was indisputable; locked in a dry clod for a year among roots as dead as Julius Cæsar, no one knows how much nitrate of soda sprinkled on that lump of clay would have been necessary for "settling" the hard-to-kill "animal" in it, but it must have been a strong dose anyhow.

Yes! Wye is a splendid institution, destined to play an important part in preparing the coming race of farmers for entering on their important work better equipped than their fathers were. It has its—well, non-admirers, who, of course, want to know if it "pays." Do our elementary schools "pay?" They are supported by the rates, and that is more than can be said of this advanced school of technical education; but probably the old dog in the manger policy and habit will never become obsolete.—INSPECTOR.

P.S.—After describing a school of agriculture in France, the correspondent of a daily paper goes on to say:—"A generation hence, without doubt, French farming will be the most scientific in the world. In spite of bad seasons and agricultural crises, these practical schools of agriculture are resorted to by sons of the small owners as well as those of the wealthier sort. The French Government, moreover, is not only educating the peasant farmer on native soil, but the future colonist of her great colonial empire." Then why should England lag behind?

THE FLORISTS' TULIP.

(Continued from page 124.)

THE two-year-old seedling bulbs are now large enough to be grown on in the open ground, and the cultural directions recommended for the blooming bulbs can be followed in their case also. Great care must be taken in the lifting each year not to overlook the droppers.

Figure 34 shows a three-year-old bulb and dropper. During the fourth year a few will probably bloom, more in the fifth year, and in the sixth year practically all the remainder, although instances are known of a seedling being ten years old before it was strong enough to produce a flower. The blooms are, with very rare exceptions, self colours, or "breeders" as they are technically termed, and as they bloom the grower will be repaid for his years of waiting and care by the intense interest they will excite, for every one of them is unique and differs in some respects from any variety before existing. But however interesting they may be, many, if not most, of them will be found sadly wanting in the qualities that are desired in a first-class flower, and the grower must harden his heart and ruthlessly destroy all the inferior ones. Various kinds of nondescripts or tri-colours will be found having pink or rose petals and yellow bases, or slate coloured petals and yellow bases; these are worthless from trying to be both yellow grounds and white grounds at the same time, and should be destroyed. Some will have long narrow petals, others be very much stained on the filaments or at the base and must be discarded. Care must be taken, however, not to discard for dullness of colour. If the shape be good and the base pure



FIG. 34.

the breeder must be kept even if the colour be positively ugly. Many of our best rectified flowers have broken from dingy breeders; "Masterpiece" may be instanced, a flower which when broken can scarcely be surpassed for its intense black and yellow, and yet while in the breeder state it is in colour an exact match to that nursery compound brimstone and treacle. It is, indeed, rather uncommon for a brilliantly coloured breeder to break well;

fine breeders such as Goldfinder, Glory of Stakehill, and Miss Burdett Coutts are worthless as exhibition flowers when broken or rectified.

The grower must not be disappointed if his first blooms are coarse or bad, as refined varieties take longer to come to blooming size. Figure 35 shows a seedling Tulip bulb of blooming size. It is noteworthy that when the seedling becomes large enough to bloom it abandons the dropper business almost entirely, and dissection would show that it had five envelopes surrounding the central germ, whereas a non-blooming bulb has only four. The late Mr. M. Woodman, an enthusiastic Tulip grower, residing at Camberwell, in 1844 prepared or caused to be prepared some beautifully executed drawings, showing the dissection of a blooming bulb in the month of October. These are reproduced in figs. 36, 37, 38, and 39, which explain themselves. It is pleasant to think that these drawings are of interest and value after so many days, and that Mr. Woodman's work will keep his memory alive at least a little longer.

The seedlings that are considered of sufficient merit to be kept should be distinguished in some way, and a record of their



FIG. 35.

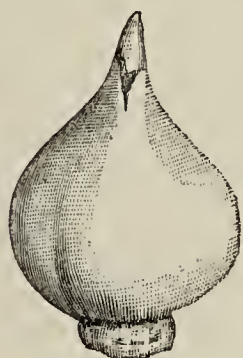


FIG. 36.—TULIP BULB WITH ONE ENVELOPE REMOVED.



FIG. 37.—THE SAME BULB WITH THREE ENVELOPES REMOVED.



FIG. 38.—ALL FIVE ENVELOPES REMOVED, SHOWING GUARD LEAF ENCLOSING FLOWER.



FIG. 39.—GUARD LEAF AND FOLIAGE REMOVED, SHOWING FLOWER.

parentage and a short description entered in a "stud" book. A convenient method is to give them a number as the raisers of the past have done. Mr. Hepworth's plan was, perhaps, the best, as he added to the number that of the year in which the seedling first bloomed, consequently we have Hepworth's 9/64, meaning the ninth seedling selected in the year 1864. Raisers should never part with seedling breeders unless named or numbered. Confusion and vexation are the chief results, as the same variety gets different names in different parts of the country. Many of Storer's, Hardwick's, Collier's and Camp's seedlings are hopelessly mixed and confused by carelessness on this point.

It is generally better to wait until a seedling breaks before giving it a name. A few years will generally decide whether it is ever going to be a notable flower or not. If, however, it is sufficiently attractive as a breeder to win at an exhibition when in competition with other breeders it may be named and distributed. In giving names to flowers a certain amount of discretion as to the fitness of things should be used; such high sounding names as King of the Universe, Gem of Gems, and Glory of the World are ridiculous, and excite the derision of the profane outsider. I think it a good plan to commemorate growers and raisers of the past by giving their names to good novelties. It is curious, but to my mind very fitting, that the bold high coloured bizarres are generally named after men; the delicate and dainty roses are almost invariably dedicated to the ladies; while in the bybloemens, although both sexes are represented, yet there, as nearly everywhere else in the world, the ladies are well to the front.

(To be continued.)

VARIEGATED PLANTS.

(Concluded from page 172.)

ANTHERICUM VARIEGATUM is a very useful decorative plant, easy to grow but not widely known. When well cultivated its attractive leaves are almost as broad as those of Pandanus Veitchi, and in habit of growth it greatly resembles that well-known stove plant, but unlike it requires but little artificial heat. Propagation is easily effected by division of the roots, and a large stock may be quickly raised from one old plant if this is divided into single crowns or suckers, each being placed in a small pot and stood in a close pit or frame till well established. The plants should then be shifted into 5 or 6-inch pots, and grown close to the glass on a greenhouse shelf or in a cold pit. When established, if given full exposure to the light, abundance of water at the roots, and an occasional overhead syringing, they will quickly develop into fine plants, useful for arranging singly in vases or as dot plants in groups. A compost formed of rather light loam and a little leaf soil and decayed manure added is one in which this Anthericum succeeds well in every way. I like to remove the suckers from these young plants in order to secure bolder leaves; but if a few plants are allowed to grow at will they form dense specimens, often quite covering the sides of the pots.

No class of greenhouse plants that I am acquainted with have more graceful and pleasing foliage than the Carex. For dinner table work they are indispensable, and those who have not hitherto grown them have missed some of the gems among decorative plants, an oversight which ought to be at once rectified. Although they are easy to grow, and may be speedily propagated, it scarcely seems possible to have too many of them, because their elegant leafy stems are much sought after for mixing with cut flowers, as well as for the many uses they may be put to as pot plants. Marginata grandis and japonica variegata are two of the best. During the summer months they thrive splendidly in cold pits, which are syringed and closed early in the afternoon. In winter they succeed well in an ordinary greenhouse, provided the stages are kept rather moist. Where, however, large numbers are grown it is a capital plan to keep the bulk in some structure where they receive a little artificial heat regularly and have frequent syringings. The best plants can then be periodically removed to a cooler structure to prepare them for use, and those that have done duty returned to heat again. Several times annually some of the old plants should be divided into pieces having two or three crowns each; these being placed into small pots soon grow into nice little plants, especially if plunged in gentle heat. If this practice is regularly followed a healthy stock is at all times kept up. C. riparia variegata, though a British plant, is well worthy of pot culture, as its habit of growth is very effective and the variegation distinct. Light rich soil of almost any kind suits all the species.

Eulalia japonica foliis striata and j. zebrina are tall-growing, hardy Grasses of such great beauty, and are so well adapted for growing in pots, that they could not well be omitted from my notes, but their cultural requirements are so simple as to need no comment. In Eurya japonica latifolia variegata we have a fine ornamental plant with broad, showy leaves; well-grown specimens are admirable for placing in large vases in halls and corridors, in which positions they will remain in good condition for a long time. If the plants are placed in a sunny position in the open air during the summer months the variegation comes bright and distinct, and healthy vigour is maintained. When potting rather a light compost should be used, one consisting of two parts peat, and one of fibrous loam with sand and charcoal added answers admirably.

That fine old plant Veronica Andersoni variegata is a perfect gem among greenhouse shrubs, as its bright attractive leaves are beautiful at all seasons of the year, and when the shoots are crowned with tapering spikes of pale blue flowers the appearance presented is altogether unique. Cuttings root freely in cold pits throughout the summer and early autumn months, and during winter in any structure where a gentle heat is kept regularly. The present month is a good time to put in a batch of cuttings. If these are inserted in pots and placed in close pits for a few weeks, by the end of October they will be ready for removal to a greenhouse shelf. Then, if transferred to small pots as soon as they are rooted, kept near the glass and given larger pots next January, they will make good decorative plants by April. Veronicas are often prevented from developing their true character by insufficient supplies of water, being rapid rooters the soil in which they are growing speedily becomes packed with roots. When this stage is reached, anything approaching dryness is inimical to their well being. Bad treatment in this respect often causes the edges of the leaves to turn brown. Throughout the summer months the plants succeed admirably in a sunny position in the open air, where they ought to be syringed once

daily in bright weather. Loam three parts, leaf soil one part, and well-decayed manure one part, form a compost in which all kinds of Veronicas thrive.

Although Yuccas are perhaps not plants that require to be grown largely, a few specimens are always attractive and useful for flower garden embellishment, if for no other purpose. *Y. aloifolia variegata* and *Y. filamentosa variegata* are two of the best species to grow. A rather poor soil, with a good amount of lime rubble or charcoal to keep it open, should be employed for these plants. In addition to the plants and shrubs I have already enumerated, there are many hardy ones so attractive in appearance as to render them worthy of being largely grown in pots. Some of the best of these are *Euonymus japonicus variegatus* and *radicans variegata*, Golden Privet, Maples in great variety, *Vinca major elegantissima*. This latter is not nearly so much grown in pots as it should be, for I know of no other variegated plant which produces such a graceful drapery for pedestals on which Palms are arranged. Numbers of plants may be quickly raised by notching long shoots at intervals and then pegging them into light soil.

Dactylis glomerata variegata, a pretty perennial Grass so largely used for bedding purposes, is by no means to be despised for pot work, as it is easily and quickly grown, and forms a fitting companion for *Isolepis gracilis* when finishing off the edges of groups and stands. Early in the spring I usually take up and divide a good number, then plant the divisions in the open ground in rows a foot apart. At the same time some are established in 3-inch pots; in about a couple of months these are ready for use. Those in the open ground are then lifted at intervals and potted, always taking the precaution to do this a few weeks before the plants are required for use.

Last spring as I was one day admiring some fine clumps of the old Ribbon Grass, often known as the Gardener's Garter (*Phalaris arundinacea variegata*) it struck me that it would prove extremely useful for growing in pots. A trial was given it by lifting clumps when they had made a few inches of growth. It proved to be such a "happy thought" that in the future this fine old Grass will be regularly grown in this way.

In concluding my notes on this subject I would feign believe that they will prove useful to many who are often driven to their wit's end to provide pretty and varied plant arrangements throughout the year, when they have a rather scanty supply of flowering plants. And to those who are fortunate in having abundance of the latter at all times I will add, See that ye do not under-estimate the importance of variegated plants.—PLANTSMAN.

A WELL MANAGED GARDEN.

APPLES in abundance seems to be the order of the day throughout the length and breadth of the land, but though the crops are heavy everywhere, the quality of the fruit varies considerably, and high culture will this year clearly show its advantages, as it always has done and ever will do. These thoughts rose instinctively in my mind during a recent visit to The Lawn Gardens, Warwick, where Mr. Simpson, the able and energetic head gardener, manages to grow the many things under his charge exceedingly well.

The orchard was well stocked with clean, healthy standards; these, almost without exception, were heavily laden with fine fruit. Two trees in particular presented a sight long to be remembered; one was the comparatively little grown Melon Apple, which was carrying an extraordinary crop of even-sized, clean fruits, the other being that well-known variety, Worcester Pearmain, bending as the branches were with the weight of fruit, they appeared in the distance like so many wreaths of brilliant red.

Passing on to several rows of espaliers we make a close inspection of numbers of grand Apples, large for their respective varieties, clear in skin and perfect in form, in fact such specimens as exhibitors strive for but do not always obtain. Cox's Orange Pippin, Scarlet Nonpareil, Reinette de Canada, Blenheim Orange, Werder's Reinette, were all of exceptional excellence. I might give a very long list of varieties to be seen here in good condition, but instead I have selected only those which, by their great superiority, betokened culture of commanding excellence.

One point in their management, upon which Mr. Simpson lays great stress, is pruning while the leaves are still green. This operation is here performed as soon as the fruit is gathered, so that the remaining shoots and spurs may by full exposure become thoroughly ripened. No long ugly spurs are seen on these espaliers, as proper attention to shortening and thinning is given annually; that the labour thus spent is well repaid is amply demonstrated by the good results invariably obtained.

In the vineries heavy crops of fine Grapes, finishing splendidly, show that their culture is thoroughly understood. In the frame ground several hundreds of Chrysanthemums give promise of affording an abundance of bloom during the dull months of autumn. The plants are not confined to one method of culture, as both large and small blooms are required for various purposes; specimen plants, others for supplying armfuls of cut flowers, and some for showing the size to which

blooms of the autumn queen can be grown, are each cherished for their respective merits. Planted out in a border near by is a large number of early varieties, such as Madame Desgrange, Précocité, Flora, and Sœur Melaine. These are now affording abundance of flowers for arranging in vases. Any lover of Chrysanthemums must delight in inspecting a collection thus well represented, and I venture to say that the greater the variety of forms in which these indispensable flowers are grown, the greater will be the amount of pleasure derived from them. This, too, seems to be the opinion of Mr. Simpson and his employer, W. Smythe, Esq.—H. D.

THE WAKEFIELD PAXTON SOCIETY.

MR. T. GARNETT'S EXPULSION.

ON page 152, August 15th, Mr. G. W. Fallas, the Honorary Secretary of the above Society, stated that Mr. T. Garnett, who was for many years an active and respected member of this Society, and formerly one of its Secretaries, had been formally "expelled from the Society," because he was the assumed writer of a letter in a local paper, and because he would not formally deny its authorship. We have only to remark on this that it is not customary to convict on either assumptive or negative evidence in England, and it is difficult to see how the Paxtonian judges could have had positive evidence at the time of the trial and expulsion of a member in his absence; in fact Mr. Fallas stated in his communication referred to, that the case was proved by "subsequent letters."

As intimated on page 176, August 22nd, we said if Mr. Garnett would send us a copy of the balance-sheet of the Society we would, if necessary, make inquiries on certain points at issue on matters of more than local importance. Mr. Garnett has sent the sheets. In the statement of accounts for 1893-4 we find "Subscription of £1 to the Gardeners' Orphan Fund; donation to ditto and to Benevolent Fund, £8 1s. 7d." In the balance-sheet of 1895 we find £1 credited to the Gardeners' Orphanage.

Having seen a letter from Mr. Ingram, Secretary to the Royal Gardeners' Benevolent Institution, stating that he has "never received a donation from the Wakefield Paxton Society," we wrote to Wakefield on the subject. The reply amounts to an admission that the published balance sheet is inaccurate. The explanation is that the donations to the two Institutions were entered in the accounts by a resolution passed by the Committee that whatever was realised from the sale of flowers should be "equally divided between those Institutions."

The amount stated as having been realised is entered in the 1893-4 balance £8 1s. 7d. We are informed that it was then decided to send £5 to the Gardeners' Orphan Fund, together with £5 that was set aside for the Fund in the balance-sheet of 1893, making £10. This was done, and a letter from Mr. A. F. Barron states that he received it on October 4th, with an intimation that it be entered to the names of Mr. G. W. Fallas and Mr. W. Blackburn as life members. The balance of £3 1s. 7d. from the £8 1s. 7d. is brought forward in the financial statement of the present year.

It is obvious that the £10 was not "equally divided between the two Institutions," and it is equally obvious that the balance-sheets do not accurately represent the facts of the transactions, and therefore Mr. Garnett, or anyone else, would be justified in referring to a published statement on an essentially public matter in a newspaper, anonymously or otherwise. The Committee no doubt did what was thought to be right under the circumstances, and it may be presumed that the £3 1s. 7d. forms the nucleus of a grant to the Gardeners' Royal Benevolent Institution, and it is to be hoped the next sale of flowers will be a good one.

Having published the statement of Mr. Garnett's expulsion, he is fully entitled to have the facts of the case explained; and now having also learned from him that he regards his removal as a compliment, it only remains for us to say that we shall publish no recriminatory matter from one side or the other bearing on the subject.

JUDGES' DUTIES.

I AM very well content to find my suggestions as to what judges should do in regard to possible disqualifications of exhibitors in trivial cases severely criticised. I fear, however, I am too strongly imbued with my ideas as to what should be done in such cases to alter my practice. We are constantly being told to be just before being generous. I like to temper justice with mercy, and that is my practice. Only the other day at a large provincial show I came across a class for six vegetables where the exhibitor of a long way the best produce had, under the nervous excitement of the moment of staging, put in seven. My fellow judge, a first-class man, and the Secretary both agreed that it was an unintentional error, and also that to save from disqualification, a painful punishment which some critics apparently would have revelled in, one of the vegetables was removed. I glory in having done this act of mercy. I remember a few years ago when a great competition in vegetables was taking place in London, that in one case the garden labourer sent in charge of the exhibits set up thirteen instead of twelve kinds. If I had been one of the hard-and-fast "just" sort I should have allowed the poor man and the exhibitor who sent him to have been disqualified. So far from that being the case, seeing it just in time, I called the man back and told him of his error. I do not know now whether he won or not. As to the Parsley addition, to which

"Y. B. A. Z." so critically takes exception, I thought everyone knew that the employing of this herb, for it really does not come into the ordinary category of show vegetables, for the decoration of the exhibits was universally allowed. Surely it would be absurd to take exception to a collection of vegetables because to render the exhibit tasteful Parsley dressing was used. The objection comes a long way too late.—A. D.



ROSE CLEOPATRA.

How well this Tea-scented Rose has succeeded this year. I have invariably seen it in many leading stands, where its perfect form and pleasing tint of colour—pale pink, edged bright rose—has always found admirers. Mr. Flight, of Twyford, near Winchester, who grows Tea Roses well, holds Cleopatra in high esteem, and has good reason to do so.—E. M.

BOOK ON ROSES.

WE have recently received a copy of the eighth edition of Mr. William Paul's little book, entitled "Roses and Rose Culture," published by Simpkin, Marshall, Hamilton, Kent & Co. In the preface the author states that the substance of the book originally appeared in another work, and it has been rewritten and published in a separate form by request. The book possesses the virtue of containing a large amount of knowledge in a limited space, and cannot fail to prove of value to enthusiastic growers and showers of Roses. The author deals lucidly with the culture of Roses of all kinds, soils, and climate, pruning, propagating, hybridising, and raising seedlings, and growing, gathering, and arranging for exhibition. The book closes by giving an exhaustive and varied selection of Roses suitable for various purposes, and throughout the work is full of useful and interesting information.

PREPARING STOCKS.

THE majority of amateur growers find greater pleasure when their plants are of own raising from the initial stage, so that a few practical hints may be of service now that the season for striking stocks is so near. Early in October and until the middle of November, according to the season, are the most suitable times for raising Rose stocks. This applies to Briars, the Manetti, de la Grifferaie, and Polyanthas of strong growth. If the wood is almost ripe and the cuttings inserted early, they callus at once, and generally put forth a few roots before winter arrives. This is a great advantage, as they are thus able to withstand the drying influences of frost and wind, which are often very trying to late cuttings minus any roots to draw moisture from the soil. The roots also keep the cutting in its place and have a great check upon frost lifting them. An unrooted cutting is frequently lifted by frost and "hung, i.e., the base does not touch the soil, and it becomes necessary to press the cutting down again in the spring. Where a few are wanted only, and space is a great object, it is worth while to take a little extra trouble and place some sandy compost at the bottom of the cutting. I will describe the routine.

Choose wood that is at least three parts ripened, and cut this into lengths of 9 to 12 inches. We do not make such long cuttings when striking Roses proper, but the advantage of doing so with stocks will be found when the budding season arrives, as we thus get a more roomy stem to operate upon. Let the bottom cut be close below an eye, and always cut out the lower buds before inserting the cutting. Two, or at most three, on the top are ample buds to leave. Do not let the cutting lie exposed to the air for any time, but insert with reasonable speed. In making quantities we always set them in sand, cocoa-nut fibre, or some other light material until ready to insert.

The cutting bed pays for preparation. Light soil should be made, and if at all heavy or stiff place a little old potting mould or sandy compost at the bottom of the trench. We never had better success than when the stale potting mould was sifted and mixed with a little cocoa-nut fibre. In ordinary garden loams this is not necessary, but none the less it tends towards a better take. Dig over a portion of the bed, stretch a line across, and cut down straight with a spade. Now put some of the prepared compost in the bottom, and set the cuttings firmly against the back wall of soil, pressing the bottom slightly into the sandy compost to form a more solid base, and also retain the cutting in position until more soil can be placed around it.

Three inches apart is ample for each cutting in the row, while the depth of the trench must be regulated according to the length of cutting, taking care that about an inch of this is above the soil. As the soil settles down there will be an additional inch above the surface. When the row is complete place a little of the finest soil around the bottoms of the cuttings and tread it up to them firmly, afterwards turning over more soil until sufficient space is obtained for a second row.

Eighteen or fifteen inches is a fair distance for the rows, and if we turn over the first width and set the line at the last it will allow of our cutting down the other 3 inches, drawing it towards the slight trench at the same time, and leaving a back ready for the second row of cuttings. Follow this routine until the bed is filled. When sharp weather sets in a slight sprinkle of light stable manure, gorse, or any other material to keep away the sharpest of the frost, will be a great protection against lifting and injury. Never choose those short side growths generally selected for cuttings of Roses. We want suckers in the case of Roses on their own roots, but must avoid them upon stocks. Cut the long rods of growth into several slips.

Let the bed of cuttings remain until the second succeeding spring, then lift them, trim off any roots growing up the stem, and at the same search very closely for any eyes that may have formed. Shorten back the branches at the top of the stock, and it is ready for planting to bud upon during the ensuing summer. I am aware that many insert the cuttings at a greater distance apart, and then bud them the first summer; but we cannot steer so clear of suckers in this way, nor can we possibly get the Rose worked so closely upon the base or crown of roots. With stocks we insure an even bed, can work them more efficiently, and provided we put in a few annually there is no loss of time. I will refer to the planting of stocks in another issue.—PRACTICE.

THE BOTANICAL GARDENS, EDGBASTON, BIRMINGHAM.

A VISIT to these gardens is always full of interest to all who take a delight in floriculture. Mr. Latham, evidently, is ever striving to render the various plant houses as attractive as possible all the year round by the cultivation of a variety of flowers suitable for all seasons. At the present time amongst the most conspicuous plants in the aquatic house are several of the good old *Clerodendron fallax* with its brilliant scarlet large corymbs of inflorescence which make it one of the most useful autumn flowering hothouse plants. In association with this plant are also a few well-bloomed specimens of *Ixora Fraseri*, and several tall-growing *Cannas* in a group near the edge of the circular Lily tank, which is now very gay with pink and blue *Nymphæas*. Adjoining is a fine plant of *Cycas revoluta*, which since fruiting (the female variety) some few months ago has thrown up quite a forest of new fronds. On entering the Palm house from the aquarium one is attracted by a thriving plant of *Lapageria rosea* in full flower, which lends a bit of bright colouring to the fine, tall, and healthy assemblage of Palms and Tree Ferns growing chiefly in pots and tubs; but last season several of the tallest were either lowered into the beds on which they stood, or merely turned out of the pots into mounds of suitable soil enclosed by rockery, the interstices being planted with dwarf Ferns and *Selaginella denticulata*, thus much adding to the scenic effect of the whole.

At the entrance of the large show conservatory an object of much admiration at the present time is a fine plant of the beautiful *Bougainvillea glabra* in full splendour hanging from the roof. In close proximity is a tall old *Fuchsia corymbiflora*, which has been in bloom for nearly three months past; it is a plant worthy of more extended cultivation, and not beaten by any other of the genus extant for elegance and brightness. The secret of success in its culture is to well ripen the wood, and not to prune too closely. We imagine it would be a fitting subject for the hybridist, and we are not cognisant of its ever having been tried. Healthy plants of *Datura* (*Brugmansia*) *Knighti* were on the eve of opening their white trumpet-shaped flowers. In charming rivalry with the *Bougainvillea* mentioned, "growing an' blowin'" all over that portion of the roof adjoining Mr. Latham's residence and the library, are two vigorous *Lapagerias*, *rosea* and *alba*, teeming with hundreds of pendent blooms. Evidently the phrase "Eureka" readily applies to the required treatment of its culture here, apparently simple though it be. In further regard to *Fuchsias* it was refreshing to find in one of the cool greenhouses a host of that original species *triphylla*, with its elegant, slender, bright scarlet flowers, and dark-coloured foliage. What a charming subject for introduction into "groups for effect!" The habit of the plant, however, is somewhat scraggy, but no doubt that could be improved by special treatment from the cutting state. In the same house *Gloxinias* and seedling Tuberous *Begonias* continue to make a striking effect. A plant of the neat and elegant flowering *Passiflora kermesina* claimed attention, as also did an adjoining plant of the queer-looking *Asclepiad Ceropegia Sandersoni* from South Africa.

In the Orchid house the *pièce de resistance* at the present time is a thriving plant of the Guatemalan Birthwort, *Aristolochia gigas*, exhibiting several of its immense and strange looking flowers, somewhat resembling babies' linen sun-hoods. We believe that this is as yet comparatively rare in this country; there is a large plant of it at Kew, which was taken from the Edgbaston plant as a cutting about two years ago. Orchids in bloom were not particularly in evidence, as might be expected at this season of the year. A small piece, however, of *Lycaste Skinneri*, with two racemes of its rich lemon coloured blooms, was very attractive. A comparatively small plant each of *Lælia crispa* and *Cattleya Gaskelliana*, also courted notice. In the adjoining house, reserved for "foliage" plants, such as *Dracenas*, dwarf Palms, and *Acalyphas*, a vigorous plant of the somewhat rare climber *Odontadenia speciosa* trained along a wire overhead presented several trusses of its beautiful rich, orange-yellow coloured vase-shaped flowers.

In this state it is most charming, and must rank as one of the most attractive of stove climbers; but as one for exhibition purposes its rampant growth, prior to flowering, would seem to preclude it. As usual, there is the unique group of Stag's Horn Ferns, *Platynerium stemmaria*, said to be, than which there are no better examples, even in its native clime; while growing in one corner of the Palm house is a gigantic specimen of its congener *P. alcicorne*.

The flower beds and borders in the grounds are now in resplendent array, particularly four large circular beds filled with seedling Verbenas in variety, and not an inferior one among them; especially charming are they when viewed in close proximity in bright sunshine—the effect not being nearly so good at a distance owing to the height of the plants. It was with no little reluctance that we withdrew from the scene of their chaste and multi-coloured presence. The Verbena, especially utilised in the way indicated, deserves wider recognition, and not the least of the advantages it possesses is the comparative little expense and the readiness of its culture; and we venture to assert that no other kind of “bedding” plant can eclipse them for effect in the style alluded to.

We may in conclusion remark that the recently constructed “alpine rockery” is rapidly assuming a more furnished appearance from the unrelaxing attention devoted to it by the intelligent official in charge of the alpine and herbaceous department; also scrupulous neatness and order were to be observed all over the grounds, and a most interesting scene it was to witness, on the evening of our visit, the numerous attendance of visitors dispersed over the gardens, or seated along the terrace in front of the conservatories and on the beautifully undulated lawn below, listening to the strains of a military band engaged for the occasion.—W. G.

VEGETABLE JUDGING AT SHREWSBURY.

THE writer of the report of the vegetable section of the great show recently held in Shrewsbury and published in the *Journal of Horticulture* for August 29th, page 203, has made some very strong and, to my mind, unjustifiable remarks regarding the awards, such, for instance, as “the tendency here seems to be in favour of size tending to coarseness,” which, he says, “is, of course, chiefly due to the annual judging,” adding, “it is evident that exhibitors soon learn to cater for the prevailing judging tastes, and give size the preference to what is commonly termed quality; yet even at Shrewsbury it was easy to find that there was some ‘occasional gleams of sanity’ in regard to quality, as now and then what would generally be regarded as quality apart from mere size came to the front,” adding, “but then again there would be a lapse to the other aspect, so that it was difficult sometimes to determine just which element most widely dominated.”

It is difficult to understand what state of mind your reporter was in when he penned the opening remarks of his report, unless the magnitude and excellence of the show had affected him to such an extent that he was unable to see that quality combined with fair size was the standard of excellence by which the exhibits in all the vegetable classes were judged at the late show as in previous years, and the fact that the same leading exhibitors—including Messrs. Wilkins, Pope, Waite and Milner—together with fresh aspirants to fame, submit their produce every year to the judgment and impartiality of the same judges in the open classes goes to show that they, as well as the Committee and Honorary Secretaries, have confidence in the men annually selected to make the awards. This is at it should be, notwithstanding your reporter's remarks. Regular exhibitors at the Shrewsbury Show reserve, so far as they can, their best produce for staging there, being well aware of the fact that the winning exhibits in all the classes must necessarily be of a high order in every respect.

Your “reporter” may think his introductory remarks “smart.” So they are, but if they please him they hurt nobody, unjustifiable as they undoubtedly are, so far as they relate to the four judges who made their awards in the open classes, and who can well afford their awards to be criticised by any competent and impartial onlooker. Fair criticism is generally productive of good results, and it is for the public good; but when it is indulged in for the sake of saying “smart” things and fault-finding it is to be condemned.—ONE OF THE JUDGES.

READING the comments on the vegetables exhibited at Shrewsbury, in your report of that great show, one is struck with the thought, “Did the Judges in this section of that show mistake size for quality?” By what I am told by those who were present, I am forced to the conclusion that size played an important part in the awarding of the prizes. Size is important in some vegetables—notably Onions, and he would be a bold man who would say that a bulb of Ailsa Craig Onion weighing 2½ lbs. was not superior to one of the same kind weighing but 1 lb., both in other respects being equal in merit; but he would be a much bolder individual who would apply the same test to Cauliflowers, especially when the heads were, as your report informs us, “rather burst.”

I think some judges themselves are to blame for encouraging overgrown vegetables. If at some of our large exhibitions the highest prizes were awarded to vegetables of the best quality, accompanied by adequate size, we should soon hear fewer complaints from that particular show. It is quite true that exhibitors cater for special judges at various shows that I could name. For this they cannot be blamed, as their object is to win prizes. From experience of both judging and exhibit-

ing, I know mistakes are made annually in honouring huge produce, as obviously merging on coarseness; at the same time, it is easy to err in going to the opposite extreme, in which high culture is not represented. Onions, Runner Beans, Peas, and Parsnips all must be of imposing size, but in the very best condition. Judging vegetables requires much thought, clear ideas on principles of excellence, common sense discrimination, and integrity of purpose.—E. M.

RIPENED WOOD AGAIN.

ALTHOUGH widely differing in opinion, politeness compels me to address even “Sceptic” as a friend. My opinion is that half an hour of practice is worth bushels of theory. The last time he and I met in the “Journal” he remarked I had made a bad shot. He was of opinion that the Stephanotis did not bloom from ripened wood, but from soft growth of the same season. Where does the soft growth spring from but the previous year's matured wood? the soft wood itself in due course ripening and filling dormant buds for the following season's growth and flowers. Any lad will tell you that clay is not marbles till it is hard, and fruit cannot be expected unless the wood of the trees is matured. True, the crops may fail if it is ripened, but I should have thought that most men know that late frosts, cold rains, and even excessive drought play an important part in the matter, whether the wood is ripe or not. If Apple wood will not stand baking, as another “Sceptic” terms it, let him explain how those splendid Apples are grown in Yankee-land. Certainly not from soft wood.

I now wish to ask “W. D.,” from Herts, what he means by a good crop of Grapes on sub-laterals? I do not believe the best grower in the land could prove, as a general rule, that Grapes on sub-laterals can be equal to those on the first growth from the rod or cane. Does not the success of the bunch of Grapes largely depend on the stored up nutriment in the dormant bud, which pushes fruitful growth? Surely “W. D.” knows that is so, and also that ripened wood fulfils a purpose one season to be accomplished the next.

I should like to ask the opponents of ripe wood the difference between it and ripe seed as affecting subsequent growth. Can we do without ripe seed; and if not, why not? If it is essential that seeds must be matured—the germ of growth surrounded with nutrient matter for the sustenance of the infantile plant—is it not also essential that similar matter must be stored in and round the bud of the Apple or the Vine for the purpose of healthy growth and satisfactory fruit? It would almost seem as if there were persons in the world, and who have been in it for a considerable time, who have yet to learn the meaning of the term of ripened, or matured wood. As “W. D.” seems to be of a scientific turn of mind, he will oblige by dealing with the analogy I have ventured to introduce.—J. G. PETTINGER, *Harrogate*.

BROADLANDS PARK, ROMSEY.

NOTHING affords me greater pleasure than a run into the country, living as I do near a large town; and recently I directed my steps to Broadlands Park, the home of the Right Hon. Evelyn Ashley, situated about eighteen miles from Southampton. Making my way a distance from the town of about one mile, I came to the beautiful entrance lodge, with its fine iron gates and pillars. The carriage drive from there to the mansion runs about one mile, through an avenue of fine Elms, some measuring 26 feet in circumference.

The glass structures are numerous, the majority of them being devoted to fruit culture. The vineries, four in number, are planted with Lady Downe's, Muscat of Alexandria, Madresfield Court, Black Hamburgh, and are now carrying a fine crop, well coloured and even in berry. Madresfield Court looks especially well, and shows no signs of cracking. There is a fine Fig house, in which were noticed Brown Turkey of good size. A span-roof stove contains Crotons, Palms, Dracenas, and hundreds of small table plants, all in good condition. Tomatoes are grown in abundance, Suttons' Al being the favourite.

The walled-in kitchen garden is a picture of cleanliness. Peaches, Nectarines, and Pears are an abundant crop, all the wall trees being netted owing to the great havoc played by tomtits. A bed of Hellebores, containing about 1000 plants, looked the picture of health; Lady Dorothy, Countess of Radnor, and Emily Andown Sweet Peas are much grown for cut flowers for table decoration. In a long range of pits is one entirely devoted to Cyclamens, twelve months old, in 32-pots, a fine collection of plants. Mr. Thirlby, the able gardener, makes a specialty of the conservatory, and for this purpose grows fine specimens of Azaleas, winter-flowering Zonal Geraniums, double and single Primulas, and white East Lothian Stock for winter use. Chrysanthemums are not grown for exhibition blooms, being mostly cut-backs for decorative purposes, there also being about 400 well-grown plants of Boule de Neige and Golden Gem.

Conifers did not suffer so much last winter as in some districts, and I noticed Magnolia glauca, 30 feet high, standing out in the open. The pleasure grounds are very extensive, and the lawns and flower beds now most beautiful. Not a yard of ground is wasted, and all available space under glass, as well as outdoors, is utilised. Mr. Thirlby, who has had charge for seventeen years, may be proud of the gardens; and after bidding him adieu I returned home, having thoroughly enjoyed my day's outing at Broadlands Park.—W.



WEATHER IN LONDON.—Up to the early hours of Saturday morning the weather was hot and oppressive, when a terrific thunder-storm burst over London, visiting all districts. The lightning flashes were intensely vivid, and illuminated the whole sky. Continual peals of thunder followed each other in rapid succession, and at last appeared to culminate in one huge clap, which in some parts appeared to shake the houses. Rain and hail fell in sheets, and for a considerable time the storm raged furiously. Much damage was done to crops in suburban districts, houses were flooded, trains blocked, and great inconvenience thus caused to city travellers. Many houses were damaged by flooding, and several were struck by lightning. The atmosphere since has continued oppressive, and on Tuesday night rain again fell heavily. Wednesday was cooler.

— **THE BARRON TESTIMONIAL FUND.**—A meeting of the General Committee of the above fund was held at the Hotel Windsor on Tuesday afternoon, when there were present Dr. Masters (Chairman), and Messrs. J. H. Veitch, P. Veitch, H. Turner, P. Barr, G. Gordon, R. Dean, J. Laing, H. B. May, W. Y. Baker, H. Herbst, A. W. G. Weeks, G. W. Cummins, J. Cheal, Ranger Johnson, and the Hon. Secretaries, Messrs. W. Marshall and B. Wynne. Mr. H. J. Veitch wrote accepting the post of treasurer to the fund. Several letters were read from gentlemen willing to serve on the Committee, and promising support. It was resolved to publish the list of subscribers. The amount already promised is £116 15s. A sub-committee was appointed to arrange details.

— **POTATOES AT CHISWICK.**—About seventy varieties of Potatoes in the Chiswick trials were examined on Thursday last. The tubers of many were malformed, but there was little disease. For good cropping, shape, and quality three marks were accorded for the following:—*Syon House Prolific* (Wythes'), flattish white round; *Cockerill's Seedling*, white round, prolific; "*Birmingham*," flattish round; and *Pride of Tonbridge* (Webber), raised by Mr. Bridges, a round or oval variety and great cropper.

— **SPRING-SOWN CABBAGES AT CHISWICK.**—The collection of these is large, the seed of all having been sown on May 19th. *Ellam's Early* is not good for spring sowing. *Early Nonpareil* is one of the best, and this with *Early Etampes* received marks of merit on a former occasion. Last week three marks were accorded for *Early York* (Barr) true type; *Sutton's Little Gem*, fresh and green, the best of the "*Pixie*" type; *St. John's Day*, round, green, and very crisp; *Winnigstadt*, very green, conical, late, excellent for dry soils; and *Leeds Market*, a variety of the Oxheart, and good for the purpose suggested. The hardy Christmas Drumhead required more time for development.

— **PARSLEY.**—I have seen of late three apparently distinct and all excellent varieties of Parsley, yet neither of them was the true old Treble Curled or the pretty Moss Curled. The first was a dwarf, compact, rich green variety, growing at Maiden Erleigh, Reading. Mr. Turton sows this specially in June to have a bed of it to cover over with a large frame for winter use. This was Sutton's Dwarf Perfection. At Hackwood Park Mr. Bowerman has two fine beds of Veitch's Improved Curled, a stronger growing rich green variety; and in pots at the Royal Aquarium, Westminster, were some splendid dense plants of Dobbie's Select Curled. I think in all decorative Parsleys deep colour allied to pleasing curl and compact habit is desirable.—D.

— **BRISTOL AMATEUR HORTICULTURAL SOCIETY.**—On Saturday last the members of this Society, accompanied by their President, Mr. J. Walls, F.R.H.S., and party were enabled, by the courtesy of Sir Greville Smyth, to pay a visit to the grounds and gardens of Ashton Court. The afternoon was greatly enjoyed by all present, the deer park, conservatories, winter garden, grotto, aviary, and kitchen gardens all being carefully gone through, and the many points of interest explained by Mr. Noble, the head gardener. The fancy beds on the extensive lawn were worthy of special attention, showing as they did the greatest taste in the selection and blending of the many tints and hues. Most of the party were enthusiastic amateurs, and their warmest thanks were tendered to Mr. Noble for his kind and painstaking instructions.

— **THE FRUIT SEASON** in Cheshire is the best of recent years, and the supply of all descriptions, except good Pears, Green Gages, and Plums, exceeds the demand.

— **THE ROYAL PARKS OF LONDON**, as well as the parks, gardens, and open spaces under the control of the London County Council, will be again supplied with bulbs by the well-known firm of Messrs. James Carter & Co., High Holborn, London, W.C.

— **THE STATE OF NEW YORK** has voted 16,000 dollars for the purpose of investigating plant diseases. This sum has been placed in the hands of Professor L. H. Bailey, the well known investigator of Cornell University, Ithaca, N.Y.

— **HEREFORD FRUIT MARKET.**—About 600 lots of fruit, comprising Apples and a few hampers of Pears and Plums, were recently sent to the Hereford Fruit Market for the first sale of the season. Some of the fruit was really prime, but, on the other hand, other lots were exceedingly poor. Nearly every lot was sold, but prices ruled somewhat low.

— **ROYAL BOTANIC SOCIETY.**—There is now growing in the Victoria tank of the above Society in the gardens in the Regent's Park, one of the finest plants of the Royal Water Lily ever before seen in London. The surface covered by the plant is over 400 square feet. There are ten gigantic leaves, each measuring more than 7 feet in diameter, while several of the beautiful flowers open almost at the same time.

— **AUSTRALIAN LEMONS.**—A Covent Garden sale of Lemons, just received from Australia, has attracted attention to the capabilities of the irrigation colonies of Mildura and Renmark as Lemon growing districts. Five hundred cases were disposed of at prices ranging from 9s. 6d. to 14s. 6d. per case. The variety has a thin smooth skin of pure pale colour, a very juicy pulp with but few pips, weighs heavily, and is of full average size.

— **MR. AKERS-DOUGLAS**, the First Commissioner of Works, intends, during the coming autumn, to consider how far the terrace of the House of Commons may be beautified, without being rendered too attractive, by an arrangement of shrubs and other plants, as was projected by his predecessor in office. The right hon. gentleman has already had the stone vases removed, two of which had been blown down and cracked.

— **IN the interior of Florida** the best Pine Apples are grown under a cover consisting of narrow strips of board set a few inches apart on stringers, and high enough to allow a man to walk under it. This structure is weather-boarded on the north and west sides to protect the plants from cold winds, and the cover excludes some of the hot sunshine in summer. Under this shading the flowering can be controlled to some extent, and Pine Apples can be made to ripen nearly every month in the year. They are said to be much larger and to have a better flavour than those grown in the open ground.

— **THE "BOTANICAL MAGAZINE"** for September includes the following subjects:—*Helianthus debilis* (Compositæ). This is a notice of the littoral of the Southern States of America, and is one of the annual species of *Helianthus* which all have a tendency to run into each other. The plant is hispidulous, the stem speckled with white, and the flower heads between 2 and 3 inches broad, those of the ray being bright yellow, and those of the disk a maroon brown. *Rumex hymenosepalus* (Polygonaceæ) is a native of New Mexico and Arizona. The roots of this plant have for 200 years been used by the Mexicans for the purposes of dyeing, and they are now being made the subject of experiment by the United States Government. The roots are dark red, and grow in clusters. The bisexual flowers are green, touched with crimson, and are arranged in panicles of from 3 to 5 inches in length. *Cleyera Fortunei* (Ternstroemiaceæ), a native of Japan, is a branching shrub, with brown branches and long elliptical leaves, bright green in the centre, but turning to golden yellow towards the margin, and edged with scarlet. The pale yellow flowers are small, and fascicled in the axils of the leaves. *Atraphaxis Muschketowi* (Polygonaceæ), a native of Central Asia, is a dwarf shrub, with brown branches and small leaves, the white flowers being arranged in terminal whorls. *Richardia Rehmanni* (Aroidæ) is a native of Natal. This has very much the appearance of the ordinary Arum, only the leaves are covered with greenish white blotches, and the white spathe takes a pink flush towards the edges. Mr. Adlam, who sent the plant from Natal, states that when he gathered it *in situ* on granite rocks it was as red as a Homère Rose, but that since being transplanted it has turned almost white.

— **VEGETABLE AND FRUIT SHOW AT CARSHALTON.**—An exhibition is proposed to be held on October 16th and 17th in the Public Hall, Carshalton, of a large number of varieties of Potatoes grown in various kinds of soils, and assisted by different kinds of manures in experiments conducted under the authority of the Surrey County Council, together with a display of fruit and vegetables provided by the Beddington, Carshalton, and Wallington Horticultural Society, of which Mr. G. W. Cummins is the Honorary Secretary.

— **CORK TREES FOR NATAL.**—It has been suggested that a couple of thousand young Cork trees should be imported into Natal, as the country is particularly suited to their cultivation. The same benefit is derived from the bark of the Cork tree as from Wattle, only that the trees when stripped are not destroyed, but bear another crop in about five years. In Spain the industry already benefits those who have taken it up to the tune of about half a million sterling per annum.

— **SPRAYING FRUIT TREES.**—A law has been enacted in Michigan (says "Garden and Forest") which compels the owners of fruit trees and Vines to spray them with appropriate insecticides and fungicides, under penalty of a fine not exceeding 50 dollars, or imprisonment not to exceed sixty days, or both. The evident purpose of this law is to compel negligent farmers to do their full share in suppressing injurious insects and plant diseases, a work which can only be done by co-operation. Three commissioners appointed by the select men of any township are authorised to notify farmers whenever insect or fungus pests are found in their orchards or vineyards, and if farmers fail to spray their trees or Vines the commissioners are to do the work at the expense of the town, which can recover costs from the owner.

— **TREES IN THE CITY OF LONDON.**—Within the memory of many persons, London was once, like many American cities, absolutely treeless—nothing but brick, stone, and mortar being seen anywhere. Of late years intelligent horticulture has been drawn into service, and trees and shrubs are being planted everywhere, and not merely planted but well cared for afterwards. Experts are employed especially for this purpose. A census has recently been taken by order of the London City Council—a census easily taken by reason of the expert tree men who are regularly employed to look after them. The number of trees growing in the public highways of the City of London is found to be 14,700. These are on the public highways alone, and not in the parks. This shows progress in a sensible direction.—("Meehans' Monthly" for September.)

— **THE AMERICAN APPLE CROP.**—This promises to be much larger than was anticipated early in the season. At the annual meeting of the National Apple Shippers' Association, held at Chicago last month, of which a report is given in the "National Nurseryman," it was announced that the July report of the Department of Agriculture, indicating a short Apple crop, is entirely misleading. Local information in the possession of the delegates present, representing all Apple growing States from Maine to Colorado, shows that in New England the crop is one of reasonable proportions; and in New York, while light in some districts, the aggregate exceeds last year, both in quality and quantity. West of the Alleghany Mountains the crop is declared the largest grown in any recent year, the only exception being in limited districts in Ohio and Michigan and in Wisconsin and Minnesota. Those in attendance at the meeting united in declaring the outlook to be for the largest aggregate crop of best quality in recent years.

— **A NEW vacuum process of canning fruits in glass** has lately been introduced, says "Garden and Forest," and the tin can appears to be doomed. All the deleterious gases generated in cooking the fruit, and even the air, are extracted under this new process, so that fermentation is reduced to a minimum. No solder is used, and each jar is opened by making a puncture with a penknife, after which the cover can be lifted off entire. The fruit is solid-packed—that is, a can contains 90 per cent. of fruit and 10 per cent. of syrup, instead of being two-thirds fruit and one-third syrup, as was formerly the case with tin cans. In this way there is a saving of freight charges, while the superior attractiveness and healthfulness of fruits packed in glass is evident. Formerly the use of resin, acid, solder, and hot iron scorched the syrup, and since the aperture in the top of the tin cans was so small that the fruit was often crushed and cut when being placed in the cans, the syrup was for this reason cloudy. By the new method the syrup will be clean and clear, and cheaper grades of fruit will be almost as good as the higher ones, especially where the difference is only in the size of the fruit.

— **AUSTRALIAN CIDER.**—At the Branch Bureau meeting at Upper Street, South Australia, some cider was tabled which its owner had been induced to make on account of the low price of Apples. A visitor, a native of Cornwall, stated that it was the nearest approach to the cider of that county that he had tasted. Most of the members were of the opinion that it would make a splendid summer-drink, especially when aged.

— **THE FORESTS OF ALASKA.**—The forests of Alaska, says a contemporary, get so much assistance from the atmosphere, in comparison with trees growing in drier climates, that the trees grow so close together as to be in many cases comparatively worthless for timber. *Abies Menziesi* and *A. Mertensiana*, together with a considerable sprinkling of the *Arbor Vitæ*, *Thuja gigantea*, form the bulk. Though of little service for timber they are of immense value to the natives, as from the roots of these trees they obtain fibre which they employ in making baskets, twine, and cord for many valuable purposes.

— **DESTROYING WEEDS.**—There is a law in Ohio which directs the superintendents of county or township roads to cut Thistles, Wild Parsnips, Burdocks and other noxious weeds that are growing along the highways between the 15th and 30th days of June, the 1st and 15th days of August, and the 15th and 30th days of September each year. The experiment station of that State has recently sent out a bulletin for the especial use of road officers in order to secure information as to the condition of the borders of roads and railroads, and to ascertain to what extent the law is enforced which provides for the early and repeated cutting of noxious plants. Enactments of similar character have been passed in many of the States, but we never yet have seen such a law enforced over any considerable area.—("Garden and Forest.")

— **THE OPIUM POPPY IN AUSTRALIA.**—According to the "Agricultural Gazette" of New South Wales, the true Opium Poppy can be easily and successfully grown in that country, where, in favourable seasons, the plant will flower in about fifteen weeks from the time of planting. As soon as the flower falls the capsule is slightly cut across one side in the afternoon to let out the milky juice. About four wounds are made. The next morning the milky juice will have hardened into a thin gum, which is scraped off with a blunt knife, and transferred from the knife into a clean tin vessel. The unwounded side of the capsule is operated on the following afternoon. The collected gum or opium is made into thin cakes, and carefully dried in the shade. The work of opium collection is one which can be done by careful women and children. When nothing but the seeds or heads are required the Poppy is planted broadcast and hoed out or thinned to a distance of 9 inches apart. About 40,000 heads can be gathered to the acre, and when dried they are worth about 5 dollars a thousand. The seed is rich in oil, very nutritious, with an almond flavour, and is good food for consumptives. It brings 25 cents. an ounce in Sydney.

— **OPENING OF THE WAVERTREE PLAYGROUND.**—The princely gift of the new playground at Wavertree was acknowledged in a public manner on Saturday last by a more than ordinary civic ceremony. Although the rain had been falling in torrents all the previous evening and the early part of Saturday, yet the sun came out in all its brilliance, and a finer afternoon could not well be imagined. As a proof of the splendid drainage of the land it may be stated that the grass was scarcely wet, a pleasing feature to the many thousands of children who had assembled. Luncheon was served at the Town Hall. The Lord Mayor, accompanied by members of the Corporation and the Mayors of Birkenhead and Bootle, escorted by mounted police, proceeded in state to the ground, where the opening ceremony was performed, Alderman F. Smith, as Chairman of the Parks Committee, handing the Lord Mayor a gold key bearing the following inscription:—"Presented to the Right Hon. W. H. Watt, Lord Mayor of Liverpool, on the occasion of the opening by him of the Wavertree Playground, 7th September, 1895." His lordship referred in handsome terms to the noble gift, and to the fact that the giver was capable of such great things, not at death, when he could no longer retain his wealth, but during life. A salute of artillery was a sign that the playground was open. Then followed a grand procession of school children, who enjoyed a fine programme of sports which had been arranged. In the evening a superb display of fireworks, arranged by Messrs. Brock of London, formed a delightful feature. In conclusion, it may be said that very few Liverpool gifts have been more appreciated. In the midst of a rapidly increasing population the gift is most opportune, securing as it does for all time a splendid piece of land which must prove of inestimable value to all who use it.—R. P. R.

— **WOODEN STREET PAVEMENTS.**—The wooden street pavements, says "Meehans' Monthly," have been generally abandoned in American cities, possibly from poor material being used, leading to early decay. In Philadelphia Hemlock and Pine were ignorantly employed; but the Locust of Cincinnati and the Arbor Vitæ of Toronto were not much greater successes. European cities seem to have better success. Wooden pavements are popular in London. The Blue Gum of Australia is being employed there.

— **BIRDS AND FRUIT TREES.**—All persons, says a trans-atlantic contemporary, who care to inform themselves as to the amount of protection against injurious insects which is given to our fruit trees by birds, ought to read the bulletin of Mr. E. H. Forbes, lately published by the Massachusetts Board of Agriculture. It is very plainly shown here that birds do a very useful work in destroying the eggs of many kinds of insects, and that the most dangerous pests of orchards, like canker worms, bark scale lice, and tent caterpillars, are largely held in check by our common song birds, and that one of the best ways to secure a fruit crop is to encourage birds to live in our orchards. It is very evident that the winter birds which eat the eggs of insects ought always to be encouraged to inhabit our fruit orchards, and that the summer birds which feed on larvæ are also of great value, and they should be protected and fostered until they become abundant.

— **PROGRESS IN GERMANY.**—Strong efforts are being made to promote the culture of fruit and berries in Germany. Fruit growing is now fostered a good deal by societies whose task it is to discuss the progress in this field and to help its members practically and theoretically in the selection of the qualities and the treatment of cultivation. In the neighbourhood of Frankfort there is especially the Royal College for fruit, Vine, and flower culture at Geisenheim-am-Rhein, which exercises a very beneficial influence. It organises series of lectures for the instruction of proper persons, who are trained as fruit or Vine growers or florists. It also sends round travelling teachers, who give lectures on questions appertaining to this subject, and give advice as to the most lucrative way of disposing of the fruit crops, the best methods of drying and preserving kernel and stone fruits and vegetables, the packing of the fruit, the preparation of fruit syrups, jellies, marmalade, and juices, and the preserving of the fruit. Of late special attention has been directed to the better disposal of the fruit crops, since the cultivation itself has made undoubted progress. At Frankfort a central dépôt for the sale of fruit has been founded, which offers its services gratuitously. It accepts offers from the growers and hands them on as demands arise. It likewise arranges in autumn large fruit sales, at which both supply and demand are very lively. According to last year's report of the central office, the demand exceeds the supply, especially in green nuts, Cranberries, Apricots, Peaches, Mirabelles, and Plums.—("Morning.")

— **PRESERVATION OF CUT FLOWERS.**—The mistake is very often made of exposing flowers in rooms to sharp currents of air; thus if a stand is arranged and placed near a window that is open a considerable part of the day, the flowers and foliage must of necessity fade the sooner. This caution is the more requisite when we have to do with forced flowers early in the spring; these by reason of being in flower out of their proper season, have not, as a rule that persistency of power for resisting this exposure which flowers have in their natural season. The same caution is required in dealing with tender exotics, during chilly weather especially. The better way will be to place the flowers in a position where this evil can be partially avoided, yet not in proximity to a fireplace. Cut flowers are oftentimes placed in small vases on the chimneypiece; this, when the fire is alight, is a great mistake, worse even than the exposure to the draught. In lieu of using fresh flowers in such a position, we would, says a daily contemporary, urge all decorators to furnish their vases with Everlasting Flowers and Grasses. With very choice flowers on which special value may be placed, it is an excellent plan to arrange them in a vase, which, when filled, can be covered with a glass shade. In this manner their retention of colour and freshness will be greatly enhanced. When each vase in its turn has to be refilled, some of the flowers, if necessary, can generally be used again, excepting in the summer months, when the quantity is more abundant. Those flowers that are still fresh should have a little piece taken off the end of the stem, so that the fresh water given them is the more readily absorbed. The water in which Stocks in particular, and some other flowers also, are placed is soon rendered obnoxious; in such cases fresh supplies should be given at least every other day, the vases at the same time having a thorough cleansing.

— AN American contemporary writes that there are more than half a million fruiting Peach trees in Connecticut this year, and since this has been a favourable season for northern orchards the output in that State will reach three-quarters of a million baskets of fancy fruit, and one-third of this is enough to supply the local demand. A few Peaches of the Mountain Rose variety are now ready for market, Early Crawfords are just ripening, but the great bulk of Oldmixon, Late Crawfords, Stump, and the like, will be at their best in Connecticut during the first half of September.

— **DR. LIVINGSTONE'S TREE.**—Reuter's Agency has received communication of an interesting letter, the last written by the American explorer Glave, news of whose death on the Congo was received in June last. Mr. Glave writes:—"I travelled to Ilala over a route to the north of that taken by Joseph Thomson. Whilst in Ilala I made an interesting discovery, having unearthed the veritable tree under which was placed the heart of Dr. Livingstone. Joseph Thomson's trusted follower who visited, or who was supposed to have visited the place, was an ingenious rascal, for he brought back a piece of the bark which bore some of the lettering deeply cut into it. I don't suggest at all where the treasured bark could have come from, but certainly not from the sacred tree, for on that the bark has been carefully pared off for a space of about 2½ feet square, and the following inscription has been deeply cut into the hard solid wood:—"Dr. Livingstone, May 4th, 1873, Yazusa, Mniasere, Vchopeae." It is still in a splendid state of preservation. I succeeded in taking several good photos of the tree. The tablet sent out by Mr. and Mrs. Bruce, and fixed in place by Captain Bia and Lieutenant Franqui, was screwed to a tree six miles from the real tree; the natives told them that the exact spot could not be found. Eighteen months ago this tablet was stolen by a large slave caravan under two of Salim Bm Nasur's people."—"Daily News.")

— **A LARGE OAK TREE.**—Almost alone in the orchard of a farmhouse in East Anglia, says a contemporary, and away from any frequented track of the tourist, is a famous tree known as the "Winfarthing Great Oak." From a recorded measurement in 1821, and affixed to the trunk, its girth was at the roots 70 feet, and at the branching 40 feet. The trunk is hollow inside; space is sufficient for the assembly of a small congregation. The branches must have been very large, and would cover a wide space when in its prime. To-day it is entirely clothed with Ivy. Life still exists; on some of the branches in 1892 there was considerable foliage. Local tradition gives its age at 2000 years—of course, a mere guess, but at the period of the Norman Conquest it was noted as the "Great Oak." Standing in the presence of this king of the ancient forest period many reflections are forced on one. What might not have happened beneath its wide-spreading branches? The Ancient Britons may have gathered to shout their war cries or worship their gods. The Saxons and the Danes, in their marches through East Anglia, might often have gathered their forces for rest and shade beneath the foliage of this huge forest tree. It is worth a visit now, and may be reached from the pleasant town of Diss, in Norfolk, from which place Winfarthing is distant five miles. Arriving at the village any villager will direct the tourist to the Great Oak.—J.

— **THE POTATO CROP** has in several districts been attacked by the disease, but in no instance have we heard that much damage has been done. In the principal Potato-growing districts in Yorkshire and Lancashire, where the rainfall has been sufficient to maintain a continuous growth from the appearance of the shaws above the surface until the present time the crop is very promising. In the southern and eastern counties the crop of both midseason and late kinds received a severe check from drought early in the summer, with the result that complaints are somewhat general of the deterioration of the crop from supertuberation. The Potato crop is perhaps the most speculative of the crops that are grown in the open for market. In its production the expenses are heavy, and there is a risk of losses from disease, or of low prices in consequence of the market being overstocked. In many instances Potatoes are highly profitable, while in seasons of plenty the returns fall considerably short of the cost of production and marketing. In consequence of the frequent recurrence of low prices, cultivators are giving their attention to utilising them for cattle feeding purposes; but in converting Potatoes into meat, it is necessary to proceed cautiously and carefully note the results. According to M. Aimé Girard's experiments in France, the Potato is not an economical food for cattle until the prices drop to 30s. per ton, but the experience of some persons leads them to place a higher value upon Potatoes as an article of food for farm animals.



CATTLEYA AUREA VAR. MRS. F. HARDY.

As may be easily seen from the engraving (fig. 40), this is a most beautiful Orchid and one that differs considerably from the type, having very long petals and broad sepals of an exquisite pale cream tint. A fine specimen of this superb Orchid was exhibited at a meeting of the Royal Horticultural Society on August 27th by Messrs. F. Sander & Co., St. Albans, the plant bearing three large flowers, for which a first-class certificate was justly awarded, as was stated in our issue of August 29th. The flower is faithfully portrayed in the woodcut, and the large spreading lip is exquisitely coloured with rich maroon, this shade prevailing into the throat, which is deeply veined with crimson, and the lip is surrounded with an exquisite frilling.

LÆLIA PRÆSTANS.

THIS is a splendid autumn-blooming species, which is, unfortunately, difficult of cultivation and not everywhere seen in good condition. It is a dwarf evergreen epiphyte, with short fusiform stems each bearing a single leaf. The flower spikes bear one, sometimes two, large flowers, which are deep but bright rose colour on the sepals and petals, the lip deep rich purple in front with a yellow throat, the entire flower being stiff and of good substance. As mentioned above the plants are not always happy under cultivation, and one cause of failure is giving them too much pot room. It is no use potting such species as this after the same manner as *L. purpurata* or such large robust growers, for they cannot be so cultivated. What they like is a position close to the roof glass and to be pinched for pot room, the small suspending pan now so much used for Orchids suiting them admirably.

They may be grown on blocks, but the constant attention required makes this treatment almost impossible in many places. If the pans are used, fill them nearly to the rim with potsherds, and over this place a small amount of compost, upon which wire the plants firmly. Work the compost about the roots if any with the dibber, but do not cover any of them deeply. Give just enough water to keep the moss alive and no more until the roots begin to run, and after this increase the supply. They must not be overwatered at any time, nor must they be allowed to get quite dry during winter. As soon as the compost shows the least sign of souring remove it and replace with sound and fresh material, working the old away right to the drainage if necessary.

By this means the plants may be kept in health for a number of years without repotting, which is always a check to small-growing Orchids. A good deal of variation exists in the colour of this Orchid, but all are beautiful. It may be grown in the cool end of the Cattleya house or even with the *Odontoglossums*, but the former is perhaps to be preferred. It is a native of Brazil, introduced in 1838. A beautiful and chaste variety of this Orchid is *L. p. alba*, which was exhibited by Mr. W. Bull in 1889 before the Royal Horticultural Society, who awarded it a first-class certificate. This, as the name implies, is a white form of the type, with the exception of a rich crimson blotch on the lip.

LÆLIA PERRINI.

This very useful and pretty species is now in bloom, and adds to the attraction of the flowering house at its dullest season. Although not so variable as some of the other members of this genus, there is a great difference between the best and the mildest forms. The best flower I have seen this season was a very delicately tinged variety measuring about 7 inches across the sepals. It is rather early for this to be in flower, but the blossoms are none the less welcome. Ordinary Cattleya house treatment suits it well, and no difficulty will be found in its cultivation if a few details are carefully attended to. It does not like much pot room, but delights in somewhat rough compost, the peat being broken into lumps, and plenty of crocks or charcoal being added to this and the best sphagnum. Give it a light position and encourage it to grow strongly until it blooms, after which it must be kept dormant or no flowers will be produced the next season.

This species often arrives in a dirty condition and needs much cleansing and growing before it looks really well. Still

it is one of the most easily established if treated as frequently advised in these pages for imported Cattleyas, not hurrying the plants in any way at first or allowing any compost until the bulbs are plumped up. A typical flower would have the ground colour soft rosy purple, the lip much richer in front and on the edge, becoming nearly white in the throat. From three to four flowers are usually produced on a spike, and they remain in good condition about sixteen days if kept dry in a cool atmosphere. The flowers may be left on until they fade without in any way injuring the plant, provided the latter is healthy, but if a newly imported or only semi-established piece they should be taken off as soon as the variety can be determined.

This strengthens the plants materially, allowing the pseudo-bulbs to swell to their fullest extent, whereas if allowed to remain their plumping up process is arrested at the very worst time—viz., the approach of winter. It is an easy matter to weaken these plants in the manner indicated, but quite another thing to bring them round again. Several varieties have been described, and there are many more in existence worthy of a varietal name, but not being one of the most popular it has been to a certain extent kept in the background. *L. p. alba* and *nivea* are white-flowering forms, while *L. p. superba* is a large-flowering dark coloured variety. These are all natives of the Oregon Mountains in Brazil.—H. R. R.

A SEPTEMBER EVENING IN HYDE PARK.

PASSING from the busy throng of Piccadilly into the fashionable Park Lane it occurred to us that there might be something of interest in Hyde Park. There generally is; so suiting the action to the word steps were turned in that direction, and entering at the Stanhope Gate a sight presented itself, the extreme beauty of which one would have to travel a long distance to find a superior. True, many of the features that help to make the Park a household word on the lips of all Englishmen were conspicuous by their absence. The famous London season was over; Vanity Fair looked empty and uninviting, and instead of the long lines of gaily dressed ladies sitting chatting under the trees, huge piles of green chairs indicated that they were no longer required. No high spirited steeds now pranced in Rotten Row, or stylish four-in-hands perambulated the long sweeping drives. All the gems of fashion had departed; some one way some another, perhaps to follow the grouse or partridge over breezy moorlands, to go rod in hand by the silvery stream, or to scud along on the crested waves under the yacht's white canvas. We might, perhaps, pause and wonder what has become of all those who a few weeks ago added a distinct air of animation to this, the chosen rendezvous of the aristocracy.

But surely in spite of this there is something yet remains; truly so, there is the grand old Park itself, the broad stretches of green turf, the fine avenues of timber, in which might be noticed the first faint tints of approaching autumn, and last, but by no means least, the brilliant display of plants and flowers, or in other words, the summer bedding. The early days of September may seem rather late to take notes on the condition of flower beds, and especially considering the long dry summer with the necessity of constant watering, we can hardly speak too highly of the large, varied, and truly magnificent display provided to please the eye, and appeal to the senses of all classes, high or low, rich or poor.

Strolling along in the direction of the Marble Arch one might be forgiven if for a time the attention was transferred from the flowers themselves and centred on the contrasting figures of those who had come by accident or design to admire. First a venerable looking gentleman with eyeglass poised on his nose, how intently he studies first one bed and then another, as if anxious that he should not miss a single item. Behind him come a group of happy children, content for a time to leave their gambols on the green grass hard by to admire the beauty of one bed or drink in the sweet perfume arising from another. Such expressions as "Oh, how lovely!" "Come and smell this," or "I wish we had some of these flowers in our garden," their garden perhaps comprising a few square feet of backyard space, were heard following each other in rapid succession. Then comes a City man on his way home, doubtless an enthusiastic amateur gardener too, for as he lingers to admire, out comes his pocket-book and a few notes are made. Maybe he is forming an idea for the future adornment of his own little plot in the suburbs. The British workman too, easily discerned by his dress and manner, journeys through the Park on his way home, perhaps going out of his way to do so in order that he may feast his eyes on the brightly coloured and sweetly scented flowers. Many others as they wended their way along excited curiosity; but we must pass on from the admirers to the admired.

Fuchsias may be safely termed the chief feature, and, in fact, the most effective bedding plants in the Park. By dint of careful attention an abundant display of bloom and healthy, sturdy foliage has been maintained throughout the whole summer, and even so late as the present time they present masses of gay flowers. One effective bed was formed of *Fuchsia Madame Corneillon* intermixed with the curious but attractive spikes of *Erythrina crista-galli*, on a groundwork of *Alternanthera*. Then came a pretty arrangement formed of tall *Fuchsias*, *Celosia pyramidalis*, yellow *Tiger Lilies*, and *Begonias*. The

chief thing aimed at seems to be to get as much variety as possible, and to dispense with any tendency towards monotony and flatness, and in this Mr. Brown, the able Superintendent, has obtained a large measure of success, for as we passed along everywhere was some new departure.

In one large bed a mass of yellow presented itself formed by dwarf plants of *Chrysanthemum Jardin des Plantes*, and close to was an elegant mixture of *Lilium speciosum* and *Celosias*. Further on was a sheet of white *Marguerite* bloom edged with blue *Lobelia*, followed by a pleasing mixture of herbaceous *Phloxes* and *Fuchsias* surrounded by the pretty yellow *Viola Ardwell Gem*. Very elegant, too, looked a large bed of *Erythrina crista-galli*, towering up above a groundwork of *Musk*. Elegance was also portrayed in round beds of *Coreopsis lanceolata*,

blue *Lobelia*. Several round beds of many coloured *Verbenas* were exceedingly effective, and along the whole length any idea of sameness that might arise from the long extent of flower beds is dispensed with the feathery plumes of *Humea elegans*, clumps of *Blue Gums*, *Latania borbonica*, *Bamboos*, *Eucalyptus* trees, and elegant pyramid *Fuchsias*, *Heliotropes*, and *Plumbagos*. Was there nothing to criticise in all this field for admiration? Well, some few things, perhaps, but of so little note as to be hardly worth a mention, unless we except the *Cannas*, which would have certainly looked better if there had been more flower and less leaf, though doubtless these had been brighter earlier in the season.

Arriving at the Marble Arch thoughts of "The Dell" flashed across the mind, for whoever went to Hyde Park without visiting The Dell?



FIG. 40.—CATTLEYA AUREA VAR. MRS. F. HARDY. (See page 252.)

intermixed with *Celosias* and surrounded by *Antennaria tomentosa*. As might be expected *Begonia* figure conspicuously, and several bright scarlet masses form a pretty contrast. Ivy-leaved *Pelargoniums*, too, are largely in evidence, beds of *Mrs. H. Cannell* and others of *Gallilee* all covered with excellent blooms forming quite a picture.

No less striking were combinations of scarlet *Zonal Pelargoniums* and *Mignonette*, edged with the charming little *Koniga maritima*. The beds that seemed to attract the greatest share of attention were several which, while being most attractive and harmonious in make-up, also emitted a delicious odour, and were composed of tall *Fuchsias* and Ivy *Pelargoniums*, with a groundwork of dwarf *Heliotrope* surrounded with a band of *Fuchsia Cloth of Gold*; others were formed of *Heliotrope* in pyramid form, intermixed with numberless spikes of the sweet-scented *Nicotiana affinis*, with a few *Coreopsis lanceolata*, and a marginal band of *Swanley Blue Lobelia*. Plants of *Grevillea robusta* looked very pretty in company with *Begonias* on a groundwork of *Lysimachia nummularia aurea* or the yellow *Creeping Jenny*.

Asters were flowering most profusely, and combinations of these flowers and Pheasant-foot *Pelargoniums* were much admired, as also was a mixture of *Fuchsia Madame Corneillon* and Asters edged with

and so to this we hied our steps, and were fully satisfied with the appearance of this well-known spot. The gathering gloom of evening indicated that the bright September day had nearly ended. Over the tops of the giant forest trees could be discerned the fainting glow of the setting sun; the waterfall and meandering streamlet, the playful rabbits hopping here and there, all seemed to give an air of peacefulness to the scene. And all this in London! you exclaim. Yes, truly so; for on every side of this quiet spot could be distinctly heard the dull roar of the traffic in the mighty city stretching for miles all round, but were it not for this the soothing influences of The Dell might have led us to forget for the time being that we were in the heart of London, but far away in some quiet country retreat. A most graceful effect is here formed by the tall *Dracenas*, *Bananas*, and *Tree Ferns*, contrasting pleasingly with other evergreen shrubs and the green sward beneath. Long might we have lingered, but deeper fell the shades of evening, the glorious harvest moon shed her silvery light through the canopy of foliage overhead, and the bright September day was gone, so with a lingering gaze on the placid surface of the *Serpentine* we passed with some feelings of regret outside the gates, and mingled once more with the thronging crowd in the streets.—WANDERER.



NOVELTIES AT THE AQUARIUM SHOW.

*THESE were not numerous. Madame Carmiaux, a medium-sized Japanese with drooping florets rather deeply built, colour white with centre tinted yellow, was shown by Mr. H. J. Jones, and commended. Yellow Ami Conderchet, a small yellow Pompon with short flat florets, from the same exhibitor, also received a commendation. Madame Perier Casimir, staged by Mr. Owen, was a soft shade of rosy mauve with a silvery reverse, a Japanese of small size. Notaire Groz, of the same section, was a very pretty pale coloured flower of rosy blush or flesh pink. Nearly all the others were varieties of older date.—P.

EARLY CHRYSANTHEMUMS.

ANOTHER exhibition of early flowering Chrysanthemums is over, and it would be interesting to know the honest opinion of some of the admirers of that section concerning the display at the Aquarium last week. With the exception of some pot plants in one or two of the miscellaneous groups the whole display of early Chrysanthemums was confined to a single table facing the gorgeous display of Dahlias set up by Mr. T. S. Ware. Of the contrast I will say but little, for it must have been apparent to every visitor present. The Chrysanthemums were chiefly Pompons and small varieties of the Japanese type, and their colours were utterly killed by their proximity to the brilliancy of the Dahlias, which the light of a remarkably fine September day seemed to intensify.

Another curious fact is that nearly all the earlies shown were old-established sorts. For several years past hundreds of new early flowering Chrysanthemums have been sent out by the growers, yet they never find their way in quantity to the Aquarium September show. Why should this be so? Is it that they do not bloom sufficiently early? because in that case representations should be made to the Society to alter the date. Or is it because the novelties are such veritable rubbish that nobody cares to grow them? Perhaps another reason may be found in a perusal of the schedule of prizes. Are these insufficient to ensure the attendance of exhibitors? Or, once more, are there so many gaily coloured and useful objects to be found in the garden in September that the flower-loving public do not want early Chrysanthemums at all?

I cannot help thinking that it is a mistake to exhibit the ordinary large-flowering Japanese Chrysanthemum at a September show. Blooms of such varieties as Edwin Molyneux, Mdme. Edouard Rey, W. H. Lincoln, Louise, and several others frequently seen at the November shows, must surely have been produced by some kind of artificial method to get them in such condition as they were by the 3rd September. No doubt great credit attaches to the cultivator for his skill in growing them, but ordinary visitors seem to me likely to be misled in seeing them staged so early in the season, and if these varieties were purchased and grown by the average Chrysanthemum admirer the result might be something approaching disappointment.

The best truly early varieties of the large-flowering type are unquestionably Mdme. Desgranges and its three yellow sports—Mrs. Burrell, Mrs. Hawkins, and G. Wermig. Lady Fitzwigram and a new white one called Mdme. Carmiaux also rank high. Comtesse Foucher de Careil, orange bronze; Harvest Home, a deep golden yellow suffused with crimson orange, were among the most noteworthy. Finely coloured varieties of these types seem to me to be the most needed.—CHRY.

LEIGH PARK, HAVANT.

Once more the season is at hand when notes relating to "Mums" are of special interest. I recently availed myself of an opportunity of visiting the residence of Sir F. Fitzwigram, M.P. Arriving at the gardens I found Mr. Penford, the gardener, busy amongst his Mums, now requiring so much attention. Passing on to the early vinery I found about seventy showing colour, the crown buds of new kinds being most promising. Theodora Brook has beautiful long white petals, and is a fine back row bloom. Others worthy of mention were Zelandier, Princess May, Duke of York, M. Molin, Violetta, Ada Prass, Duchess of York, and Commander Blussett. Amongst the Incurved the Queen family is represented by fine plants. The buds are what growers call "about right," the plants ranging from 4½ to 5 feet in height, with exceptionally strong growth. The Tecks were full of promise, the buds showing well. Amongst others were noticed J. Agate, M. Darrier, Refulgens, good; Lord Rosebery, M. A. Haggis, Brooklyn Gem, and R. Pitfield. Mr. Penford has never on any previous occasion had such a promise of fine flowers, and he has reason to feel proud of his 500 plants.

EMSWORTH PARK, HAVANT.

THIS is the seat of C. P. Boyd, Esq., J.P., and Mr. Woodfine, the gardener, who hails from Liverpool, is well known as a prizetaker with Chrysanthemums at many shows. He has this season 400 plants, his Japanese varieties being very good. Noticeable amongst them are W. H. Lincoln, Good Gracious, Ada Prass, Princess May, Mrs. C. E. Shea, Miss Dulcie Shroeter, and Miss Elise Teichmann. Amongst the Incurved the plants, though not large, are good, showing stout foliage and giving every promise of fine blooms, the height ranging from

4 to 5 feet. Conspicuous amongst them are Princess Beatrice, R. Parker, Lucy Kendall, Mrs. S. Colman, Baron Hirsch, Lord Rosebery, George Cockburn, and Brookleigh Gem. Taking the plants altogether they give promise of future development, and are superior to many found in places with much more convenience. Mr. Woodfine will, no doubt, be heard of later on.

HAVANT NURSERIES.

My last visit was to Mr. Agate's nurseries, at the above place, and during our walk round "Mums" was the subject of conversation. During the past five seasons Mr. Agate has gained a reputation amongst both growers and exhibitors, having taken many prizes at the National exhibitions and in the south. His speciality is "Japs," and in all he grows about 800 in 10-inch pots, on the upright or natural system, staked, and tied up to wires strained to posts, facing due south—the whole of the best and newest varieties. The plants looked promising, and will evidently repay with fine blooms for the time, care, and attention bestowed on them.

Mr. Agate does not agree with tying the leaders of the plants from about 1 foot from the bud, as he is much exposed to south-west winds; and by letting them loose he does not lose so many tops. The height of the plants average from 4 to 5½ feet. Noticeable varieties of Japanese were W. Fife, W. H. Drewett, Vere Flood, W. Ware, Dulcie Crocker, Mr. J. Thompson, Mrs. Goschen, Duchess of York, W. H. Lees, Mrs. J. R. Taylor, Abbé Mendenhall (good), Miss Bronna Foster, Mrs. J. R. Taylor, and Mr. R. B. Masters. The Incurves were full of promise, the most conspicuous being J. Agate, G. Cockburn, John Doughty, Lady Dorothy, Lucy Kendall, Lord Rosebery, Empress Eugénie, Baron Hirsch, Alfred Lyne, C. Gibson, and Madame Darrier. One large span-roofed house will be devoted to them, and by the look of Mr. Agate's plants this season he will have a fine show of bloom.—W. D.

ROYAL HORTICULTURAL SOCIETY.

CHISWICK.—SEPT. 10TH.

As the above heading shows, alterations were made in the arrangements on Tuesday, the Committees meeting at Chiswick instead of the Drill Hall, Westminster, as usual, on account of the competitive exhibition of vegetables held in conjunction. As was generally anticipated, the duties of the Floral and Orchid Committees were light, most of the work falling to the Fruit and Vegetable Committee. Vegetables were exceptionally well represented, independent of the competitive portion, and several fine collections were staged, including a large, varied, and superb exhibit, which came from the Royal Gardens, Frogmore. The chief feature in the floral department was several fine collections of Dahlias.

FRUIT COMMITTEE.—Present: P. Crowley, Esq. (in the chair); and Rev. W. Wilks, with Messrs. G. Bunyard, J. H. Veitch, G. W. Cummins, H. Balderson, H. W. Ward, J. Cheal, T. Farr, P. Veitch, W. Bates, G. Reynolds, and J. Wright.

Tomato Frogmore Golden was sent by Mr. Owen Thomas, a plant bearing splendid fruits; also excellent fruits of Frogmore Prolific Cucumber. Both varieties were referred to Chiswick for trial. Mr. F. W. Burt, The Red House, Worthing, sent a box of Burt's Surprise Tomato, a small crimson variety of excellent flavour, which was referred to Chiswick for trial. Mr. G. Wythes, Syon House, sent plants of his new *Northumberland Prolific Dwarf Kidney Bean*, a great bearer of fine pods (award of merit).

Mr. Councillor A. J. Ward sent a fine dish of Chemin Rouge Tomato, grown on his allotment at Richmond. The Councillor is a fine type of a genuine working man, and was awarded a bronze Banksian medal. Mr. Miller, gardener to Lord Foley, sent a fine fruit of his Melon Archie Henderson, but it was not in good condition. Mr. H. W. Ward sent fruits of his Melon *Earl's Favourite* from Longford Castle, a netted fruit, pale green flesh, and of splendid quality. The best Melon of the year (first-class certificate). Mr. J. Corbett, gardener to the Marquis of Normanby, Mulgrave Castle, Whitby, sent two Melons, but no award was made.

Mr. G. Bunyard sent a fine dish of the Swedish Apple Akera, very ornamental, but hard in the flesh; also a dish of Lady Sudeley, splendid fruits (cultural commendation). Mr. C. Webster sent a dish of Gordon Castle Seedling, a very large greenish yellow Plum, a freestone, over-ripe; to be seen again; also a smaller Plum, No. 3, a delicious Plum, but a clingstone, and passed. Mr. J. Hudson, Gunnersbury House, Acton, sent a dish of Quatre Saisons Strawberry, presumably for showing its prolonged bearing character (vote of thanks).

Mr. Rivers sent samples of Marshall's Seedling Apple, a good sized striped and handsome looking fruit; also beautiful specimens of Cox's Orange Pippin (cultural commendation). Mr. Cummins, gardener to A. H. Smee, Esq., sent fruits of *Remborough* Apple, a very large late Apple, and tree a great bearer. It is similar to one of the Rambour Apples grown on the Continent (award of merit). Mr. Wilkins, gardener to Lady Theodora Guest, sent fruits of the Mango grown at Inwood House, and a cultural commendation was unanimously awarded. Sutton's *A1 Scarlet Runner Bean*, which received three marks of merit in the trials, was granted an award of merit. It is an enormous bearer of dark green fleshy pods. A similar award was granted for Wythes' *Syon House Prolific Potato*.

Very large collections of vegetables and fruit were exhibited. Messrs. Sutton & Sons had a most imposing collection, including a remarkable display of Tomatoes, most other vegetables for which the firm is famed

being also strongly represented (silver-gilt medal). Silver-gilt medals were also awarded to Mr. Owen Thomas for a very large and beautiful trophy of vegetables, also to Sir Trevor Lawrence, Bart., for a collection, including an unusually large number of kinds and varieties.

Mr. Hudson sent a collection of seven dishes of Peas and samples of Sutton's Favourite Cabbage Lettuce, all very fresh and good (cultural commendation). Messrs. Spooner & Sons, Hounslow, arranged a large and excellent collection of Apples, also some Plums (silver Knightian medal). Mr. Pope sent from Highclere Tomato plants from the open ground, roped with large fruits (vote of thanks). Messrs. R. Veitch and Son, Exeter, had a large display, including their Running French Bean, and were awarded a silver Knightian medal. A similar award was granted to Messrs. Cannell & Sons for an extensive assortment. Messrs. Barr & Son sent thirty dishes of Tomatoes, an interesting collection; also specimens of Kales, and were adjudged a silver Banksian medal.

Messrs. Dobbie & Co., Rothesay, exhibited Parsley, Leeks, and Parsnips, all in first-class condition (bronze Banksian medal). Mr. Wythes had an extensive display of sixty varieties of vegetables, in excellent condition for family use (silver-gilt medal). Messrs. James Veitch & Sons, Chelsea, covered the greatest length of tabling with representative collections of practically all kinds of vegetables in the best of condition (silver-gilt medal). Messrs. Laxton Brothers had heavily bearing plants of Tomatoes in very small pots, and were accorded a vote of thanks. Messrs. Fellowes & Ryder, Orpington, sent twenty-four dishes of Duke of York Tomatoes (silver Banksian medal). Mr. Empson, Ampthill House, Ampthill, exhibited an excellent collection of Carrots, for which he was awarded a cultural commendation, and a vote of thanks was awarded to Mr. E. J. Johnson, Hanger Hill, Ealing, for Mushroom spawn.

FLORAL COMMITTEE.—Present: W. Marshall, Esq. (in the chair); with Messrs. C. E. Pearson, Chas. Jefferies, J. H. Fitt, R. Dean, W. Bain, G. Stevens, G. Gordon, J. Laing, Jas. Walker, Robert Owen, Harry Turner, J. Jennings, George Paul, J. Fraser, H. Herbst, J. T. Bennett-Poë, Ed. Mawley, and I. D. Pawle.

Messrs. J. Cheal & Sons, Crawley, sent a bright and varied collection of Dahlias, including singles Mrs. Harris, Northern Star, Miss Glasscock, Formosa, The Bride, and others; Pompons Rosebud, Annie Holton, Goldfinch, Cecil, Sunshine, and Arthur West; Cactus Mrs. Gordon Sloane, Mrs. Wilson Noble, Blanche Keith, Gloriosa, and Delicata, together with many fine show blooms (silver Flora medal). Mr. W. Salmon, West Norwood, staged a good collection of hardy flowers and Dahlias, together with fine blooms of French and African Marigolds and Zinnia elegans (silver Banksian medal). Messrs. Robert Veitch & Son, Exeter, sent blooms of *Nemesia strumosa* Suttoni. From Mr. J. Hughes, Stoke Park Gardens, Guildford, came flowers of new Sunflower Stoke Park Favourite.

A pleasing collection of Roses came from Messrs. William Paul and Son, Waltham Cross, who staged good examples of *Eclair*, Countess of Pembroke, La France, Ulrich Brunner, A. K. Williams, Mrs. John Laing, Madame Eugène Verdier, Marie Van Houtte, Viscountess Folkestone, Duke of York, Grace Darling, White Lady, Madame Hoste, Gloire de Dijon, William Allan Richardson, and Madame Victor Verdier (silver Flora medal). Mr. Charles Turner, Slough, was represented by a pleasing exhibit of Dahlias, which included *Endymion*, *Beatrice*, *Norah*, *Zoe*, *Ixion*, *Madeline*, *Claribel*, *Ganymede*, *Vulcan*, *Rosamond*, *Dante*, *Barbara*, *Marjorie*, and blooms of the Cactus variety Mrs. Charles Turner. Mr. J. T. West, Brentwood, sent flowers of Cactus Dahlias Miss A. Jones, Minnie, Emily French, Mabel Keith, Miss Nightingale, and Miss Ethel.

A fine collection of Fancy and Cactus Dahlias came from Mr. S. Mortimer, Farnham, who staged, amongst the former, *Perfect*, *Arthur Ocock*, *John Hickling*, *James Cocker*, *John Forbes*, *Rebecca*, *Dorothy*, *Buttercup*, *Majestic*, *Duchess of Albany*, *John Walker*, *Maud Fellowes*, and *S. Mortimer*; and amongst the latter, *Lady Penzance*, *Countess of Radnor*, *Delicata*, *Apollo*, *May Pictor*, *Beauty of Arundel*, *Matchless*, and *Bertha Mawley* (silver Flora medal).

A large area of space was occupied by Mr. T. S. Ware, Tottenham, who sent a fine exhibit of Dahlias of all kinds. Amongst the Pompons were noticed *Sunshine*, *Eva*, *Fairy Tales*, *Hector*, *Revenge*, *Janet*, and *Eurydice*; Cactus, *Gloriosa*, *Countess of Radnor*, *Ernest Cannell*, *Delicata*, and *Blanche Keith*, and also superb blooms of the decorative and single sections (silver-gilt Banksian medal). Mr. W. Batchelor, Harefield Park, Uxbridge, sent flowers of single Dahlias Mrs. Gore Langton, Harry Vernon, and decorative Dahlia Willie Batchelor. From The Royal Botanic Gardens, Glasnevin, came blooms of *Kniphofia hybrida*. Messrs. Paul & Son, Cheshunt, sent flowers of double striped Zinnias. A pleasing exhibit of decorative Dahlias, tastefully arranged in epergnes and baskets, was shown by Miss Hudson, Gunnersbury House, Acton, and was much admired (silver Banksian medal).

Messrs. Barr & Son, King Street, Covent Garden, sent a large collection of hardy flowers, conspicuous amongst which were fine *Phloxes* and *Pyrethrums*. Conspicuous in the former were *Bayadere*, *Erebus*, *Faust*, *Etna*, and *Leonardo da Vinci*; and the latter *Diana*, *Progress*, *Dr. Livingstone*, *Prince of Wales*, *Hamlet*, and *Snowball* were conspicuous. Asters were also staged in variety (silver Flora medal). Mr. A. Waterer, Woking, sent a collection of *Abies* (silver Banksian medal).

ORCHID COMMITTEE.—Present: H. J. Veitch, Esq. (in the chair); with Messrs. Jas. O'Brien, Jas. Douglas, H. J. Chapman, and H. M. Pollett.

Orchids were only sparsely represented. Messrs. Jas. Veitch and

Sons, Chelsea, sent a few plants, which included *Lælio-Cattleya Clonia superba*, and several *Cypripediums*. Mr. G. W. Cummins, gardener to A. H. Smee, Esq., sent blooms of *Cattleya Hardyana*; and from the Royal Botanic Gardens, Glasnevin, came flowers of *Maxillaria striata*. Mr. J. Cliffe, gardener to H. Shaw, Esq., Asbton-under-Lyme, sent a *Cypripedium*, said to be a cross between *C. Boxalli atratum* and *C. Lawrenceana*.

CERTIFICATES AND AWARDS OF MERIT.

Apple Remborough (A. H. Smee, Esq.).—A large late Apple, of good quality and free bearer (award of merit).

Bean A1 Scarlet Runner (Messrs. Sutton & Sons).—An enormous bearer, with dark green fleshy pods (award of merit).

Bean Dwarf Kidney Northumberland Prolific (Mr. G. Wythes).—This appears to be an excellent Bean, being a heavy bearer of fine pods (award of merit).

Cypripedium Carnusianum, *Veitch's variety* (Messrs. J. Veitch and Sons).—This is a result of a cross between *Cypripedium Haynaldianum* and *C. Spicerianum*, in which the character of the latter can be seen in the dorsal sepal, while the pouch is of a chocolate brown (award of merit).

Dahlia Single Mrs. Gore Langton (Mr. W. Batchelor).—A pretty distinct variety of light crimson, with broad ring of deeper shade round the centre (award of merit).

Dahlia Decorative Willie Batchelor (Mr. W. Batchelor).—This is an improvement on W. T. Aberly, being a pleasing striped variety with perfect florets (award of merit).

Dahlia Pompon Rosebud (Messrs. J. Cheal & Sons).—This is a delicately tinted flower of shapely habit (award of merit).

Dahlia Cactus Mrs. Wilson Noble (Messrs. J. Cheal & Sons).—A good shaped flower of a deep rich salmon shade of colour (award of merit).

Dahlia Pompon Zoe (Mr. Charles Turner).—A pretty showy Pompon, of decided canary yellow tint (award of merit).

Dahlia Pompon Madeline (Mr. Charles Turner).—This is an attractive flower, the petals being pale yellow primrose edged with light rose (award of merit).

Dahlia Pompon Ganymede (Mr. Charles Turner).—A pretty flower, with buff petals lightly shaded with mauve (award of merit).

Dahlia Pompon Claribel (Mr. Charles Turner).—This flower has a pale ground heavily edged with rose (award of merit).

Dahlia Cactus Miss A. Jones (Mr. J. T. West).—This is a fine bright scarlet variety of good substance (award of merit).

Dahlia Cactus Miss Nightingale (Mr. J. T. West).—A bronze-red variety shading to yellow at the base of petals (award of merit).

Lælio-Cattleya Clonia superba (Messrs. Jas. Veitch & Sons).—This is a beautiful Orchid, being the result of a cross between *Lælia elegans* Turneri and *Cattleya Warscewiczii*. The sepals and petals are of pale magenta purple with lip of a deep rich purple slightly streaked in the throat (first-class certificate).

Lælio-Cattleya Eunomia (Messrs. J. Veitch & Sons).—The parentage of this variety lies in *Cattleya Gaskelliana* and *Lælia pumila* Dayana, in which the character of both is indicated. The petals and sepals are pale purple, and the lip of a deeper shade shading to a light golden orange (award of merit).

Lælio-Cattleya Parysatis (Messrs. J. Veitch & Sons).—A pretty dwarf hybrid between *Lælia pumila* and *Cattleya Bowringiana*, with flowers about 3 inches across, pale lilac purple with rich purple apex to the white-throated lip (award of merit).

Melon Earl's Favourite (Mr. H. W. Ward).—A fine netted fruit with pale green flesh of splendid quality (first-class certificate).

Phlox Leonardo da Vinci (Messrs. Barr & Son).—A good large-flowered variety, white in colour, blooms centred with deep rose (award of merit).

Sunflower Stoke Park Favourite (Mr. J. Hughes).—This is a fine medium-sized flower and very attractive, the black centre contrasting pleasingly with the rich golden yellow ray florets (award of merit).

THE COMPETITIVE VEGETABLE SHOW.

PRIZES were offered in forty classes for vegetables, in many of which the competition was keen and the quality of high order. The main feature in the show was the collections, many excellent exhibits being staged in competition for the premier prizes.

A superb exhibit staged by Mr. T. Wilkins, gardener to Lady Theodora Guest, was an undoubted first in the class for a collection of twelve distinct kinds of vegetables. The exhibit included Ailsa Craig Onions, Lyon Leeks, Autumn Giant Cauliflowers, Matchless Carrots, Pragnell's Beet, White Giant Celery, Goldfinder Potatoes, Ne Plus Ultra Runner Beans, Perfection Tomatoes, and Autocrat Peas. Mr. Bowerman, gardener to C. Hoare, Esq., Hackwood Park, Basingstoke, was a good second; and Mr. Basill, gardener to Rev. C. L. Powels, Weybridge, third.

Mr. Waite, gardener to Colonel the Hon. W. P. Talbot, took the highest award in the class of nine distinct kinds for prizes offered by Messrs. Sutton & Sons, Reading, staging Sutton's Autumn Mammoth Cauliflowers, Snowball Turnips, Exhibition Onions, Perfection Marrowfat Peas, Perfection Tomatoes, New Red Intermediate Carrots, Prizewinner Runner Beans, Satisfaction Potatoes, and Solid White Celery. Mr. W. J. Empson, gardener to Mrs. Wingfield, Ampthill, Bedford, followed with the second prize. Mr. Kneller, Basingstoke, was first with six kinds of vegetables, staging Sutton's Perfection Tomato, King of Cauliflowers, New Red Intermediate Carrot, Windsor Castle Potato, with Ailsa Craig

Onions and Red Celery.—Mrs. Lloyd, Chiswick, was second, and Mr. G. North, Buckingham, third.

Mr. W. J. Empson was first with three Cauliflowers, staging Carter's Autumn Giant; second Mr. Pope, gardener to the Earl of Carnarvon, Newbury; and third Mr. R. Mairs, gardener to Sir J. Shelley, Crediton. Mr. Wythes, gardener to Earl Percy, Syon House, was first with three Borecoles, staging fine examples; second Mr. Pentney, Isleworth. A good dish of Brussels Sprouts, staged by Mr. Bowerman, was awarded first prize, followed by Mr. Pope and Mr. M. Webster, gardener to E. J. Preston, Esq., Beckenham, second and third.

Mr. Empson had the best Spinach, and Mr. Mairs was first with Marrows, followed by Mr. R. Lye, gardener to Mrs. Kingsmill, Newbury, and Mr. Wythes second and third in the above order. Mr. Lye staged the best Cucumbers, the second and third places being taken by Mr. Waite and Mr. Empson in the order named. Mr. Pentney was first with twelve roots of Scorzonera, and for Salsafy Mr. Waite took the highest award. The first prize for Runner Beans was awarded to Mr. R. Lye, second Mr. Bowerman, and third Mr. Mairs. Mr. Bowerman was to the front with Dwarf Beans, followed by Mr. Ward, Longford Castle, and Mr. Wythes second and third. The best Broad Beans were staged by Mr. R. Lye, Mr. Bowerman taking the second place, and Mr. Waite the third. Mr. W. Palmer, Andover, was a good first with a dish of Peas, followed by Mr. Ward second, and Mr. Wythes third. Mr. J. Wilkins had the best Globe Artichokes, and for Cardoons Mr. Wythes was first.

Potatoes were well shown. Mr. Pope took the first prize with three dishes of kidneys, followed by Mr. Bowerman second, and Mr. Waite third. Mr. Pope also took the highest award with three dishes of round Potatoes, Mr. Mann winning the second award, and Mr. G. North the third. The first prize for a single dish of kidney Potatoes went to Mr. Lye; second, Mr. G. North; and third, Mr. Webster. Mr. G. North had the best single dish of round Potatoes, followed by Mr. R. Lye and Mr. Empson second and third. Mr. R. Lye took the first prize for Leeks, staging Prizetaker; Mr. Mairs was second, and Mr. Pope third. Mr. Waite had the best dish of Onions; Mr. Mairs being second, and Mr. Ward third. Mr. G. North showed the best Turnips in three varieties; followed by Mr. Osman, Sutton, second, and Mr. Empson third. Mr. Waite was first with Turnips in one variety; Mr. R. Lye second; and Mr. Empson third.

Mr. Pentney had the best Jerusalem Artichokes, and for three varieties of Carrots Mr. G. North was first, Mr. Pope second, and Mr. Empson third. Mr. Mairs took the first prize with a dish of Carrots of one variety, showing Veitch's New Intermediate, Mr. J. Wilkins was second, and Mr. Bowerman third. Mr. R. Lye was first with Parsnips, and Mr. Waite second. Mr. Waite had the best Horseradish, and with Beet Mr. Webster was first and Mr. Waite second; the last named exhibitor also staged the best Endive. Mr. Lye had the best Lettuce, and for Celery Mr. Wilkins was first, followed by Mr. Waite and Mr. R. Lye, second and third. A tasteful exhibit shown by Mr. Wythes took the first prize for a collection of salads, the whole being shown effectively in a flat hamper; Mr. Waite was second, and Mr. Salmon third, the latter also showing the best collection of herbs.

A TRIP TO TRENTHAM AND KEELE HALL.

THE members and their friends belonging to the Sutton Coldfield branch of the Birmingham Gardeners' Mutual Improvement Association recently paid a visit to the above notable establishments. The party naturally, on arriving at Trentham Station, inspected these celebrated gardens first, and over which they were courteously conducted by Mr. Peter Blair, the head gardener. Naturally, those of the visitors who had never seen this princely establishment before, were much impressed by architectural style of the classic mansion in conjunction with the spacious flower garden of about 10 acres in extent, and supported by the beautiful lake of 80 acres, the latter flanked by the finely wooded bold escarpment on its western side, whilst the lower end of the lake is fringed by a continuation of the wood, the massive proportions of which clothe the heights of Hanchurch Hill to its very summit. The hill is crowned on its crest by a fine high statue of the first Duke of Sutherland, the great-grandfather of the present Duke, after Sir Francis Chantry. It is elevated on a lofty column, and was erected by a mourning and grateful tenantry. The noble flower garden, enhanced by specimens of fine statuary, and notably the famous and costly one representing "Perseus and Medusa," is situated on the terrace at the head of the lake, and a fine view is obtained of the extensive and beautiful grounds bounding its southern side, and to which extensive additions have recently been effected under the able supervision of Mr. Blair, it being the desire of the noble proprietor and his Duchess to restore the gardens and grounds to their original order and beauty.

The visitors were also much struck with the village of glass structures, and more particularly the noble old conservatory with its ridge and furrow roof, now embellished principally with Palms, Bamboos, and arboreal Ferns, in place of the grand old specimens of Camellias, Acacias, Correas, Epacrises, Rhododendrons and climbers, with which the writer was intimately acquainted upwards of forty years ago, when he "matriculated" under the then presiding genius, the late Mr. George Fleming, the inventor of the famous fruit glass cases or corridors, and extent of which astonished the visitors, independently of the excellent crops of various kinds of bardy fruits. Yet another source for wonder and admiration was the immense array

of Chrysanthemums in pots, all in most robust health and vigour, and presaging as they did "high honours" on the forthcoming exhibition tables. The young gardeners' new residential apartments also came in for a share of appreciation, and in proximity to the head gardener's residence was observed a fine and vigorous specimen of the "Umbrella Pine" (*Sciadopitys verticillata*) about 6 feet in height. Unfortunately the principal apartments in the mansion were undergoing the process of renovation, otherwise the party would have been admitted.

At the close of their long peregrination through the gardens the visitors invited Mr. Blair to an excellent lunch with them at the well-appointed Trentham Hotel, where a hearty vote of thanks was proposed by Mr. T. B. Grove, the conductor of the party, to Mr. Blair for his kindness in devoting so much of his valuable time to their interests, and seconded by Mr. W. Gardiner in eulogistic terms, especially as to evidence of the excellent keeping and general management everywhere apparent in the establishment under the supervision of Mr. Blair, including also the long-looked-for pleasure it gave him once more to visit, after an absence of nearly half a century, this scene of his earlier "prentice" days. Mr. Blair, in thanking the visitors for their kind appreciation of his welcome services, remarked that it was rendered additionally pleasurable to him by the presence of the seconder of the vote of thanks as an old "Trenthamite," and of whom he only knew by name as "an old hand" in the annals of gardening, and whose reminiscences and anecdotes of Trentham in the days of yore had much interested him. The visitors afterwards departed for Keele Hall, about five miles distant, the beautiful seat of Ralph Sneyd, Esq., in a "brake" engaged for the occasion, passing on their way by the splendid carriage approach to Trentham, with an Italian lodge on each side of the beautiful entrance gates, said to be one of the finest approaches in Europe.

After an interesting drive, chiefly of an uphill nature, and a short route through the pretty park at Keele, the party were joined by Mr. Wallis, the well-known head gardener, who pointed out the various objects of interest about the well-kept grounds, a most notable one being the celebrated Holly hedge. It is 200 yards long, 24 feet in height, about 20 feet wide at bottom, and about 6 feet at the top. At the north-west corner is a beautiful metal gate, glazed with strong glass, to check the currents of wind from full force along the broad gravel path running alongside the hedge, which was a favourite walk of the late Mr. Ralph Sneyd. Another arboreal object of importance and much admired by the visitors was the splendid avenue, about 400 yards long, of fine old Spanish Chestnuts. Several fine specimens of Conifers, notably a Deodora Cedar, also came in for a share of attention, including the "rockery" and fernery. From one part of the grounds is obtained a fine view of the Wrekin and the Welsh mountains. Altogether the noble trees and scenes enumerated so much impressed some of the visitors, that in comparison with the scenic attributes of Trentham they preferred the former, but the geographical positions of the two places are so diametrically opposed that the comparison is rendered almost invidious, Trentham being in a great measure essentially artificial in the character of its grounds and low lying, whilst Keele is very elevated and more natural.

The mansion, which is a beautiful piece of workmanship, built chiefly with a hard pink sandstone found on the estate, relieved with white Hollington stone, was erected in the time of the late Mr. Sneyd. It is embellished by a pretty flower garden at the south front with a fountain in the centre, which was duly admired.

A run through the glass bowers and well furnished fruit and vegetable gardens excited much interest, good crops of Grapes, very fine Peaches and Nectarines, and a fine tree of Negro Largo Fig were admired, proving altogether that Mr. Wallis is a worthy successor to the celebrated Grape grower, the late Mr. W. Hill, whose name in connection with prize Grapes was so synonymous that to mention one was to recall the name of the other.

At the conclusion of the delightful visit to this far-famed demesne, and an expression of hearty thanks to Mr. Wallis for his obliging and courteous attention, the party returned to Trentham Hotel well prepared for the substantial tea laid before them, prior to the return home, thoroughly satisfied with their "outing."—A PILGRIM.

RAISING AND PREPARING VINES FOR PLANTING.

I AM no stranger to the old method of growing and preparing Vines for planting, and whether the believers in the 3-inch pot system be few or many is not the point at issue. I have stated a few plain facts, which are capable of speaking for themselves. My experience has long since convinced me of the fallacy of preferring Vines in large pots for planting. I am aware that many gardeners are rapidly changing their views on this subject and adopting a more rational system. The value of Vines for planting is not to be estimated by mere bulk. Such Vines as "A Grape Grower" refers to, page 206, in "2½-inch pots," bristling with hundreds of healthy fibres, I should certainly prefer to Vines grown in 10-inch pots, with their long bare fibreless roots.

Mr. J. Thomson asks if Vines planted in August out of 3-inch pots produced so much with Mr. Innes, how much more ought such Vines as those of which Mr. D. Thomson sent the Editor a sample to produce also under Mr. Innes? I have no doubt Mr. D. Thomson's Vines would have done well, and would have made far superior canes than they did by the end of the first season, had they been planted in August instead of the following spring, and would have been capable by the

time Mr. Thomson planted them of carrying and maturing a crop of first-class Grapes. Thus a season would have been gained. Surely the gain of a season is a matter of no small importance, especially in these days of keen competition, and one which I believe most practical men will be ready to embrace.

I heartily agree with Mr. J. Thomson that we want the truth and nothing but the truth, and I also hope we may enter into these discussions with unbiased minds, and then we may be certain that beneficial results will follow.—W. INNES, *Derby*.

A SWEEPING MACHINE.

A WANT has long been felt for a machine which would save the lengthy and tedious process of sweeping by hand, and Messrs. Ransomes, Sims & Jefferies, Ipswich, have catered for that want, being responsible for the subject of the engraving (fig. 41). Nothing improves the look of a lawn so much as to have it kept cut and well swept, and in the autumn, when no cutting is being done and leaves are falling, sweeping is still more important. This new sweeping machine is made in two sizes—one for hand power, as shown in the engraving, for gardens, which can be worked by two men; and one for horse power, suitable for parks and pleasure grounds, which has a special arrangement for delivering the leaves and rubbish. The action of the machine is as follows:—A rotary sweeper fitted with four brushes and four indiarubber flappers (the full width of the machine) is driven by chain gearing from rollers behind. The brushes, thus revolving rapidly, and just touching the grass, sweep everything up and into a receptacle behind, and the action is such that leaves, stones, Fir cones, needles, as well as worm heaps, paper, and other rubbish are gathered up.

One particular feature of this invention is that, by the introduction of rubber flappers round the front edge of the machine and by the use of the rubber flappers in combination with the brushes, a current of air is created, which greatly assists in delivering the leaves into the collecting box. In the hand machine the receptacle for the leaves is easily removed by being drawn out from the slides which keep it in position. In the horse power machine the collector when full is easily tipped up by the hand lever which, at the same time, opens the lid on top of machine and the door at the back, and deposits the contents in a heap on the ground. The brushes can be set the required height according to the nature of the ground by altering the position of the front wheel, and they can be adjusted as they wear. The machine is well balanced, so that it can easily be handled, and being fitted with a swivel wheel in front can be turned in the shortest possible space. Messrs. Ransomes, Sims & Jefferies have received testimonials testifying to the usefulness and adaptability of the machine for sweeping purposes, and amongst others it has been highly spoken of by Mr. Norman, gardener to the Marquis of Salisbury, Hatfield, and Mr. G. Taylor, gardener to Lord De Saumarez, Shrubland Park.

ENGLISH ARBORICULTURAL SOCIETY.

THE above Society held its eleventh annual excursion on the 28th, 29th and 30th of August, the district chosen being Kelso and neighbourhood. Rapid progress has been made during the last few years both in membership and the general tone and status of the Society and the high class papers testifying on arboriculture, which the last transactions fully bear out. The financial affairs are also well managed, and there is a good balance in hand. The members of the Society last year visited the Dukeries, a most profitable excursion, and this year they chose Scotland; in fact in the future there is no district where arboriculture is represented where they do not intend to be present. They have also empowered local secretaries to arrange excursions in their own district. This has so far been very successful and encouraging to foresters who may find the long distances from home rather expensive; a monthly journal is also talked about. So that it is apparent the Council of the Society are determined that what is interesting in forestry in this country shall be developed and brought out.

The party numbered about seventy, one section coming from Newcastle and the other from Hexham in saloon carriages. Both met at Kelso about 5 P.M., the Cross Keys Hotel being the headquarters during the Society's stay. After tea on Wednesday the party was invited to inspect Messrs. Laing & Mather's nursery, where a pleasant hour was spent in viewing the fine collection of forest trees and Carnations for which this firm is noted. After that the business meeting of the year was held, the financial statement passed, the papers on forestry during the year announced, and awards of the Judges given. The President, J. Maughan, Esq., was in the chair, supported by the following Vice-Presidents:—Messrs. J. Watt, Wm. Fell, and Bernard Cowan, F.R.H.S.; the Secretary and Treasurer, Mr. J. Davidson, Haydon Bridge; J. Ross, Hexham; J. Brown, Hexham; Mr. Watt, jun., Carlisle; Mr. Herd, Penrith; Mr. Armstrong, Newcastle; Mr. J. M. Smith, South Shields; Messrs. Thomas Vasey, Jos. Graham, Dr. Turnbull, Chris. March, all of the same place; and Dr. Stewart, Hexham.

On Thursday morning, after an early breakfast, the party entered carriages punctually at 9 A.M., to commence the programme of the

excursion. After an hour's most pleasant drive Mertoun was reached, the seat of Lord Polswarth, who is a relative of Sir Walter Scott, and known on the borders as a learned agriculturist. His Lordship met the party, and along with his head gardener (Mr. Fowler) showed them everything interesting on the estate. Five of the first Larches ever imported to Scotland were pointed out, one of which was in quarter girth 3 feet 2 inches 5 feet from the ground, and its height 65 feet. There was also pointed out a fine Cedar of Lebanon, sown in 1800, and which is 10 feet 6 inches in girth. On the home farm is an admirable English Elm, 4 feet 6 inches in quarter girth. Limes, Oaks, and Chestnuts are also typical examples of forest trees; there is also an old tree called the "Gospel Sycamore," under which old Covenanters met 200 years ago. Near to the gardens is a fine Ash, 60 feet in bole; and a curious stone pigeon dovecot, dated 1576. Fruit trees everywhere were laden, and though only scanned, it was apparent they were ably managed by Mr. Fowler. The shorthorn cattle were then visited, of which his Lordship possesses a most superior herd. Then the order for the carriages was given, and the fine flock of Leicester sheep had to be missed.

DRYBOROUGH ABBEY.

The above, which is the burial place of Sir Walter Scott, is an enchanting old ruin, and deeply interesting to visitors and admirers of

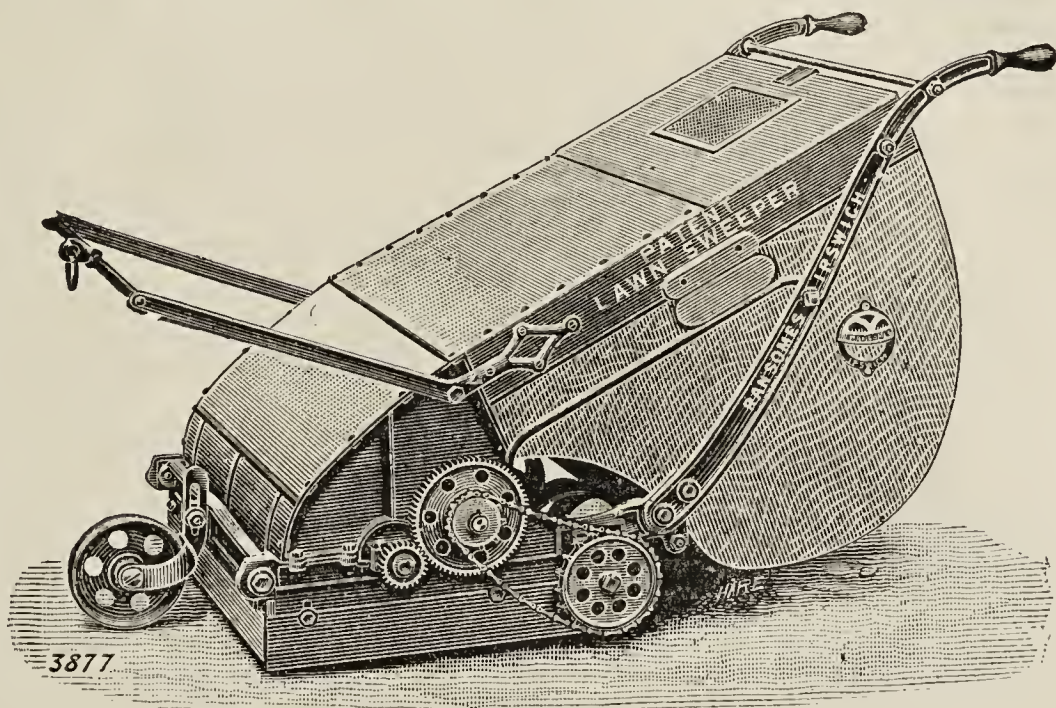


FIG. 41.—A SWEEPING MACHINE.

the great author and poet. The dungeon and cloister is 100 feet square, and is completely covered with Clematis montana. A fine Hemlock Spruce, 30 feet (Pinus Albertiana), is close to the Abbots' parlour, and very interesting to the party was a Staphylea pinnata, flourishing and healthy.

ABBOTSFORD.

This is well known as the residence of Sir Walter Scott, so after leaving his burial place it was highly interesting and appropriate that his home should be visited. The drive of sixteen miles to Abbotsford through a fine country undulating and most remarkable for its many views, including hill, dale, and water, with the scenery ever changing, was much appreciated. It is not remarkable that Sir W. Scott dearly loved his native hills and mountain home on the Tweed at Bemerside on a lofty eminence. When the great author's funeral took place in 1832 it is said that the horses stopped that bore his body at the exact spot where Sir Walter was always accustomed to stop his favourite cob and view the splendid panorama in front, which as far as the eye can see is a most glorious view. Ever and anon the eye rested on the placid river Tweed which meanders amongst the hills, a river that is dear and known to pisciculturists all the world over. Abbotsford is most interesting, as all the relics of Sir Walter Scott's life are collected there. The oak chair he used in the library and the oak carving were objects of much interest, but perhaps what received most attention was a fine oil painting of Tom Purdy, Sir W. Scott's forester, whom he honoured with a resting place in Melrose Abbey, the great author being an enthusiastic forester himself. The party again resumed the journey, and spent a pleasant hour or so visiting Melrose Abbey. The drive for the day was about forty miles, and the air most exhilarating, so all returned with an excellent appetite for the annual dinner, which took place at 7.30 P.M. at the Cross Keys Hotel, Kelso, with the President in the chair. Loyal toasts were proposed, and the President afterwards gave an interesting *resumé* of his visit to the German forests along with the Scottish Society, which proved both interesting and instructive.

SPRINGWELL PARK.

On Friday morning a start was made at nine o'clock for the above residence of Sir George Douglas, Bart., where the party was met by Mr. W. Chaplain, the gardener and bailiff. A fine specimen of Cupressus Lawsoniana lutea, 12 feet high, was noticed, only planted eight years ago. Cut-leaved Beech, the variegated Ash (Fraxinus

monophylla), very distinct in colour, and a *Picea nobilis glauca*, 30 feet high, also attracted attention. The approach to a fine mausoleum of the Corinthian and Doric style of architecture is very beautiful, formed of a Yew hedge 20 feet high, and a well-kept turf walk 40 feet broad, rendering the view from distance an admirable one, displaying as it does a fine combination of architecture and arboriculture. From here we entered the gardens, and obtained a fine view of the river Teviot, which encircles the estate and divides it from that of the Duke of Roxburgh. The grounds are extensive, the flower garden being of the Italian style, oval in shape, and containing the usual vases and statuary. The flower beds were generally mixed, but had a brightening effect on the surroundings, consisting of Zinnias, Begonias, Dahlias, Gladioli, and "Geraniums." A fine arbour was also observed completely covered with Hops and Ivy. In front of Mr. Chaplain's house is an *Aristolochia Siphon*, commonly known as the Dutchman's Pipe, as a climber, which had bloomed this year; also a fine Witch Elm, 30 yards spread of branch, and on part of the estate called Maxwellhugh is a fine specimen of Italian Poplar, 20 feet 6 inches in circumference 4 feet from the ground, and the spread of branches commences at 14. It was computed it would contain from 800 to 900 cubic feet of timber. On Ridge End Park, another part of the estate, excellent Ash trees were examined.

After a hurried drive back to Kelso a visit to Stuart & Mein's nurseries took place, Mr. Mein personally conducting the party. Over forty different varieties of Sweet Peas were examined. The Dahlias were a splendid collection, the Coniferæ interesting, and many questions were asked Mr. Mein about the renowned and large collection of English Tulips the firm possesses.

FLOORS CASTLE,

The ducal home of the Duke of Roxburgh, was next visited. Who has not in the arboricultural or horticultural world heard of Floors Castle? The visitors had been wont to give expression of admiration all the morning, but now their enthusiasm knew no bounds. The party was received at the gates by Mr. S. Reid, the head forester. Interesting specimens of *Cupressus glauca Lawsoniana* are in the fine avenue to the Castle approach, the foliage being very glaucous. Fine Beech rides branch off at right angles to the avenue, reminding the writer of those at Gibside Hall, Durham, the seat of the Earl of Strathmore. Some of these Beeches averaged from 35½ to 36½ and 37 inches quarter girth. The Spanish Chestnuts are truly a stately group of trees, some of them 14½ inches quarter girth about 4 feet 2 inches high. Mr. S. Reid has been eighteen years forester under His Grace, has charge of all his estates, and evidently is proud of the onerous duties he has to perform. After a view of the Castle, which it was stated cost £80,000 to build, the gardens next claimed our attention, said to have cost £30,000. At the entrance we noticed a fine *Wellingtonia gigantea*, 54 feet high, and 20 feet through, planted by Her Majesty as a memorial of her visit to Floors Castle on the 21st August, 1867. There is also a copper-coloured Beech near to here, which contrasted most agreeably with the foliage of the surrounding trees.

The party was here received by Mr. Chas. Street, the head gardener. The flower garden was an example of good English style. The Begonia beds, Pentstemons (white and scarlet), Dahlias, and the various Coniferæ all contributed to make a *tout ensemble* that was a fitting attribute to what is known as the glass corridor, and the seven houses that run at right angles to it. The houses are devoted to growing Camellias, Peaches, Figs, Palms, and greenhouse plants, but the vineries are of the most importance. The house of Muscats, 60 feet by 20 feet, was certainly a treat to see. The bunches were from 2½ to 3½ lbs. each, and berries as even in size as a crop of Cherries. The colour of the berries was of the choicest amber, and the finish as perfect as the most enthusiastic viticulturist could desire. No visitor to Kelso or the neighbourhood should miss taking advantage of seeing this magnificent Muscat house. Orchids are also made a speciality. A large *Cattleya* house, contained many healthy plants. The regret was that the party could not stay longer. Mr. C. Street was awarded a hearty vote of thanks for his courtesy.

NEWTON DON ESTATE.

This was the next place visited, and is the property of C. B. Balfour, Esq., who was present with his gardener and forester, Mr. Wm. Wood, to show the party all that was interesting. On the lawn in front of the house is a fine specimen of *Quercus rubra*, 220 feet high and 8 feet 3 inches in circumference. In the Lawn Park there are also several superb Oaks, 14 feet 9 in circumference, 9 feet up; another one 13 feet 3; an average of about forty to forty-five feet bole; and another interesting Oak caused a great deal of discussion as to whether it was *pedunculata* or *sessiliflora*, but as an acorn was found with a footstalk 1½ long it was then satisfactorily agreed to be *pedunculata*. In the same park are Silver Firs 14 feet at 4 feet girth, Oaks and Wych Elms 15 feet girth, 250 years old. On the south side of the house, on the terraces, are here and there some fine specimens of Silver Fir 80 feet high, and in the hough below the house are some fine Limes 104 high.

The flower garden is to the south-west of the house, and contains sub-tropical designs, in which were plants of *Arundinaria conspicua*, *Phormium tenax*, and *Yucca filamentosa*. A fine bed of Begonias of the *Sedeni* type in full bloom was very effective. A fine *Magnolia furcata* caused attraction, as Mr. Balfour stated it stood 5° of frost below zero. From here a fine view of Flodden Field was seen to the left. The best Coniferæ here were *Picea Nordmanniana*, 16 feet, *Cupressus nutkaensis compacta*, and *Abies Alcockiana*, grand. *Cedrus atlantica* was also

worthy of notice. The party was here about three hours, and the owner, Mr. Balfour, remained with them all the time.

STICHELL HOUSE.

This property of the representatives of the late A. Baird, Esq., was the next place visited. There is here a magnificent collection of timber. The gardens are under the charge of Mr. Robt. Stott; the forests under Mr. J. Naismith, and both carry out their duties efficiently.

HENDERSYDE PARK,

The seat of Sir Richard Griffiths, Bart., was next on the list. Mr. Watson, the head gardener, was in attendance; and the gardens were found to contain some fine new glass structures. The estate is large, and possesses a deal of good timber; but time was passing quickly, and it was a necessity to make a hurried inspection.

This brought the excursion to a close, and before the party broke up a vote of thanks to Messrs. Mather and Mein, Kelso, was heartily accorded for their kind attention during the stay of the party; also to the Secretary and Treasurer, Mr. John Davidson, and his assistant, for the able arrangements made for the comfort of all concerned. The President received an ovation for remaining amongst them all the time.—
BERNARD COWAN, F.R.H.S.

THE ASHFORD VINERIES, COBHAM, SURREY.

WITH a surplussage of Ashfords in the country it is rather odd that without the least local connection with the name there should exist at least two Ashford Vineries, one so well known, and where that able Grape grower, Mr. Castle, recently resided, at Fordingbridge, Hants, the other being at Cobham in Surrey. Mr. Bennett is the owner of this latter block, and Mr. Smith, who is well known to market Grape growers, is his grower and manager. These vineries so called, and I refer not to one block but to all, seem to me to merit the appellation of Grape factories, for really they do annually produce Grapes in immense quantities, literally by tons, all too produced from out of the air and soil, the latter being well fed with elements out of which in the process of natural manufacture Grapes are evolved. Private gardeners who grow Grapes well, as a rule, would be often staggered could they but see the enormous crops of bunches which market growers take year after year from their Vines, and would wonder how such marvellous productiveness could be long sustained. Especially is this wonderful cropping quality found in Gros Colman, the favourite market Grape, and here it is grown in several huge long span houses, each some 20 feet wide, and of varying and great lengths, but the crop of bunches is so dense that the ultimate bulk seems almost incalculable. One marvels how Vines can go on manufacturing such great weights of fruit year after year; but there can be no doubt the secret is found in feeding, so that the roots not only constitute a mass near the surface, but even here and there thrust themselves out like hungry tongues in search of food.

The soil here is not of any special excellence. Richly made borders, such as gardeners generally delight in, are out of the question. The ground was originally an ordinary arable field. When the houses were erected the insides were all trenched and had animal manure and bone-flour added, the Vines were prepared, so far as could be, from eyes in the spring, turned out from pots when 3 feet high in the summer, or so soon as the borders were ready, encouraged to make all the growth they could that season, cut hard back the following winter, and in response sent up fine, hard, short-jointed rods to the tops of the houses during the season. Cut back to one-third the length the following winter, and fruited that much in the summer, another third of rod was added the following year, and yet another third later on. When I saw these houses the other day nearly all were full. In one or two cases new plantings had been made, for the process of renovation must be always going on, but the order of procedure as mentioned was adopted.

Generally the houses seem rather low, but some, notably a very long broad span, has an unusually high sharp roof, and here Gros Colman was colouring in places, the Vines varying, as black as bunches of Gros Maroc. No doubt under such steep roofs greater light is secured, and there can be no doubt but that the greater the light the more fully do Grapes colour. Mr. Smith said in relation to the general enormous crop of Colmans, "Of course we could get much deeper colour if we cropped less heavily, but then at the most our enhanced price would not exceed 6d. per lb. Now we take the heaviest crop possible, and find that it pays much better than does a much lighter one more fully coloured." I found on inquiry that, apart from moderate mulchings of decayed stable manure, the favourite chemical is Thomson's. There is but one lean-to house on the place. That is planted also with Gros Colman in front, and has Gros Maroc on the back wall, but these latter will soon come out, as the roof is fast filling up.

It was specially noticeable as showing the effects of greater light in producing colour that the Colmans were much deeper coloured at the ends of this house than in the centre, the light coming in from the glass ends helping greatly to promote this desideratum. The usual process seems to be, as illustrated here, of taking about 20 lbs. of fruit the first season, and increasing up to about 50 lbs. per rod, which means in long houses a tremendous crop. One pair-rod Vine gave last year 76 lbs., and in another house one of three rods has eighty bunches, and at the least 112 lbs. of Grapes, each rod being about 10 feet long.

Muscat of Alexandria is very largely grown, too, colouring well. In one house Mrs. Pearson was excellent. Black Hamburgs have all

been marketed. Everything inside and outside was of the neatest. I specially noted the great care taken to have the insides as clean as could well be. Mr. Smith knows his work thoroughly without doubt, and Mr. Bennett is to be congratulated on having the services of so excellent a grower.—A. D.

PEACH GROWING IN BELGIUM.

PEACHES form a large proportion of the exports of fruits from Belgium, and the system of Peach cultivation in that country has been reported on in some detail by the United States Consul at Liège.

Before planting Peach trees it is, it appears, the practice of the Belgian grower to thoroughly fertilise the soil with guano or chicken manure. After the tree is planted a peck of lime is added to every cubic yard of earth, placing it near the surface. As it is necessary to loosen the earth for at least 6 feet square and 3 feet deep, this quantity—a bushel to the tree—may seem large, but the authorities are said to be all agreed that more rather than less would be better.

As the standard tree too often failed to be profitable in Belgium experiments were made with espaliers (wooden railings), but these were found to be so open and exposed that the young trees fared very little better on them than in the orchard. The wall was then tried, not, it is observed, as in England, where mural enclosures are built at great expense for the special protection of delicate fruit, but the sunny sides of the houses, and the system met with such astonishing success that there are few houses to-day in some parts of Belgium upon whose southern exposures trees are not trained.

At the time of flowering various methods are adopted to shield the buds from the action of frost. Experience has shown that the best method is to place branches cut from other trees among the upper boughs of the Peach trees. This plan is said to have been attended by good results, though great caution is needed in its application, as too much shade is apt to stifle the buds by excluding the rays of the sun. Another method, until recently very much in vogue, and stated to be always effective, is the employment of mosquito netting or other cheap material, with meshes large enough to admit the free passage of light and air. The old custom of using closely woven cloth, like table or bed linen, at night and removing it in the morning, is said to be more dangerous than the frost itself, as the trees at this season cannot be deprived of air without serious injury; besides, this artificial heat at night, succeeded by the warmth of the sun, hastens their blowing, when the object is to delay it as long as possible. Shading at noon is, it seems, sometimes as essential as covering at night. Small growers are said to succeed very well in protecting their fruit by placing a number of horizontal poles about 18 inches apart, and from 4 to 6 inches from the trees, and covering them with light wisps of straw, but this device is unsightly and makes much litter.

In good situations, penthouses (sheds of wood, thatch, or straw projecting 18 or 20 inches from the wall and covering the tops of the trees) have sometimes been found sufficient to protect the fruit, and are reported to be extremely useful in checking the flow of the sap. An addition to this method, which was introduced in 1876 and found to afford increased protection, consists in providing a curtain made of unthrashed Rye straw. This is made by tying the cut ends of the straw stalks together with twine or garden cord, six or eight in a loop, with spaces of about 3 inches between the wisps, and attaching them to a pole which is suspended under the eaves of the penthouse in front of the trees. The texture, being open, does not prevent the light and air reaching the buds. It might be supposed that this method would hurry the blooms, but it has, in fact, the very opposite effect. The brilliant surface of the straw, by reflecting the sun's rays, keeps the temperature inside lower than that outside. These shields are usually placed in position about the 1st of March, and are not removed, except in cloudy weather, until all danger from frost has passed.—(Journal of the Board of Agriculture.)

HORTICULTURAL SHOWS.

BIRKENHEAD AND WIRRAL SHOW.—SEPT. 4TH AND 5TH.

It is a matter for much congratulation that the Committee and Stewards of the above show should have succeeded in providing such an excellent display of garden produce as an adjunct to the Agricultural exhibition. Many thousands of people highly appreciated the splendid flowers, fruits, and vegetables. There were 940 entries, and the quality of the exhibits was most commendable. This was especially noticeable in indoor and outdoor fruit and cut flowers. It was regrettable to find such an antiquated system in arranging exhibits, and it is to be earnestly hoped that at another show we shall see an improvement. The confusion which existed on Wednesday last will not need repeating.

In the class for five foliage and five flowering plants, Mr. A. Brown, gardener to Geo. Webster, Esq., was a good first, his *Franciscea eximea*, *Statice profusa*, and a charming *Bouvardia* were most conspicuous. Mr. S. Haines, gardener to E. K. Laird, Esq., second. Mr. Tottey, gardener to W. Laird, Esq., third. For a group arranged for effect Mr. S. Haines was first; Mr. E. Bradshaw second. Messrs. Brown and Haines were first and second for three stove or greenhouse flowering plants, the former showing *Ixora coccinea*, *Vinca alba*, and another charming *Bouvardia*; Mr. Haines' *Vinca alba* being also good. Mr. W. Ewbank, gardener to Joseph Heap, Esq., Claughton, won for three foliage plants. Mr. A. Brown won with *Statice profusa* as a single greenhouse plant, and with a magnificent *Eucharis amazonica*, superbly

flowering, as a single stove plant in flower. Mr. Haines was successful with three Ferns, having very fresh *Davallia Mooreana* and *Lomaria gibba*, good; also with three charmingly coloured *Coleus*. Tuberos Begonias and Pelargoniums were admirable, Mr. A. Brown showing his superiority in both classes.

The cut-flower section was a powerful feature, this referring to indoor and outdoor cut flowers. Dahlias were grand, also Asters; whilst sprays were altogether lighter and more elegant than last year. For the best hand bouquet, three sprays for ladies, three buttonholes for gentlemen, six Roses, and three Roses, the winners were Messrs. J. Bounds, gardener to A. L. Jones, Esq., Oaklands, Aigburth; J. Williams, gardener to C. J. Proctor, Esq., Boscobel, Noctorum; J. Saxon, G. H. Clarke, and C. Terry. For twelve Cactus Dahlias and twelve doubles Mr. A. J. Stanley, Sefton, had blooms in perfection; and for six of each Messrs. J. Benson and J. Lee won the prizes, the latter coming in first for twelve Asters, distinct. Hollyhocks and Gladioli were fine, Messrs. T. Winkworth, gardener to T. Brocklebank, Esq., Heswall; and Mr. R. Pinnington, gardener to Mrs. Banner, Blacklow House, Roby, being successful. For twelve indoor cut flowers Mr. J. Jellicoe, gardener to F. H. Gossage, Esq., Camp Hill, Woolton; and Mr. R. Pinnington were first and second with excellent stands. Mr. J. Bounds had a capital six, Mr. Jellicoe winning with three. Mr. Bounds won with a well-arranged twelve outdoor flowers, Messrs. Jellicoe and Lee winning for six and three.

Fruit in nearly every class was of splendid quality. In the class for six different kinds Mr. R. Pinnington was a good first, staging Madresfield Court (fine), Muscat of Alexandria, Pineapple Nectarines, and Princess of Wales Peaches (very good), Eastnor Castle Melon, and Kirke's Plums. Mr. T. Ferguson, gardener to Mrs. Paterson, Rock Ferry, was second with good Hamburgs and fine Sea Eagle Peaches; and Mr. W. Roberts, gardener to W. R. Wynne, Esq., Peniarth, Towyn, an excellent third, his Nectarines and Melons being capital. For six dishes of hardy fruits Mr. C. Worker, gardener to Mrs. Blomfield, Mollington, Chester, was distinctly ahead. Grapes were a strong feature, Mr. Ferguson winning with two bunches of Black Hamburg; second, Mr. J. Downham, gardener to E. H. Harrison, Esq. Two black, any other variety, Mr. Jellicoe with Madresfield Court, W. Pritchard with Alicante, and J. Barker, gardener to J. W. Raynes, Esq., Rock Ferry, third with Madresfield Court. Two bunches Muscat of Alexandria.—First, Mr. R. Brownbill, gardener to G. A. Fowler, Esq.; second, Mr. W. Pritchard; third, Mr. W. Roberts, all staging handsome bunches. Mr. R. Pinnington won for any other white variety with Buckland Sweetwater, also with well-coloured Pineapple Nectarines, the prize for Peaches being taken by J. H. Ismay, Esq. Mr. Brownbill took first for Apricots and Jargonelle Pears, Mr. J. Williams with green flesh Melons. Mr. A. Brown won with dessert Apples, Mr. W. Roberts with handsome Peasgood's Nonesuch for six culinary fruits, the prizes for Lord Suffield and six Pears (dessert) being taken by Mr. J. Stephenson, gardener to Executors of F. R. Leyland, Woolton Hall. The latter showed splendid Tomatoes, which gained him first honours for twelve and six.

Vegetables were in grand condition, the two classes for eight varieties being won by Messrs. J. Williams and G. Taylor, Potatoes by Messrs. G. H. Clarke, J. Winkworth, and J. Cheers; all other kinds were well represented.

Messrs. Dickson, Limited, Chester, had an attractive stand of miscellaneous plants, cut Roses, Carnations, and Dahlias. Messrs. Dickson & Robinson, Manchester, a handsome collection of Potatoes and seeds. Parham & Sons, Norwich, and Webster, Wavertree, had each a grand show of greenhouses, the latter gaining a silver medal. To Mr. Edwardson, the courteous Secretary, nothing but the highest praise can be given for the manner in which he discharged his duties on the occasion.—R. P. R.

CRYSTAL PALACE.—SEPTEMBER 6TH AND 7TH.

ON the above dates the National Dahlia Society held its annual exhibition, and the central transept—the scene of many flower shows of all descriptions—was rendered attractive by the bright display of flowers. Classes were, as usual, provided for Show, Fancy, Pompons, and single Dahlias, and many excellent blooms vied with each other for the coveted awards. The competition, especially in the amateur classes, was not so keen as last year, there being fewer entries, though the quality on the whole was good throughout. Many of the well-known varieties were conspicuous in the majority of exhibits, though new additions were also noticed, several of which received certificates of merit.

Nurserymen.—The class for sixty distinct blooms was the premier one in the show, and the highest honours were taken by Mr. Chas. Turner, Slough, who showed in excellent form Harry Keith, Gloire de Lyon, Penelope, Chieftain, Arthur Ocock, Mrs. Langtry, George Rawlings, John Hickling, Rosamond, Herbert Turner, John Standish, Harrison Weir, Sunbeam, Wm. Powell, Henry Walton, Warrior, Florence, Rebecca, A. Rawlings, Mrs. Gladstone, Glowworm, Goldfinder, Purple Prince, Willie Garrett, Colonist, Mrs. Morgan, Duchess of York, Grand Sultan, Seedling, J. T. West, Hope, Constance, David Saunders, Mabel Stanton, Wm. Jackson, Crimson King, Earl of Ravensworth, Pleasance, Imperial, Mrs. Saunders, Prince Bismarck, Matthew Campbell, Alice Emily, Burgundy, Marjorie, Clara, Dante, Miss Cannell, William Keith, Maud Fellows, Jas. Cocker, Statesman, R. T. Rawlings, Diadem, Shirley Hibberd, John Walker, and Dorothy. The second prize went to Mr. John Walker, Thame, Oxon. in whose stand were also many excellent blooms; the third to Messrs. Keynes, Williams & Co., Salisbury; and the fourth to Mr. S. Mortimer, Farnham, Surrey.

For forty-eight blooms, distinct, Mr. Charles Turner was again a decided first, staging fine examples of George Rawlings, Arthur Ocock, Mrs. Langtry, Mrs. Saunders, Mrs. David Saunders, William Rawlings, Miss Cannell, William Jackson, John Cocker, Constance, Diadem, Duchess of York, Burgundy, John Hickling, Pleasance, Rebecca, Mrs. Gladstone, John Standish, Seedling, Statesman, John Walker, Willie Garrett, Clara, Mrs. J. Harris, William Powell, T. H. Girdlestone, J. T. West, Crimson King, R. T. Rawlings, William Keith, Alice Emily, Jupiter, Prince Bismarck, John Bennett, Agnes, Gloire de Lyon, Henry Walton, Dorothy, Maud Fellowes, Matthew Campbell, Shirley Hibberd, Shotisham, Hero, James Veitch, Harrison Weir, Arthur Rawlings, Hope, and Warrior. Mr. J. Walker was second; Messrs. Keynes, Williams and Co. third; and Mr. S. Mortimer fourth.

For thirty-six distinct blooms Mr. George Humphries, Chippenham, took the first place with a good, even stand, which contained J. T. West, Duke of Fife, William Powell, Sailor Prince, Duchess of Albany, Purple Prince, Majestic, Queen of the Belgians, Harry Keith, John Walker, Dorothy, Miss Cannell, Frank Pearce, Mrs. Gladstone, William Keith, Sunset, Arthur Rawlings, Duchess of York, Glowworm, and Harry Turner. Mr. J. T. West, Brentwood, was a good second, his stand being composed of creditable blooms; and the third place was taken by Messrs. Saltmarsh & Sons, Chelmsford. The last-named exhibitors occupied the post of honour in the class for twenty-four with a fine exhibit, composed of Perfection, A. Ocock, Ethel Britton, Harry Keith, Hero, John Hickling, S. Mortimer, T. J. Saltmarsh, Colonist, Arthur Rawlings, Maud Fellowes, John Britton, Miss Cannell, William Keith, Mrs. D. Saunders, William Rawlings, Seedling, John Walker, Prince of Denmark, Alice Emily, R. T. Rawlings, J. T. West, Frank Pearce, and Eric Fisher. The second award went to Mr. J. T. West; the third to Mr. George Humphries; and the fourth to Mr. F. W. Seale, Sevenoaks.

Messrs. J. Cheal & Sons, Crawley, were to the front for twelve distinct blooms, staging even examples of Mrs. Gladstone, Wm. Rawlings, George Gordon, Mrs. Morgan, T. J. Saltmarsh, Arthur Ocock, Grand Sultan, Perfection, George Rawlings, Hugh Austen, R. T. Rawlings, and John Walker. The second prize went to Mr. Arthur Rawlings, the third to Mr. H. Harris, Chelmsford, and the fourth to Mr. J. R. Tranter, Henley-on-Thames. The first prize for eighteen varieties of Cactus Dahlias fell to Messrs. J. Cheal & Sons, who staged fine bunches of Countess of Gosford, Bertha Mawley, May Pictor, Mrs. Gordon Sloane, Purple Prince, Beauty of Wilts, Mrs. H. Cannell, Mrs. Barnes, Lady Penzance, Apollo, Matchless, Delicata, Earl of Pembroke, Mr. Wilson, Noble, Kaiserin, and Professor Baldwin. Messrs. Keynes, Williams & Co. were a good second, and Mr. Charles Turner third. For twelve varieties of Cactus Messrs. J. Burrell & Co., Cambridge, occupied the post of honour, staging good blooms of Earl of Pembroke, Mrs. Peart, Delicata, Mary Hillier, Robert Cannell, Lady Penzance, Matchless, Countess of Gosford, Gloriosa, Mrs. Barnes, Major Hoskins, and Harmony. Mr. J. T. West and Mr. F. W. Seale followed with second and third in the order named.

Messrs. J. Cheal & Sons were first with twelve varieties of decorative Dahlias, with creditable examples of Amphion, Black Prince, Honoria, Josephine, Launcelot, Harry Freeman, Chancellor Swayne, Mrs. Hawkins, Arthur Cheal, Maid of Kent, Mrs. Gordon Shaw, and Lady Primrose. Mr. F. W. Seale was second; and Messrs. Keynes, Williams and Co. third. Mr. Charles Turner staged a pretty stand of Pompons, for which he was awarded first prize in the class for twenty-four. The exhibit was composed of Claribel, Arthur West, George Bruckman, Douglas, Phoebe, Madge, Captain Boyton, Eric, Amber Pearl, Crystabell, Purity, Rowena, Tommy Keith, Fabio, Nerissa, Diana, Bacchus, Gannymede, Favourite, Jessica, and Vulcan. Messrs. Keynes, Williams and Co. also staged an effective exhibit for the second prize; and the third place was taken by Mr. F. W. Seale. Messrs. J. Burrell & Co. were first for twelve varieties of Pompons, staging Red Indian, G. Bruckman, Eurydice, Mary Kirk, Favourite, H. E. Searle, Captain Boyton, Whisper, E. F. Junker, Bacchus, Emily Hopper, and Eric. Mr. J. T. West was a good second; and the third prize went to Mr. Geo. Humphries.

A superb stand containing twenty-four varieties of singles, staged by Messrs. J. Cheal & Sons, was awarded first prize in this class, the varieties being James Scobie, Amos Perry, Evelyn, Rosebank Cardinal, Mrs. Conninck, M. C. C., Jack, W. C. Harvey, Miss E. Moreland, Alba Perfecta, Demon, Mrs. Wythes, Miss Roberts, Duke of York, The Bride, Phyllis, Marion Hood, Northern Star, Victoria, Miss Glasscock, Formosa, Gulielma, Duchess of Anhalt, and Miss Henshaw. A tasteful exhibit shown by Mr. F. W. Seale was second.

Amateurs.—Mr. Thos. Hobbs, Easton, Bristol, was a good first with twenty-four distinct blooms, staging in good form Earl Ravensworth, T. W. Girdlestone, Vice-President, Mr. Glasscock, William Keith, William Powell, Harry Turner, John Cooper, Mrs. Gladstone, Chieftain, Miss Cannell, Crimson Globe, Maud Fellowes, George Barnes, Mrs. McKenzie, Henry Glasscock, Prince of Denmark, Duchess of York, Eldorado, Duchess of Albany, Harrison Weir, Hartie King, Alice Emily, and John Henshaw. Mr. Lewis Fewkes, Castle Bromwich, Birmingham, was a creditable second; Mr. T. Anstiss, Brill, Bucks, third; and Mr. W. Mist, Sevenoaks, fourth. Mr. A. Starling, gardener to H. H. Raphael, Esq., Havering, was first with twelve distinct blooms, showing Harry Keith, John Walker, Arthur Ocock, William Rawlings, Hon. Mrs. P. Wyndham, Colonist, Mrs. Vagg, John Standish, T. W. Girdlestone, R. T. Rawlings, Jas. Vick, and J. T. West. T. Gurney Fowler, Esq., South Woodford, was second in this class, followed by Mr. Sidney Cooper, Chippenham.

Mr. Ernest Jefferies, Chippenham, had the best stand in the class

for six distinct blooms, followed by Mr. J. Gilbert, gardener to Captain Lowe, Freshwater, and Mr. F. Keep, Streatham, second and third. Mr. T. Anstiss was a good first for twelve Fancies, staging Buffalo Bill, Matthew Campbell, John Cooper, Dandy, S. Mortimer, Mrs. Saunders, Duchess of Albany, Prince Henry, John Forbes, and Rev. J. B. Camm. Mr. S. Cooper took the second place, followed by Mr. Thos. Hobbs, Bristol. Mr. A. Starling was first for six distinct Fancies with T. W. Girdlestone, Henry Eckford, Chas. Turner, John Forbes, and Hercules. Mr. E. Jefferies, Chippenham, was second, and Mr. W. Wheeler, Henley-on-Thames, third.

In the class for twelve varieties of Cactus and decorative blooms Mr. James Stredwick, St. Leonards-on-Sea, was first with Blanche Keith, Matchless, St. Catherine, Countess of Radnor, Juarez, Earl of Pembroke, Delicata, Gloriosa, Bertha Mawley, Harmony, Apollo, and Countess of Gosford. Mr. E. Brown, gardener to M. W. Morris, Esq., Horley, was second, and Mr. W. Mist third. Mr. Edward Mawley, Berkhamstead, was a good first for six varieties of Cactus Dahlias with Countess of Gosford, Bertha Mawley, Lady Penzance, Apollo, Delicata, and Major Hoskins. Mr. S. Cooper was second, and Mr. G. Wyatt, gardener to J. Hilditch, Esq., Twickenham, third. Mr. J. Stredwick occupied the post of honour for nine varieties of Cactus Dahlias, staging good blooms. Mr. E. Brown and Mr. Jas. Hudson, Gunnersbury House, were second and third in the foregoing order. Mr. W. Mist was first for four bunches of Cactus Dahlias sent out by Messrs. H. Cannell & Sons, Swanley.

Mr. Jas. Hudson was a good first with six bunches of Pompons, containing ten flowers each, staging a pleasing exhibit. Mr. James Stredwick was second, and Mr. W. C. Pagram, Weybridge, third. In the class for six varieties of Pompons, six flowers in each bunch, Mr. S. Cooper was first, Mr. G. Wyatt second, and Mr. W. Parrot, Sevenoaks, third. Mr. T. W. Girdlestone, Sunningdale, Berks, was a good first for six varieties of singles with an attractive arrangement, comprised of Prince of Wales, Golden Locks, Kitty, Gold Dust, Dearest, and Soubrette. Mr. C. Osman, Sutton, was second. Mr. E. Mawley was first in the class for six varieties of singles, containing six blooms of each, with Sunningdale White, Rosebank Cardinal, Miss Henshaw, Miss Roberts, Beauty's Eye, and Cleopatra. Mr. W. Parrott was second and Mr. G. Wyatt third.

Open.—Messrs. J. Cheal & Sons were first with twelve varieties of singles, staging May Sharpe, James Scobie, Harry Braten, Jack Sheppard, Dearest, Alice Seale, Fred Leslie, Phyllis, Miss Glasscock, Mrs. Wythes, Mrs. Harris, and Northern Star. The second prize fell to Mr. F. W. Seale. Mr. Charles Turner was first for six blooms of any dark variety with William Keith. Mr. S. Mortimer followed with second, and Mr. J. Walker third. Mr. J. Walker was first for six blooms of any light variety with John Walker, Mr. S. Mortimer showed Mrs. Gladstone for the second place, and Mr. G. Humphries was third. For six blooms of any yellow Mr. J. Walker was first with William Powell, Mr. S. Mortimer second with John Hickling, and Mr. J. T. West third. Mr. F. W. Seale was first for six bunches of any tipped variety with Mrs. Saunders; second Mr. S. Mortimer with Mrs. N. Halls, and third Messrs. Kimberley & Son, Coventry. Mr. G. Humphreys was first for any striped variety with Frank Pearce, followed by Mr. J. Walker with Matthew Campbell, and Mr. J. T. West third. For six blooms of an edged variety Mr. J. Walker was again first with Miss Cannell, Mr. J. T. West second with J. T. West, and Mr. F. W. Seale third.

Miscellaneous.—Several attractive non-competitive exhibits added their share of brightness to the show. Messrs. Dobbie & Co., Rothesay, sent a diversified collection of Dahlias, and from Messrs. J. Laing and Sons, Forest Hill, came a fine group of Caladiums and Gloxinias. Messrs. J. Cheal & Sons, Crawley, staged Dahlias in variety, and Messrs. Pritchard, Christchurch, hardy flowers. Messrs. J. Peed & Sons, Norwood, were represented by a stand consisting of herbaceous flowers and Dahlias. From Messrs. H. Cannell & Sons, Swanley, came a varied collection of Dahlias and Cannas, and Mr. T. S. Ware, Tottenham, made a superb display with his large exhibit of Dahlias of all kinds.



HARDY FRUIT GARDEN.

Gathering Fruit.—Attention to this important matter should be very frequently given, so as to secure the best specimens before they become fully ripe. It is not advisable to clear the whole of the fruit from a tree at once, but to make an examination several times, selecting the most forward for removal.

Tests for Gathering.—There are several approved and reliable tests for gathering, apart from the maturing appearance of the fruit. The dark colour of the pips or seeds is an excellent indicator of fitness for gathering, though this must not be absolutely relied upon until the fruit shows some outward signs of ripening having commenced. The easy displacement of the fruit from the spurs is probably the best test. Simply raise the fruits gently with the hand, when, if ready for gathering, they will come away easily. Continually handling fruit on purpose to test its fitness for removal is not recommended. A general idea may

be gained from the examination of a few, or the tendency of the fruit to fall more freely than usual.

How to Gather.—In gathering fruit choose a period when the weather is dry and no moisture hangs about the foliage or fruit. Place the best samples carefully in baskets lined with soft material, so as not to bruise them. Bruises rupture the cells below the outer skin and cause decay there, which is greatly accelerated when the skin is broken. Gather small fruits separately from the large, and those that are grub-eaten, owing to the attacks of the Codlin moth, keep distinct from either. Many of the latter fall prematurely, and ought to be speedily collected for immediate use, the worthless examples being burnt.

Storing Fruit.—A moderately cool and dry room should be selected for storing, or a properly arranged fruit room, where a temperature in winter can be maintained at 40° to 45°. Place the fruit in single layers, either on shelves, in drawers, or shallow boxes. Storage in this manner facilitates examination, which must be frequent, in order to remove at once any decaying specimens. Afford ventilation constantly for a short period after storing a quantity of fruit, so that the moisture given off by it may find means of escape. Avoid, however, the entrance of cold, drying draughts, which prove injurious. If possible, keep the fruit in darkness. If placed in a slightly increased temperature for a short time Pears approaching maturity are greatly assisted in ripening and the development of flavour. It is only necessary to treat a few at a time for the final finishing, according to the demand.

Peaches, Apricots, and Nectarines.—Those trees from which the fruit has been gathered should have all shoots that have borne fruits removed. The succession shoots, carefully reserved for this purpose, may be trained in their place. This furnishes the wall or trellis, and at the same time affords sufficient space for the wood to ripen. In addition to the laying in of young shoots spurs may be encouraged to form in suitable positions, such being found on the face of the branches where any superfluous growths require shortening back. Cut back now to four leaves and closer in winter. Do not retain too many branches, so as to avoid establishing a crowd of growths. Thinly placed they will add to the productiveness of the trees, otherwise they are injurious. With Apricots give preference to the naturally formed spurs, which are produced more freely than on Peaches and Nectarines. When trees of the latter require spurs forming it is usually done artificially; but they are not really essential, young wood annually laid in being capable of producing the best crops. Lay in leading shoots at full length.

Watering.—Trees on walls, and often those in other positions, suffer considerably at this period if the soil is deficient in moisture about the roots. The full development and maturing of the buds depends largely on the food derived from the soil which cannot provide the essential materials unless it is moist, and not always then if poor in quality. Should the latter be the case liquid manure would be of benefit, but the soil must be first well moistened down to the lowest roots before any stimulant is applied. Moisture and food for the roots preserve the foliage in good condition, preventing its premature ripening and falling. Insect pests, too, become less prevalent, especially if the foliage is regularly syringed with an occasional application of an insecticide as a destroyer of insect enemies.

Stopping Secondary Growths.—Apples, Pears, and Plums that were summer pruned early frequently make secondary or sub-lateral growths from the upper buds of the shortened shoots. Before these advance far prune them back to the first leaf of the new growth made.

Raspberries.—The young canes for future bearing should be limited to four or six, according to the strength of each stool, cutting away at once the whole of the old bearing canes, which, if left after fruiting, only obstruct light and air reaching the young growths. Fork up strong weeds in the spaces between the plants, and hoe down seedlings. If opportunity offers afford liquid manure to the roots, which will strengthen the buds and replenish the supplies of food in the soil. Failing liquid nourishment, mulch over the roots with manure, Raspberries delighting in rich and abundant fare.

FRUIT FORCING.

Vines.—*For Early Forcing in Pots.*—The Vines for starting in November to afford ripe Grapes by the close of March or early in April should now be at rest, but not necessarily leafless, yet have the laterals cut close and the cane shortened to the desired length, about 6 feet, according to the situation of the plump buds and condition of the wood as to ripeness and the position to be occupied. Water must not be withheld to the extent of causing the leaves to fall prematurely, and after they are down sufficient moisture in the soil as to keep the roots fresh and the wood from shrivelling is necessary, avoiding watering to the extent of making the soil wet, as a somewhat dry condition of the rooting medium is advisable during the resting period and in the early stages of forcing. Where the Vines have to be bought in a selection should be made or orders placed without delay. Foster's Seedling is the best white Grape for early forcing, and Black Hamburgh the most profitable black. Madresfield Court, however, forces satisfactorily, and when well grown gives excellent returns. Attempts at forcing Muscat of Alexandria in pots have not been very successful; but on the planted out system it and Madresfield Court, started in December so as to ripen the Grapes by May or early in June, afford satisfaction to both consumers and growers.

Early Forced Planted-out Vines.—The Vines for starting at the beginning of December to ripen Grapes fit for table by late April or early in May should be pruned, it not being necessary to wait until the leaves are down, for when the maturation of the foliage has set

in there is no danger of starting the buds provided the atmosphere be cool and dry and the soil in a moderately moist condition. The pruning must be discriminate, always being to a plump bud on well-ripened wood, and the previous doings of the Vines taken into consideration will afford a safe guide as to the desirability for close or long pruning. Usually pruning to two buds is most satisfactory as regards compactness of bunch and finish; but where the bunches come too small or too few the pruning may be to three or four buds, so as to secure choice of more and larger clusters. This is where the mischief usually comes in, for the greater show of fruit is not reduced to the capabilities of the Vines, and the Grapes often finish badly, being red instead of black, and the loss from shanking sometimes causing the results to be worse than from the lighter crop. The house and Vines should be thoroughly cleansed after the pruning and fall of the leaves. The woodwork and ironwork should be well washed with soap (soft, petroleum, or carbolic), it being best to use a solution, 2 ozs. to a gallon of water, and a brush, cleansing the glass with clear water. This will remove the germs of fungal parasites and the eggs of insects, even destroying any hibernating pests, whilst softening the outer bark of the Vines. This is cast in Nature, and there is no harm in removing the loose, always being careful not to strip the rods too closely, and avoiding peeling and scraping into the living bark. A simple wash of the solution of soap before mentioned is all that is necessary for destroying hibernating insects, that which is best administered being best. Where the Vines have been, or there is a suspicion of their being attacked by fungal parasites the rods may be washed with a solution of sulphate of iron, 10 per cent. (1 lb. to a gallon of water) for young Vines, and 15 per cent. (1½ lb. to a gallon of water) for old rods, applying carefully with a brush. The walls should be limewashed, and the loose surface soil removed from the border, supplying a little fresh loam and a top-dressing of a substantial fertiliser. The house should be kept as cool as possible, no water being given to the border whilst it remains moderately moist, but it must not be allowed to become parched and cracked.

Lifting Unsatisfactory Early Vines.—The sooner this is done after the wood is mature and the buds plumped the better, but it must not be attempted whilst there is doubt of that being effected. It is advisable, however, to perform work of this kind whilst the leaves are upon the Vines. Good loam with some brick and lime rubbish and an admixture of charcoal "nuts" will meet all requirements in respect of compost. Enriching materials are matter for judgment, and provided the staple is all right are best supplied at the surface in the shape of top-dressings. Perfect drainage is imperative, the border having a drain or drains with proper fall and outlet to carry off superfluous water. A foot thickness of clean rubble, roughest at the bottom and finest—about the size of road metal—on the top, being placed in, follow with turf sods, grass side downwards, or a 3-inch layer of old mortar rubbish freed of all laths or other pieces of wood. Keep the roots near the surface, placing them in the top 12 inches of compost and in layers, the topmost not covered deeper than 3 inches, always bearing in mind that a shallow (24 to 27 inches) and narrow border well filled with roots is preferable to a large mass of soil at the onset, as the roots can be more easily excited and fed at the proper time. Choose dry weather for operating, and have the material in good working order, neither too wet nor too dry, but moderately moist. Cover the border when finished with about an inch thickness of stable manure, the strawy portions being shaken out, and keep the house close and rather moist until the Vines recover from the lifting, as they will in a few days, pushing roots freely, especially if the older ones are notched, as soon after then calluses will be formed from which roots proceed in due course, then ventilate freely and keep the atmosphere dry. Early Vines should have inside borders, and where these are both outside and inside the roots may be lifted in one only at a time, so as not to prejudice the following year's crop.

Young Vines.—The foliage must be kept clean, so as to fully perform its functions, and laterals after this be closely pinched or removed, as they merely attract the sap and stimulate root action, often inducing late growth, and frustrating the ripening of the wood. Maintain a warm, well-ventilated atmosphere until the canes are ripe. The maturing of the foliage and wood may be accelerated by keeping the house rather close in the day, so as to secure a temperature of 85° to 90° from sun heat, opening the ventilators at night. Any supernumeraries intended to fruit next season should have the laterals cut away to the principal buds, leaving, however, an outlet for any excess of sap by a few laterals at the top of the cane, and be careful not to injure the principal leaves.

Houses of Ripe Grapes.—Midseason houses often contain a motley assemblage, both thin and thick-skinned Grapes being grown in the same structure; the consequence is the first often fall a prey to spot fungus from the keeping of the atmosphere too close, as the Grapes seldom ripen together, so that the one cannot have the essential coolness and dryness necessary for their sound keeping, and the other the warmth and moisture required for their satisfactory finishing. If the house is kept cool and dry the thin-skinned Grapes are excellent, but these sometimes finish badly, some neither colouring nor remaining plump. There is no compromising matters, and the results are neither satisfactory to the grower nor to the consumer. Market growers never make such blunders as are common in private establishments, as the produce has to be sold, when there is an awakening to the fact that marketing methods are purely commercial and fancies excluded. With the Grapes ripe gradually reduce the strong laterals as the days decline in length, and keep the leaves healthy by means of a proper supply of moisture to the borders in the early part of the day. Black Hamburgs and other thin-skinned black Grapes are liable to have the colour taken out of them by hanging under powerful sun. Some netting

should be drawn over the roof lights to prevent it. Hamburgs and Foster's Seedling will bear as much moisture as the thick-skinned varieties, provided it is not stagnant, and it is very necessary for the foliage of both, which must be kept healthy. Madresfield Court will not endure moisture to anything like the same extent as Hamburgs, and must be treated accordingly. It, however, loses colour quite as badly, and must be shielded from the direct rays of the sun. Muscats hanging on Vines with the roots in outside borders will keep a long time by protecting the roots from heavy rains. A covering of dry fern or tarpaulin answers, but glazed lights are better, placing in a sloping position for throwing off rain, as they admit sun heat and retain it for warming the borders. If the foliage is not sufficient for the protection of the tender skin of the berries some light shading will be necessary, particularly where the houses are glazed with large panes of glass. A single thickness of pilchard netting is sufficient, or hexagon netting may be used, which effectually excludes wasps and bluebottle flies. It is hardly possible to keep Muscats well without a gentle warmth in the pipes, in order to keep the air in motion, for when it is still moisture sometimes condenses on the berries, and they are then liable to spot. The warmth should be accompanied by free ventilation.

Late Houses.—Muscats and other late Grapes still require fire heat, accompanied with free ventilation, continuing it until they are thoroughly finished. Muscats do best when the foliage is rather thin; indeed the leaves may be tied aside, as it is necessary that the fruit should have abundance of light and air, so essential for thorough ripening and producing the amber colour characteristic of good quality and finish. Keep the night temperature at 65° to 70°, with a fall of 5° through the night, and turn the heat on in good time in the morning so as to allow an increase of ventilation and the temperature to rise to 70° to 75°, so as to insure to the Grapes a long ripening day, the temperature being kept at 80° to 85° from sun, and with a free circulation of air 90° to 95°. The heat should be kept up by reducing the ventilation with the declining sun, and the temperature allowed to gradually decline at night, only keeping warmth in the pipes to allow the top and bottom ventilators to be left open to a slight extent so as to insure a circulation of air, and prevent the deposition of moisture on the berries during the night. This should be continued until the Grapes are thoroughly ripe and finished, when a gradual reduction of temperature should take place, otherwise the Grapes will shrivel. This must be guarded against by not allowing the border, especially inside, to become dry. If there is any fear of this a good watering should be given on a fine morning when air can be freely admitted, and the border may be covered with sweet dry material to keep down moisture. A temperature of 50° to 55° is necessary for keeping Muscat of Alexandria Grapes in good condition after they are ripe, and other houses of late thick-skinned varieties will require a similar temperature for the benefit of the Vines.

Late Houses of Hamburg Grapes.—The Sweetwater section of Vines that have received little or no aid artificially are well advanced in colour and ripening. Nevertheless, a gentle warmth in the pipes is desirable, so as to allow a free circulation of air and to maintain a temperature of 60° to 65° at night. A little artificial heat in the daytime will also be of benefit in allowing free ventilation and making the most of sun heat. Hamburgs colour and finish best beneath a good spread of foliage, but it is well not to encourage lateral growth now; at the same time the tendency to defective colouring and shanking is accelerated by large reductions of foliage, and equally so by sudden fluctuations of temperature. A little air may be admitted top and bottom until the Grapes are ripe. If there is any deficiency of moisture in the borders it will be better to give a supply of water now than delay it until a later period. Outside borders will in most instances be sufficiently moist, if not they may be watered, and unless the weather becomes excessively wet they need not be covered, but means for throwing off heavy rains are desirable, especially where the borders are not porous and thoroughly drained.

THE BEE-KEEPER.

SEASONABLE NOTES.

THE present spell of fine weather is enabling the bees to obtain a fair amount of stores from the late summer flowers, and of these Mignonette and Ivy are two of the best. The former has grown remarkably well during the past summer, and although it has been flowering for some months past it is still growing and blooming freely, and will continue to do so until the frost comes; and as the bees obtain both honey and pollen from this, the favourite flower of both rich and poor, a note should be made of its good qualities, so that it may be more extensively grown another season. This plant is not particular as regards soil, and the earlier it is sown in the spring the better. The Ivy, too, yields a great deal of pollen and a fair amount of honey.

At this time of the year plants that have been allowed to grow at will, in many instances covering old buildings and the stump of trees, will now be a mass of bloom, which will be visited by tens of thousands of bees during the bright summer-like weather we are now experiencing; many other flowers of more or less value may

be noted as valuable to the bees at this season, but I do not know of any so useful as the two above mentioned. In the fields there is a fair amount of White Clover in bloom, much more than usual at this time of the year, but the bees do not work nearly as freely on it as they do early in the season. Although the weather is so favourable it is only a limited supply that bees can obtain from flowers at this season, and will be only sufficient for their present needs, so there should be no excuse for not at once feeding up stocks for the winter. The present warm weather is so favourable that no time should be lost in feeding all that require it, as advised in previous directions, as there is no comparison between stocks that were fed early in the season and those that were left until late, when there is often a difficulty in getting the bees to take the syrup in sufficient quantity to tide over the winter, and if not sealed over similar to natural stores dysentery will follow.—AN ENGLISH BEE-KEEPER.

TRADE CATALOGUES RECEIVED.

Messrs. H. Cannell & Sons, Swanley.—*Bulbs and General Catalogue.*

Messrs. Hogg & Robertson, Dublin.—*Bulbs.*

T. S. Ware, Tottenham, London.—*Carnations and Bulbs.*



* All correspondence should be directed either to "THE EDITOR" or to "THE PUBLISHER." Letters addressed to Dr. Hogg or members of the staff often remain unopened unavoidably. We request that no one will write privately to any of our correspondents, as doing so subjects them to unjustifiable trouble and expense.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Bee subjects, and should never send more than two or three questions at once. All articles intended for insertion should be written on one side of the paper only. We cannot reply to questions through the post, and we do not undertake to return rejected communications.

Dimensions of Tennis Court (E. H.).—A full-sized tennis court is 78 feet long by 36 feet wide. Within the side lines are drawn the two service lines, 4½ feet from and parallel with them. The net should be placed across the court exactly in the centre. On each side of the net and 21 feet from it should be drawn the cross service lines. From the centre of the end line should be drawn another line lengthways of the court to cut through the service line on each side of the net and intersect the other end line, then the court will be complete.

Fern Fronds and Cytisus Growths Eaten (M. F.).—The Fern fronds appear to have been eaten and perforated by some pest. The perforation appears to be that of the black-grooved weevil (*Otiorynchus sulcatus*), which may be detected by examining the plants cautiously with a lantern after dark. The Cytisus growth appears to be eaten by slugs, which you may capture by examining the plants in a similar manner to the Ferns, the latter being possibly invaded by both pests. The "Garden Manual" will suit you for all-round gardening, and can be had from this office for 1s. 9d. "Collins' Primer on Greenhouse Plants" (Macmillan), 1s. from booksellers, will suit your requirements on that subject.

Diseased Pear (P., Leicester).—The fruit is not affected by scab fungus but by the bitter rot, which will not, however, develop until later into ripe rot fungus (*Gloeosporium fructigenum*), and possibly not then, as the pustules are granular and the spores pushed forth without the ripe rot occurring in some cases. The best plan is to lift the trees, not that this will destroy the cause—the fungus—but it will render the growths and fruit less liable to attack. If the trees are on Pear stocks lifting may not be practicable, and in that case supply potassic manure, such as fish guano, and dust the trees, especially the fruit, as soon as set with Fostite powder or other of the advertised fungicides, repeating twice at intervals of three weeks.

Housing Carnations (Carnation).—The time to house such Carnations as you name depends entirely on the time you want them to flower. They will be safe outside until the middle of October, when they should be placed in a cool, light, airy house for a time. If wet weather ensues after this date and the plants can be protected in frames so much the better, the lights being placed over the plants only to protect them from becoming too wet. The plants will not continue blooming during severe weather with a temperature of 40°. It should

be 10° warmer, with a free admission of air. The Malmaisons should be kept cool. The old Clove is certainly useful for pot culture, and will bear gentle forcing during the spring. It is of no use for flowering during the winter. The majority of varieties if wintered in a frame or the greenhouse, and placed early in the year into 6 or 7-inch pots, will bear forcing, and produce useful flowers after the winter flowering kinds are over; in fact, they fill in a gap between the winter and spring bloomers and those that flower naturally in outside beds and borders. Many border varieties are greatly improved by cultivation under glass, but should have cool airy treatment.

Duchess of Oldenburg Apple Leaves Brownd (M. L. S., Herts).—The leaves appear discoloured from something on the upper surface, which is not accountable from anything apparent on some of the leaves, but on others there are the outgrowths of a fungus (*Cladosporium* species, but not *Fusicladium dendriticum*), yet it hardly can have produced the discolouration over the whole leaf. There is no question as to the upper surface of the leaf tissue being injured by some agent, through which they must soon fall from the tree. What has caused the browning of the leaves we are unable to say, but we have seen similar effects after thunderstorms, and possibly their condition may have been caused by lightning as you suggest.

Melon Shoots Curled at the Points (H. C.).—The points of the shoots were quite yellow, and in a state of incipient decay, we being unable to find anything but swarms of "septic bacteria," which are not parasitic but produce putrefaction in dead substances. We do not think the lime water has anything to do with the curled, stunted condition of the shoots, which indicate an attack of eelworm at the roots. The plants cannot attain to any tolerable growth under the conditions. A house not solely devoted to them, or the plants grown therein not subordinate, is unsuitable for Melons, but we expect they will soon (if they have not already) succumb to something more injurious to the roots than lime water, which we think is eelworm, and the plants will be beyond recovery.

Insects on Chrysanthemum (H. M.).—We do not feel sure that the damage you describe is to be attributed to the insect forwarded. This proves to be one of the leaping Hemiptera, allied, though less in size, to the familiar and unpleasant species, the frog-hopper (*Cercopis spumaria*), the larva of which, in its frothy secretion, gets the name of cuckoo-spit. Your insect is called *Acocephalus pallidus*, and in the larval state it doubtless feeds upon the juices of plants, but in the early summer usually, and it is not a species that often occurs about gardens. That the kindred and larger insect, *C. spumaria*, often does harm to the stems of garden flowers as well as vegetables is a well-known fact; the mischief, however, appears to be solely confined to the larva. Further observations seem to be necessary in this instance. It would be interesting to know if the commencement of the injury can be dated exactly, and whether any frothy grubs were ever noticed on the Chrysanthemums.

Names of Fruits.—Notice.—We have pleasure in naming good typical fruits (when the names are discoverable) for the convenience of regular subscribers, who are the growers of such fruit, and not collectors of specimens from non-subscribers. This latter procedure is wholly irregular, and we trust that none of our readers will allow themselves to be made the mediums in infringing our rules. Special attention is directed to the following decision, the object of which is to discourage the growth of inferior and promote the culture of superior varieties. *In consequence of the large number of worthless Apples and Pears sent to this office to be named, it has been decided to name only specimens and varieties of approved merit, and to reject the inferior, which are not worth sending or growing.* The names and addresses of senders of fruit to be named must in all cases be enclosed with the specimens, whether letters referring to the fruit are sent by post or not. The names are not necessarily required for publication, initials sufficing for that. Only six specimens can be named at once, and any beyond that number cannot be preserved. *They should be sent on the first indication of change towards ripening. Dessert Pears cannot be named in a hard green state.* (R. B.).—A handsome specimen of Peasgood's Nonesuch, weighing 18 ozs. Plums cannot be named without examples of summer shoots for examination with the fruit. (R., Leeds).—1, Brabant Bellefleur; 2, decayed; 3, Golden Spire; 4, shrivelled, resembles Rosemary Russet; 5, not known, worthless; 6, Northern Greening. (R. S.).—1, Gloria Mundi; 2, King of the Pippins; 3, Sturmer Pippin; 4, Winter Greening. (S. F.).—1, Louise Bonne of Jersey; 2, Maréchal de Cour; 3, Easter Beurré. (J. C.).—1, Tower of Glamis; 2, Blenheim Pippin; 3, Keswick Codlin; 4, Yorkshire Beauty; 5, Ecklinville Seedling. (F. R.).—1, Fearn's Pippin; 2, Cellini; 3, Golden Russet. (J. R.).—We are uncertain about the "Pear." Have you not sent two varieties? The larger striped fruit resembles Beurré d'Amanlis Panachée.

Names of Plants.—We only undertake to name species of plants, not varieties that have originated from seeds and termed florists' flowers. Flowering specimens are necessary of flowering plants, and Fern fronds should bear spores. Specimens should arrive in a fresh state in firm boxes. Slightly damp moss, soft green grass, or leaves form the best packing, dry wool the worst. Not more than six specimens can be named at once, and the numbers should be visible without untying the ligatures, it being often difficult to separate them when the paper is damp. (J. F. S.).—1, *Asplenium flaccidum*; 2, *Thunbergia alata*; 3, *Ranunculus parviflorus*. (S. F.).—1, *Berberis vulgaris*; 2, *Impatiens Hawkeri*; 3, *Abutilon vexillarium*. (Amateur).—*Allamanda Hendersoni*.

GARDENERS' CHARITABLE AND PROVIDENT INSTITUTIONS.

THE GARDENERS' ROYAL BENEVOLENT INSTITUTION.—*Secretary*, Mr. G. J. Ingram, 50, Parliament Street, London, W.C.

UNITED HORTICULTURAL BENEFIT AND PROVIDENT SOCIETY.—*Secretary*, Mr. W. Collins, 9, Martindale Road, Balham, London, S.W.

ROYAL GARDENERS' ORPHAN FUND.—*Secretary*, Mr. A. F. Barron, Royal Horticultural Society's Gardens, Chiswick, London, W.

COVENT GARDEN MARKET.—SEPTEMBER 11TH.

BUSINESS very dull.

FRUIT.

		s.	d.	s.	d.			s.	d.	s.	d.
Apples, per bushel	.. ..	1	3	to	3	0	Filberts, per 100 lbs.	.. ..	35	0	to 0
„ Nova Scotia, per barrel	.. ..	0	0	0	0		Grapes, per lb.	.. ..	0	6	1
„ Tasmanian, per case	.. ..	0	0	0	0		Lemons, case	.. ..	10	0	15
							Peaches, per dozen	.. ..	1	0	6
							Plums, per half sieve	.. ..	1	0	2
Cobs, per 100 lbs.	.. ..	35	0	0	0		St. Michael Pines, each	.. ..	2	0	6

VEGETABLES.

	s.	d.	s.	d.		s.	d.	s.	d.		
Beans, per bushel	1	0	to	2	0	Mustard and Cress, punnet	0	2	to	0	0
Beet, Red, dozen	1	0	0	0	Onions, bushel	3	6	4	0		
Carrots, bunch	0	3	0	4	Parsley, dozen bunches ..	2	0	3	0		
Cauliflowers, dozen	3	0	6	0	Parsuips, dozen	1	0	0	6		
Celery, bundle	1	0	1	3	Potatoes, per cwt.	2	0	4	0		
Coleworts, dozen bunches	2	0	4	0	Salsafy, bundle	1	0	1	6		
Cucumbers, dozen	0	9	1	6	Seakale, per basket	0	0	0	0		
Endive, dozen	1	3	1	6	Scorzoneria, bundle	1	6	0	0		
Herbs, bunch	0	3	0	0	Shallots, per lb.	0	3	0	0		
Leeks, bunch	0	2	0	0	Spinach, bushel	1	0	1	6		
Lettuce, dozen	0	9	1	6	Tomatoes, per lb.	0	3	0	4		
Mushrooms, punnet ..	0	9	1	0	Turuips, bunch	0	3	0	6		

AVERAGE WHOLESALE PRICES.—OUT FLOWERS.—Orchid Blooms in variety.

	s.	d.		s.	d.		s.	d.		s.	d.
Arum Lilies, 12 blooms ..	3	0	to	4	0	Maidenhair Fern, dozen bunches	4	0	to	6	0
Asparagus Fern, per bunch	2	0		4	0	Orchids, various, dozen blooms	1	6		18	0
Asters (English) doz. bchs.	2	0		4	0	Pansies, various, dozen bunches	1	0		2	0
Asters (French), dozen bunches	8	0		12	0	Peas, Sweet, doz. bunches..	1	6		3	0
Bouvardias, bunch	0	6		1	0	Pelargoniums, 12 bunches	4	0		9	0
Carnations, 12 blooms ..	1	0		3	0	Primula (double), doz. spys.	0	6		1	0
„ dozen bunches..	4	0		8	0	Roses (indoor), dozen ..	1	0		2	0
Chrysanthemum, dozen blooms..	1	0		2	0	„ Tea, white, dozen ..	1	0		2	0
„ doz. bunches	3	0		6	0	„ Yellow, dozen (Niels)	3	0		6	0
Dahlias, dozen bunches ..	2	0		4	0	„ Safrano (English), dozen..	1	0		2	0
Eucharis, dozen	1	6		2	6	„ Yellow, dozen blooms	0	6		0	9
Gaillardias, doz. bunches..	1	0		2	0	„ Red, dozen blooms ..	1	0		1	6
Gardenias, dozen	2	0		3	0	„ various, doz. bunches	3	0		6	0
Geranium, scarlet, doz. bunches	4	0		6	0	Smilax, per bunch	2	6		4	0
Lilium lancifolium, twelve blooms	1	6		2	6	Stephanotis, dozen sprays	2	0		3	0
„ longiflorum, 12 blooms	3	6		4	0	Sunflowers (small) dozen bunches	2	0		3	0
Marguerites, 12 bunches ..	1	6		3	0	Tuberose, 12 blooms..	0	2		0	4

PLANTS IN POTS.

	s.	d.	s.	d.		s.	d.	s.	d.	
Arbor Vitæ (golden) dozen	6	0	to	12	0	Foliage plants, var. each	2	0	to 10	0
Aspidistra, dozen	18	0	36	0	Heliotrope, per dozen ..	4	0	6	0	
Aspidistra, specimen plant	5	0	10	6	Lilium lancifolium, 12 pots	12	0	18	0	
Campanula, per doz.	5	0	9	0	Lobelia, per dozen	3	0	4	0	
Chrysanthemums, per doz.	6	0	18	0	Lycopodiums, dozen	3	0	4	0	
Coleus, per doz.	2	6	4	0	Marguerite Daisy, dozen ..	6	0	9	0	
Dracæna, various, dozen ..	12	0	30	0	" Yellow " ..	9	0	18	0	
Dracæna viridis, dozen ..	9	0	18	0	Myrtles, dozen	6	0	9	0	
Euonymus, var., dozen ..	6	0	18	0	Palms, in var., each	1	0	15	0	
Evergreens, in var., dozen	6	0	24	0	" (specimens)	21	0	63	0	
Ferns in variety, dozen ..	4	0	18	0	Pelargoniums, per dozen ..	8	0	12	0	
Ferns (small) per hundred	4	0	6	0	" scarlets, doz. ..	3	0	6	0	
Ficus elastica, each	1	0	7	0						



SHELTER FOR CATTLE.

EXPOSURE to cold and wet causes loss of condition and sickness among cattle and loss of money to the owners thereof. Said a recent writer on this subject in the "Field":—"Since live stock have become the sheet-anchor of British agriculture, it behoves farmers to shape their plans and execute their duties in a manner to exact the full benefit derivable from this recently exalted branch of their ancient and honourable industry." By all means, say we, and as a means to an end so desirable, perfect

shelter in autumn and winter is of the first importance. But this is a matter to which such general attention as it deserves has by no means been given in the southern half of Great Britain. Northern farmers, especially over the Border, have such provision for shelter at their homesteads as most southern farmers have no conception of. To the unaccustomed eye the numerous costly ranges of cow and cattle byres, all of dressed stone, at a Scotch homestead seems positively extravagant. It may be so in fact, in some degree, but stone is plentiful, and substantial buildings once done are certainly much less expensive to maintain than so-called "cheap" structures.

We admit that the important points in such buildings are the complete exclusion of water—rain or surface—security from draughts, free and controllable ventilation. How this can best be obtained is altogether a matter of ways and means, of local materials, of ordinary or extraordinary requirements. There can be no greater contrast than the Scotch byre of stone and slate, and the Suffolk hovel with walls of stud and plaster and the roof of thatch; old Suffolk leases invariably containing a covenant binding the tenant to supply straw for thatching all buildings on his holding. For some years we were engaged in the restoration to sound condition of a considerable number of dilapidated Suffolk homesteads. In all of them stud and plaster, with thatch, were the dominant features, yet bricks and tiles were made for sale on the estate, and glad were we to use them instead of the fragile stud and plaster and the perishable thatch.

But our aim now is not so much a comparison of the relative value of building materials, as to show the necessity for such buildings at every farm, and of the early use of them in the autumn. We are convinced that cattle sustain much harm at the period before attention is given to the evil effects of exposure to heavy rain, early frost and cold cutting wind. There is a serious loss of condition in beasts kept out in the open on cold, wet, autumnal nights, and we have known fat beasts to die outright when kept late into October out on marsh land, where not even the shelter of a hedge is to be had. The best answer to the oft-repeated assertion that they can "stand" it is given by the beasts themselves, as they invariably take advantage of any shelter afforded by tree clumps or hedgerows, going to it at nightfall even if the weather is fine and tolerably calm. They avoid the cold air currents sweeping across the open meadows, but they cannot escape from rain showers in the night, which are often followed by frost towards morning. Open hovels out on the pasture render cattle comparatively safe from such exposure, but they must be commodious or the stronger beasts will drive out the weaker ones. There should be an ample provision of such hovels on all outlying pasture; or, better still, a snug yard with hovels along at least two sides, and with a wall or high boarded fence and doors on the other sides. Corrugated iron sheets answer admirably for this purpose, being cheap, durable, and efficient.

We strongly object to setting the doors of the yard wide open by day—there must be systematic care. When the herdsman goes to let out the cattle in the morning he should then make clean the hovel floors, strew them with fresh clean litter, attend to the water trough, fill the racks, and shut the doors. The cattle will then go regularly to the yard towards evening, and are generally found awaiting the arrival of the herdsman to open the yard doors, and admit them to the snug comfortable quarters in which they revel and thrive. By this means they are brought under close supervision twice daily, all risk of undue exposure is avoided, and instead of losing condition there is the steady improvement that is so essential if they are to prove profitable. It is undoubtedly such care that has tended to the superiority of Scotch beasts. Without it careful breeding or selection cannot tell fairly on the final results, so that the

timely attention to shelter for which we plead may be said to make all the difference between success and failure in the management of cattle.

WORK ON THE HOME FARM.

The scarcity and high price of chickens in the spring and early summer of this year will, we hope, induce more general attention to the necessity for improvement in the winter quarters of poultry, and to the better management of the fowls in every way. Now is the time for attention to the buildings, so as to have them in perfect order before cold weather sets in. Sound roofs and walls, with dry floors, there must be, without any openings under the eaves for draughts. We have known an apparently snug poultry house to have the perches on a level with the eaves, under which a cold draught rushed on the birds' all night long. This is bad enough, but when, in addition, the fowl house is so filthy as to be literally a foul house, then, indeed, the poultry have a bad time of it. They often become so infested with lice, that some may be found on the perches and in the nests. No wonder that such poultry do not thrive.

Let us now see to this at once, making the buildings clean, as well as sound and warm. Let all foul perches and floors be scraped, the walls, perches, and every part of the interior limewashed, and the floor covered with dry earth or sand. This can be removed when necessary, care being taken never to leave it there so long as to become offensive; to scrape the perches every week, and to limewash again, and frequently enough to ensure cleanliness. Hens are moulting, their eggs have run short, and early March pullets are now laying well, and will be followed throughout the winter by pullets from successional broods. Our old favourites the White Dorkings are still highly valued by us, both for the excellent supply of winter eggs which they afford, and for the plump white-fleshed table birds, of which we always have a supply, as well as those from the cross with the old Game breed.

See that there is an ample store provided for winter use of dust and grit, as well as a warm dry place for the fowls to scratch and dust themselves in. This keeps them busy, contented, thriving, and useful in the dull, cold, wet weather, that will soon come again, and which the fowls dislike so much.

THE preliminary returns of the Board of Agriculture show that the area of Wheat cultivation for Great Britain is only 1,417,641; Barley, 2,166,279; Oats, 3,295,905; Potatoes, 541,217; hay (Clover and rotation grasses), 2,303,431; hay (permanent pasture), 4,760,889; and Hops, 58,940. In 1894 the quantities were:—Wheat, 1,927,962; Barley, 2,095,771; Oats, 3,253,401; Potatoes, 504,454; hay (Clover and rotation grasses), 2,121,904; hay (permanent pasture), 4,852,442; and Hops, 59,535 acres. It will be seen that Wheat is more than half a million acres less than that of last year. Barley in Great Britain, covering 2,166,279 acres, has maintained its position well, and now stands higher in acreage than for any year since 1886; while the 3,295,905 acres of Oats beat the record of all past years since the official returns were first collected. The partial recovery of the Potato area, after a considerable decline since 1888, is notable; but the crop of this year, with 541,217 acres, covered nearly 50,000 acres less than in the year just named. There is a small increase in cattle, but we still have only 6,354,336 in Great Britain, against 6,700,676 for 1893. The figures for sheep, after a good lambing season, are disappointing, the 25,792,195 being less by 63,305 than last year's number, and by 1,488,139 than that of 1893. Pigs, on the other hand, have recovered ground rapidly, having increased from 2,113,530 in 1893 to 2,884,431.

METEOROLOGICAL OBSERVATIONS.

OAMDEN SQUARE, LONDON.

Lat. 51° 32' 40" N.; Long. 0° 8' 0" W.; Altitude 111 feet.

DATE.		9 A.M.				IN THE DAY.				Rain.	
1895. September.		Barometer at 32° and Sea Level.	Hygrometer.		Direc- tion of Wind.	Temp. of soil at 1 foot.	Shade Tem- perature.		Radiation Temperature		
			Dry.	Wet.			Max.	Min.	In Sun.		On Grass.
		Inchs.	deg.	deg.		deg.	deg.	deg.	deg.	Inchs.	
Sunday	.. 1	30.140	59.8	54.2	W.	61.9	75.4	46.0	106.8	41.8	—
Monday	.. 2	29.908	68.7	61.2	S.E.	61.1	78.2	52.8	121.3	45.9	—
Tuesday	.. 3	30.052	59.9	58.4	N.W.	61.9	78.1	51.9	111.3	46.3	—
Wednesday	4	30.117	63.7	59.3	N.	62.7	74.3	59.5	113.9	55.4	—
Thursday	.. 5	30.103	63.3	57.4	S.	62.2	74.0	51.7	116.9	46.1	—
Friday	.. 6	30.104	67.4	63.2	N.	62.8	74.2	58.6	102.7	54.0	1.239
Saturday	.. 7	29.964	65.0	65.0	N.	63.0	79.0	58.6	118.2	56.0	—
		30.055	64.0	59.8		62.2	76.2	54.2	113.0	49.4	1.239

REMARKS.

- 1st.—Bright throughout.
 - 2nd.—Misty early; almost cloudless day and night.
 - 3rd.—Misty early, and hazy all morning; bright afternoon; a little cloud in evening.
 - 4th.—Hazy early; bright sun from 11 A.M.; a little cloud in evening and lunar halo.
 - 5th.—Sunny throughout.
 - 6th.—Generally cloudy, hazy, and close, but sunshine at times.
 - 7th.—Four thunderstorms between 3 and 9 A.M., exceptionally severe between 4 and 5 A.M.; steamy and hazy till 10.30 A.M.; bright after.
- A very fine warm week, with severe thunderstorm in the early hours of Saturday.—G. J. SYMONS.

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Journal of Horticulture.

THURSDAY, SEPTEMBER 19, 1895.

SIGNS OF THE TIMES.

HORTICULTURE has, it may be readily admitted, kept pace with the times; has, in fact, been brought up to date. Yet in taking but a cursory survey from our present standpoint, and noting all the benefits that have been conferred by scientific research and modern invention, there are many who feel that the present is but a transitory stage—the stepping stones to higher things. This feeling probably arises more from tangible evidence of that restless spirit of inquiry, now in the ascendant, than from dissatisfaction at results already obtained. We may, doubtless, rest content in the knowledge that progression soundly based on the twin pillars of theory and practice will ever keep us up to date, yet few, I think, are thus easily satisfied.

In marking progress now the young will anticipate the possibilities that lay before them. Their elders will speculate on probabilities they cannot themselves hope to see, yet will they not feel less interest in a future to which they are contributing, although their especial privilege is in looking back on times in which has been recorded some of the most brilliant pages yet written in the history of gardening. But all who reflect cannot fail to note the high pressure at which horticulture is being driven forward by the expansive forces of necessity and opportunity.

In the necessity which prompts the endeavour to solve complex economical problems we have a potent agent, evil though it be, working for the good of the cause. In the opportunity conferred by the unqualified blessing of a prolonged peace we, of to-day, have advantages which past generations have not always enjoyed, hence concentration of thought is permitted on so important a subject, nor is it magnetised and drawn to other objects.

Coming to the subject proper it may be asked, "Where shall busy workers look for signs of the times?" As one of this class I will endeavour to show what I have seen, where seen, and their portent, though "all meanings depend on the key of interpretation." To me the pages of this paper, the *Journal of Horticulture*, have, especially of late, been pregnant with

them, and so portentous are they, and in some instances so clearly shadowing forthcoming events, that my somewhat prolix prefatory remarks have, I trust, helped to adjust the mental telescope for a peep into futurity.

In the first place, we cannot ignore the presence of that essentially practical spirit of the age, which may be roughly designated as profit—a spirit of too vigorous a growth to be any longer confined to its special domain—the commercial world. There are, indeed, but few private gardens into which it has not now entered, either in its boldly assertive form or cloaked in some disguise it can readily assume at will. In the latter case its influence may be more of the negative kind of counting the cost than of seeking for marginal profits, but where this spirit has entered—and where has it not?—then its more palpable development may be looked for.

Obviously these are signs which can no longer be ignored. That they are disagreeable to some who would fall back on easy going is plain, but the good old times, whatever their goodness consisted of, are gone for ever, and it is a matter for regret to observe that with some “while knowledge comes, wisdom lingers.” The more liberal and comprehensive viewers of the present must, willingly or unwillingly, see that a revolution is slowly yet surely working out far-reaching results—results which will eventually place the gardener’s position on the soundest basis it could possibly have, by showing a balance on the credit side of the ledger.

This profit may not necessarily be visible in a salesmaster’s returns, for this occasion may or may not arise. The produce which yields in the market a clear profit over cost of production is not depreciated in value for home consumption. No narrow view should be taken of this subject. All conditions vary with circumstances. In one garden the market value of its produce may be expected to pay for the labour, in another “the master” looks for a choice Orchid bloom for his buttonhole, valued at, say, 5s., but objects to an expenditure of more than 4s. in skill and fire heat to produce it. Conspicuous or obscure examples will illustrate the same principle, and that reconstruction on these lines is going on is clearly demonstrated, to me at least, by signs of the times. All is changing except the broad ethics of political economy; these will and must endure.

Very pleasantly and satisfactorily has many a garden been conducted until this spirit of profit has entered, then perhaps the haunted man who ignores the ghost’s bargain is doomed to hear “We can no longer afford to keep a gardener,” or “We must have a cheaper man,” and that the cheaper man may prove the dearer in the long run is of but little moment to him who is immediately concerned. But this spirit of the times if wisely propitiated according to the degree its presence is felt should, and doubtless will, change the superfluous into the necessary, and instead of not affording to keep a gardener, the verdict will be changed to “We can’t afford to do without one.”

One of these vexatious problems which is engaging the minds of many, the pens of but a few, is the overplus of gardeners relative to situations. In an endeavour by one writer in the *Journal of Horticulture* to grapple with this evil, on lines which I am not prepared to criticise here, it may be noted that the project was either too visionary to elicit an expression of opinion from our practical penmen or that gardeners were too diffident to take further notice of the matter; if the latter, then I take it for a bad sign of the times. Anyway, subsequently to the study of “Invicta’s” dismal picture, which may or may not be as black as he painted it, the formation of a Company for Celery culture was noticed, and this event may possibly foreshadow the inauguration of some similar co-operative scheme for the benefit of the “waiting ones.”

Co-operation on pacific principles is now so well understood, and its benefits so forcibly illustrated in various phases of life, that it can no longer be viewed with the suspicion it may have once entailed. Witness the moral to be extracted from the joint essays

on another problem lately published in these pages. Not one of those essays alone unravelled the knot, but from the joint efforts of these practical writers are to be gathered the fruits of experience. And what is the moral that anxious and interested readers should extract from this combination of effort? Is it not rather that up-to-date men must go a little beyond that by anticipating public tastes and requirements? A careful re-perusal of those admirable essays on what to grow to pay in winter, will, I think, endorse my interpretation of this sign of the times.

And what of the “Lessons by the Way;” lessons on fruit culture; evidence of the demand which still exists for superior produce, which must be so put before the public as to please the critical eye as well as the critical taste? Tricks of trade they may be, but necessary to him who would hold the trumps.

Last (for present consideration), not least, is that keen desire permeating these pages to reduce all culture to a scientific basis. Mysteries of success, or of failure, are cleared up. Chance work is being rapidly eliminated, and the modern gardener in knowing what to do, provided he has the energy to do it, is rapidly advancing to—what? Such signs of the times yield the happiest auguries for the future. Much that perplexed our forefathers is being revealed under the search-light of science, and the way is paved to things as yet perhaps but faintly foreshadowed in the horoscope of gardening. So may we look on a past with pride, yet wisely see that the old order of things has changed and be prepared to act accordingly. Doing this should at the present enable us to view the future with confidence.—SEER.

HARDY FLOWERS.

THOUGH summer has gone, and ere long we shall see Nature casting off her summer robe, when “Autumn’s fire burns slowly along the woods,” we still find in our gardens many objects of beauty to repay those who love them, for their care. These objects are many, and we need not wander far to see enough to think and to write of. Yet we are all the better after looking round other gardens, to see some new flowers or some well-known favourites, either better grown than we can boast of, or, mayhap, inferior to our own; and (not the least of all the pleasures of seeing other gardens) to talk with kindred spirits, and enjoy these chats about flowers, which are all too seldom our lot, save through the medium of pen and ink.

Some days before writing a few hours were spent in two gardens, full of interest to admirers of the beauty of our hardy flowers. One of these gardens is an old one, with its high brick walls weather-stained and lichen-mottled, and containing within its bounds a wealth of flowers, both old and new—some Nature’s own production, and others produced, or at least changed, by that art which “does mend Nature.” The other is smaller and newer, but having within its grey granite walls a fine collection of herbaceous border plants. Of some of these plants we seek to tell, and one needs no copious notes to recall their appearance, which still seem present to our “inward eye.” Thus, as they present themselves to our thoughts, we shall endeavour to tell of their beauty and their worth.

It is the time of Sunflowers and their allies, and as we look through the army they muster before us we cannot but recognise their brightness and beauty. Helianthi, Harpaliums (botanists will, perhaps, pardon their separation here), Heliopsis, Coreopsis, Rudbeckias, Heleniums, Silphiums, and others of similar nature stand before our admiring eyes, with their golden rays, and black, brown, green, or yellow centres. So far as I know there are no double flowers save the Helianthus, and of these but few. One of the finest is Helianthus Bouquet d’Or, a very beautiful form of excellent habit, and with double flowers of a rich golden hue. A fine plant, with leaves of a healthy green, and fully garnished with its golden blooms, was a very beautiful object in a large border filled with many good hardy plants. Unfortunately this Sunflower is not absolutely hardy without protection in some gardens, and I know of several places where it succumbed to the severity of last winter. The plant I am now speaking of did not, however, suffer, and its beauty will well repay one for any little trouble involved in covering it with some dry litter.

It is an unthankful task to make any depreciative remark about a plant one has already commended, but a note of this kind is sometimes a needed service. Thus we can in this way say a little about one of the Heleniums, which has been much admired.

H. autumnale striatum, frequently sold as *H. grandicephalum striatum*. The fault it has is that if strongly grown it becomes too tall, and makes too much growth at the expense of its flowers. When established in good soil it will grow 5 or 6 feet in height, and then presents rather a coarse appearance. This can be easily remedied by planting in poorer soil, or by lifting and replanting annually. Its combination of red and gold in the colour of the flowers renders its blooms very acceptable.

Very fine, too, in their way were several plants of *Rudbeckia* or *Echinacea purpurea*, with their dark central cones and drooping purple rays. *Echinacea* is, I believe, the recognised name at present, but it is somewhat difficult to find any rest for the soles of our feet in our wanderings after accuracy in nomenclature. Meanwhile, we take our stand on the Kew name, satisfied at any rate that the plant, whatever its name, is a fine one. There are, however, considerable differences in point of colour among the plants, and some are, indeed, a trifle dull, and a little more brightness infused into the colouring of the ray petals would be an improvement to all I have yet seen. There is, too, some difference in point of stature and also in the length of the petals, due, in all likelihood, to variations from seed.

A very beautiful star-like flower is *Erigeron salsuginosus*. Daisy-like in flower, but not in habit, growing as it does some 2 feet or more high, and bearing a profusion of flowers with narrow petals, which I see described as "whitish," a description apt to be repellant, giving one the idea of dinginess. The flowers of *E. salsuginosus* may, however, be better described as "pale lilac" or even as "blush white." It is a beautiful member of an attractive genus.

Not unlike the *Erigeron* in some respects, but taller and lighter in its habit, is *Boltonia asteroides* of L'Héritier, from North America, and growing more than 4 feet high in good soil. The tallest plant I saw was about 5 feet high, and looked very graceful and pretty, with its "flesh-coloured" Daisy-like flowers. I am again quoting the colouring, and again have to differ from the description, although unable to give a more satisfactory one, beyond venturing to say that pale lilac comes nearer to it than "flesh."

A very beautiful *Gentian* was nearly open, and was so pretty in this stage and is so seldom seen that a note on it is quite called for. This is *Gentiana alba*, and said to be synonymous with *G. ochroleuca*, which is again said to be synonymous with *G. intermedia*. This *Gentian* does not appear to be in the Kew collection, as it is not included in the "Hand-list of Herbaceous Plants." It is an erect grower, and was about 15 or 18 inches high. The leaves are oval-lanceolate, and the flowers are a kind of creamy white, and are borne in a terminal head. *G. ochroleuca* is given in the "Dictionary of Gardening" as "blue." *G. alba* is a native of the United States of America. The good plant I had the pleasure of seeing was growing in the ordinary border in good loam.

Another plant whose behaviour in the climate of south-east Kirkcudbrightshire I have watched with interest for the last year or two was coming into flower at the end of August, and although not open, one could admire its fine, broad, sword-like leaves, which made it very ornamental, even without the flowers so soon to open. This is *Antholyza paniculata*, a bulbous plant from South Africa, and seldom cultivated in the open ground in our northern latitude. It is thus all the more gratifying that the Arctic winter of 1894-5 did not cause this fine Irid to perish in the herbaceous border. Its habitat is given as "Natal" by Mr. J. G. Baker, who also states that it was first gathered by Gerrard. When in full flower *A. paniculata* will be very handsome with its long, broad leaves, and its dense, many-flowered spikes of red-yellow flowers from 3 to 4 feet in height.

A few experiments with some of the *Agapanthi* have made one very sceptical as to their hardiness without protection. There is, however, a pretty little one, which, besides having in favour of its hardiness the authority of gardening works, has been tested in the south of Scotland with satisfactory results. This is *Agapanthus umbellatus Mooreanus*, which only grows about 18 inches high, and has narrower leaves than the typical *umbellatus*, and pleasing dark-blue flowers. It was introduced in 1879, and is deserving of much more notice than it has hitherto received. In the open border, or in many other positions, the umbels of flowers and attractive foliage of this dwarf African Lily will be found very useful. *Clematis Davidiana* is proving a very distinct species, and its hardiness renders it an acceptable addition to the herbaceous border. One fine plant in full beauty was most pleasing with its whorls of tubulous blue flowers. It appears to grow about 4½ feet high after being established.

While *Tropæolum speciosum* grows and flowers freely with us when established, it is to be regretted that similar success cannot be reported with *T. tuberosum*, which generally survives the winter in the open in this district, but does not bloom. I fear we

must thus write it down as only suitable for starting in heat and planting out afterwards, so as to give it a longer period of growth before cold weather sets in. I have again had the opportunity of seeing this Peruvian *Nasturtium*, and am thus induced to make the above remarks.

As usual, time and space fail me in endeavouring to tell of some of the flowers which one saw with pleasure or profit. As I write they present themselves before the "mind's eye"—masses of *Phloxes* of the most advanced types; sheets of grand *Snapdragons*, which would please the most exacting florist, and great beds of *Pentstemons* with *Gloxinia*-like blooms of the various shades and markings to be found in *Pentstemons* of the florists' type. Then there are summer *Chrysanthemums*, *Dahlias*, *Montbretias*, *Gladioli*, and many other flowers, the thought of whose beauty will remain when the breath of winter has despoiled them of their charms.—S. ARNOTT.

SEASONABLE NOTES.

THE fast-shortening days and chilly nights remind us that no time must be lost in preparing for the storms and cold of the winter. In each department of gardens it is necessary to grapple with difficulties and forward work, so as to be ready for King Frost whenever he swoops down on us.

With this end in view winter-flowering plants which have been growing in the open air during the summer months should, if planted out, be lifted at once. *Marguerites* treated in this way make grand specimens. I have frequently had them 4 feet in diameter, and with proper treatment at lifting time they have scarcely lost a leaf, and flowered profusely throughout the autumn. I make a practice of severing the roots with a spade at about 9 inches or a foot from the stems a week before the plants are lifted, always giving them a good watering after this root-severing has been performed, and, if necessary, watering again a day before the plants are lifted, then there is no fear of the soil crumbling away from the roots. Pots in proportion to the size of the plants must, of course, be used; but nothing is gained by having them unduly large. After potting give one good watering through a rose, and stand the plants in a shady position—the back of a north wall is a suitable one.

The secret of success in preserving the foliage and enabling the plants to quickly recover themselves lies in frequent syringings. During bright weather this should be done three or four times daily, no water being given at the roots until the soil is slightly dry. The plants should be left in the open air as long as it is safe to do so, because the night dews are so invigorating, and when there are signs of slight frosts it is an easy matter to cover with tiffany. The first or second week in October is usually early enough to place them under glass, and they may sometimes be left out till the end of the month. *Callas*, *Bouvardias*, *Solanums*, *Eupatoriums*, and *Sparaxis* succeed under precisely the same treatment. *Wallflowers* too, though not so generally grown in pots, are amenable to the same course of procedure, and when established they may be placed in cold pits, frames, or in any cool house where there happens to be a little vacant space, and in the early spring months, when they have done flowering, consigned to the rubbish heap, and thus have more room for other plants, which are by that time increasing in size.

It is also an excellent practice at the present season to pot plants of *Deutzia gracilis* required for forcing; young roots will then be emitted before the leaves have fallen, and the plants be in the right condition to pass satisfactorily through the ordeal of forcing.

Pelargoniums intended for winter flowering should now be placed in the houses or pits they are to occupy during that period, but no attempt at coddling must be resorted to; on the contrary, abundance of air should be given except during frosty weather. A firm sturdy growth will then be secured, without which abundance of flowers during the winter months cannot be obtained. Frames filled with *Primulas*, *Cyclamen*, and *Cinerarias* ought to be thoroughly overhauled and the plants thinly arranged. Through lack of space at the present time, when so many plants are rearranged under glass, there is a general tendency to overcrowd. If this is done with the invaluable softwooded plants first enumerated sturdy compact little specimens cannot be produced. When it is found that plants are more numerous than space at command provides for, the best should be selected and arranged thinly and the remainder placed more closely together, when they will probably supply useful cut flowers, though the plants may be drawn in consequence of overcrowding.

In the reserve garden, where seeds of *Foxgloves*, *Canterbury Bells*, and *Antirrhinums* were sown in August, a good deal of transplanting will now require to be done. If these seedlings are

pricked out 6 inches apart they will make good plants for lifting with balls of earth and planting where required in the early spring months. This class of plants is now very much grown in shrubberies and comparatively wild parts of the garden. In some such positions the plants may be naturalised by sowing the seeds in the permanent quarters; in others I find the desired object is best secured by treating as at first advised. When several plants become established the seeds are scattered in all directions, causing hosts of young seedlings to spring up each year, and places which were at one time unsightly spots present in their season a lavish feast of floral beauty.—D.



PHALÆNOPSIS SCHILLERIANA.

THIS beautiful Orchid might almost, I think, be awarded the first place in the genus for beauty, the richly marked foliage of healthy plants alone being a great attraction. Combined with this, the splendid spikes with their dozens of flowers make a really magnificent object. The plant is moreover, perhaps, the easiest of all the Moth Orchids to cultivate, withstanding many hardships to which the smaller kinds or even *P. amabilis* would succumb. I remember well an accident occurring to the boiler of an Orchid house wherein several of this genus were grouped, the temperature falling nearly to freezing point despite our best efforts with mats and other protectives. *P. Luddemanniana* was killed outright, while *P. amabilis* was so badly hit that it never recovered. *P. Schilleriana*, on the contrary, though it lost nearly every leaf, eventually rallied and made good growth the following season. Many modes of culture are resorted to with *Phalaenopsis*, all more or less successful, blocks, cylinders, baskets, and pots all having been recommended.

For these strong growing members of the genus I prefer pots to any other receptacle for these plants, and am confident that other cultural means being brought to bear in a proper manner; they are as long-lived under such treatment as any and easier to manage. The pots must be well drained, nearly filled in fact, the layer of moss on top of the crocks being in proportion to the strength of the plants. The greatest care is necessary in fixing them so that the roots are not displaced in moving the plants about, and if the roots are not plentiful enough to secure the plants recourse must be had to tying them until new ones are emitted. No plants are more moderate in their food demands than *Phalaenopsis*, and possibly no other would turn such poor fare to good account. Clean sphagnum moss is all they require, with a little charcoal or other hard material to prevent closeness and insure aëration.

The atmospheric conditions under which the plants are grown are the most important details of their culture. All through the growing season they must have a strong moist heat, and if the atmosphere is a little impregnated with ammonia all the better. But a constant and ample supply of fresh air must always be provided for, a close stuffy house causing a soft and poor growth that quickly shows the effect of any slight changes of temperature or other atmospheric conditions. Towards the end of summer the moisture will have to be slightly reduced, while the heat must be steadied, so to speak. A little more sunlight may be allowed if possible, though from the miscellaneous character of the plants in the warm house this cannot be always managed. During winter, which is by far the most trying time with *Phalaenopsis*, a moist and dry atmosphere must always be guarded against, at the same time avoiding too great a degree of humidity. The former is injurious by causing too much evaporation from the plants; the latter predisposes the foliage to spot if accompanied by a low temperature, if high it causes them to grow unseasonably.

During the summer the roots must be well supplied with water, but sprinkling is not advisable, while in winter the sphagnum will absorb nearly enough moisture from the atmosphere to keep itself growing slowly, which is all that is required. The flowers of the typical form are, perhaps, too well known to need description. Sufficient to say, then, that most of the varieties are of pleasing shades of rosy pink or mauve, becoming nearly white towards the margins of the sepals and petals, while one beautiful and rare kind, *P. s. vestalis*, has flowers of the purest white. The type is a native of the Phillipine Islands, whence it was introduced in 1860. —H. R. R.

THE FLORISTS' TULIP.

[By JAS. W. BENTLEY, Hon. Secretary of the Royal National Tulip Society.]

(Continued from page 245.)

CHAPTER VII.—DESCRIPTIVE CATALOGUE OF TULIPS.

THERE are many difficulties in the way of anyone trying to compile a catalogue of Tulips that shall be comprehensive and fairly correct, in fact they are so difficult as to be practically unsurmountable. One great difficulty lies in the fact that the records in the horticultural press since the decease of those sterling little works, "The Midland Florist" and the "Gossip of the Garden," have been miserably meagre, and hence there is a great blank for over thirty years. During this time there has been much apathy amongst growers, with a few notable exceptions, and a great want of intercommunication. Death has also removed most of the men who could have helped to fill up the void; their collections have in many cases been destroyed by neglect, or when dispersed have got into confusion. Many fine varieties have been lost altogether, and others have received different names in different localities, especially seedling breeders of Hepworth's, Storer's, Battersby's, and Hardwick's raising. These difficulties are great, and would be enough of themselves to put a formidable obstacle in the way.

Another trouble with the older varieties lies in the fact that the early English raisers did not give names at all to breeder Tulips which were grown only to obtain rectified flowers from. They were not recognised as exhibition flowers, nor esteemed for the beauty which they possess. The raiser of breeders had little credit, but the grower who broke a breeder "fine," as it is called, thought himself entitled to name the flower and label it with his own name.

It did not seem to be recognised that no matter how often the bulbs of one variety became rectified there was still but one variety after all, and that it was useless and misleading to have more than one name for that variety. The evil, however, became a crying one, for at a time when Tulips were high in price, much vexation and disappointment was frequently caused to purchasers at finding that some high-priced, so-called novelty, was merely an old friend with a new name. As an instance, it may be mentioned that about 1820 Lawrence of Hampton broke from a breeder of Clark's raising a fine bizarre which he called Polyphemus, but other people had the same breeder and began to break it, and in course of time Albion, Ulysses, Nourri Effendi, Brown's Hamlet, Sir Robert Peel, Polydora, &c., &c., appeared at high prices, but they were all strains of Polyphemus, and should have had no other name. This intolerable state of things filled catalogues with duplicates, and no doubt did much to extinguish Tulip culture in the south of England, for it was more or less persisted in until the last.

The present day custom, which is to name or number seedling breeders before letting them out, is a great improvement, as it gives the actual raiser the credit of his labours. The utmost the breaker can claim is to have originated a notable strain; for example, we talk of Mellor's strain, of Willison's Sir Joseph Paxton, or Haynes' strain of Storer's Dr. Hardy, as they are the best of those varieties.

In the pages which follow I have done my best to include as many of the varieties grown at the present day as possible, along with some of the more prominent sorts that our fathers and grandfathers esteemed. Whatever shortcomings the catalogue may have the descriptions will be, to the best of my ability, accurate and reliable.

ACCURACY (H. Goldham).—Bizarre. Shape fair, flamed with brown on yellow ground; seedling from Thomas Brown × J. Sanderson. Of little value as an exhibition flower.

ADONIS (Slater).—Bizarre. Shape good, feathered with brown on good yellow ground; seedling from Polyphemus × San José. Rarely seen now.

ADONIS (Headly).—Bybloemen. Tall grower, excellent in breeder, feathered, and flamed states; shape good, base and stamens pure. The breeder is rich purple in colour. When broken the marking colour is dark purple, approaching black in the feathering. The white of the ground colour lacks brilliancy, and the petals near the top are often deficient in marking, both when feathered and flamed. It has a good constitution and increases freely. This variety, introduced by Mr. Headly about thirty-five years ago, was, I am informed on good authority, raised by a Mr. Twitchett of Cambridge. It is still indispensable as an exhibition flower.

AGLAIA (Lawrence).—Rose. Tall grower; breeder unknown, best now as a flamed flower, but sometimes seen in feathered state. The cup is too long, marking colour, dull, deep, rose, paler outside than inside the flower; the base is yellow on first opening, but soon bleaches. It is a good grower, and an excellent exhibition flower notwithstanding its threescore years.

AGNES (Walker).—Bybloemen. Best as a breeder, which is rich purple in colour; shape good, breaks feathered, in which state it sometimes makes a good flower, but is generally stained on the filaments.

AGNES CRESSWELL (Thackeray).—Rose. Cup long, petals narrow, only good when feathered, which is bright rose on pure white ground. Highly esteemed forty years ago.

AJAX (Hardy).—Bizarre. Shape good; petals wide and of good substance, base pure, only valuable when flamed, having a handsome dark chocolate flame on good yellow ground. A fine exhibition flower when in good character, but is generally so heavy in colour as to be useless. A seedling from Polyphemus, which it resembles in some respects, has been out about thirty years.

ALBERT (Ashmole).—Bizarre. Best when feathered; shape good; base pure, feathering rich chestnut brown on deep yellow ground. A fine exhibition flower when right, but uncertain in its markings, and a shy grower. It has been out about twenty years.

ALEXANDER MAGNUS (Dutch).—Bybloemen. Tall grower; long cup; pure base, best when flamed. A good strain of this old flower, which was introduced in 1720, is still grown under the name of Constant. Syns., Constant, Alcon, Grand Marvel, &c.

ALICE (Dymock).—Rose. Dwarf growing; shape not very good, petals rather narrow; base pure, only of value when feathered; the feathering is crimson rose in colour, and plated instead of pencilled. It darkens in colour with age to a dull red. The flower is small in size, but on account of its steadiness and purity it is a good exhibition sort. Syn., Lizzie.

ALICE GREY (Walker).—Bybloemen. Shape good, base pure, best in breeder state, when its colour is a dainty pale lavender; when broken it is best in the feathered state; the marking colour is deep purple, but it shows two shades of colour in the feathering instead of only one, constituting a serious fault, technically known as "grizzliness." Although it has been in cultivation over twenty years it is still scarce, as it increases but slowly.

AMBASSADOR OF HOLLAND (Dutch).—Bybloemen. Tall grower, shape fair, base impure; introduced in 1808, and for many years was in high favour in the feathered state, but is not grown now.

ANASTASIA (Gibbons).—Rose. Tall; shape too long; base pure; best when feathered, but is generally seen flamed. The marking colour is dark rich crimson. It first broke in 1840, and although of not much value at an exhibition except when feathered, it is a fine bed flower. Syns., Gibbons 10, Lady Jane Grey, and Fanny Cerito.

ANDROMEDA (Walmsley).—Rose. Cup long; base impure; best when feathered, when it is very steady. Much thought of forty years ago, but of no value now.

ANGELINA (Barlow).—Bybloemen. Shape long; base pure; marking colour rosy purple; best when feathered. Little grown now, but a favourite in Lancashire fifty years ago.

ANN HAMILTON (Hepworth).—Rose. Dwarf; shape fair, but petals spoon-shaped; base pure; marking colour dull crimson. Comes both feathered and flamed, but increases so slowly that it is scarce although been in cultivation twenty years.

ANNIE MCGREGOR (Martin).—Rose. Shape is good, except that it is slightly too narrow at the base; base and filaments perfectly pure. The white ground is brilliant, and the marking colour is a rich scarlet. As a breeder it is a fine rosy scarlet, and although it sometimes makes a good feathered flower, yet it is in the flamed state that it is at its best. It is a good grower and a steady marker, and although it has been out for over thirty-five years it must be considered as the best rose Tulip in cultivation. By producing this beautiful variety, and other rose seedlings, Mr. Martin, who was a working man, living at Whalley, Lancashire, made one of those great advances sometimes seen in the history of a florist's flower, which distance at once every rival, and defy every attempt made by seedling raisers to supplant them for a generation or more.

STREPTOCARPUS DISTINCTION.

HYBRID Streptocarpus are rapidly being accorded widespread popularity, and considering their floriferousness, ease of cultivation, and the diversified range of colour, it may be said that they thoroughly deserve the position they have now attained to. New forms are always being obtained as a result of the hybridist's art, many, of course, not being worthy of any distinctive appellations, while others are decided acquisitions. Belonging to the latter class is *S. Distinction*, which was exhibited at a meeting of the Royal Horticultural Society at the Drill Hall a few weeks ago, when it was honoured with an award of merit. The illustration (fig. 42) depicts the form and size of the inflorescence, the colour of which is pale blue, with violet blotches on the lower segments. For this excellent addition to the Streptocarpi we are indebted to Messrs. J. Laing & Sons, Forest Hill.

PARSLEY FOR WINTER.

THE preservation of Parsley in a fresh and green state during the winter season is frequently attended with much difficulty where the convenience of frames is not available for this purpose. In the more northerly counties, indeed, Parsley is only to be procured at much expense during nearly six months out of the twelve. The leaves of this useful vegetable when grown in the open ground are generally destroyed by frost; but if the circumstances attending their destruction are fully considered, it will be found that the stems are most rapidly affected where the soil is stiff and moist, and where the situation is exposed to

cold cutting winds. The plant, however, does not appear to be so delicately constituted but that it may be had with comparative ease all the year if the ordinary conditions of growing the less hardy plants during the winter are observed. Some varieties are, perhaps, more susceptible of cold than others. The finest sample I ever saw was grown on the west coast of Scotland by a village schoolmaster. It was of a beautiful green colour, and of a remarkably vigorous habit; but growing in a low situation and exposed to cutting sea gales, the leaves always died down during winter.

In ordinary situations Parsley may be grown successfully on a border having a south aspect, and protected from the north by a wall. The soil should be light and rich. A quantity of stones and brick rubbish should be laid at the bottom to the depth of 7 or 8 inches, so that the bed may be raised considerably above the general level of the ground, and thus insured against excessive moisture. The surface of the soil being properly raked, seed of the most curled variety that can be obtained should be sown very thinly, either in shallow drills or broadcast, and slightly covered with fine soil. This operation should be begun



FIG. 42.—STREPTOCARPUS DISTINCTION.

in May or early in June, and if the weather continue dry frequent waterings will be necessary. The young plants will have sprung up in six or seven weeks, and when large enough they must be thinned out to 5 or 6 inches apart. They will have become large and vigorous by the end of autumn, when a number of stakes should be driven into the ground along each side of the bed. These stakes should be of a thickness to permit of their being bent across and tied together so as to form a series of arches, and strong enough to support a covering of mats, which should be laid over them as soon as the weather becomes frosty and wet. During intense frost, especially at night, it may be necessary to increase this protection by doubling the mats; but this should be removed entirely while the weather is mild. The soil should be kept as dry as may be, and all decaying matter carefully removed from the plants. A bed 4½ feet wide by 10 long will contain as many plants as may be sufficient for an ordinary supply during the winter.

Parsley might also be grown on a sort of rockwork with great certainty and convenience, for on such a structure the roots and stems could be kept in that dry state which is so indispensable to their health and freshness in dull cold weather. For growing it in this way, it is recommended to sow a quantity of seed early in May in a bed of light rich soil on a south border. When the young plants are a little above

the ground they should be thinned out to 6 or 8 inches apart, kept clear of weeds, and watered as occasion requires. At the end of August or early in September collect a few barrowloads of moderately large stones, selecting such as are best suited for forming a rockwork. They should be longer than broad, somewhat flat or even at the sides, so that they may lie firmly in their places when built up. Any kind of stones which the district may afford will do; but those of a sandy or porous composition should be preferred when a choice is offered. Bricks may also be used, but they are, perhaps, too flat, and do not present those holes and crevices which are desirable in the formation of rockwork, and which may generally be secured by the use of stones.

The site being chosen in some sheltered open part of the garden, the stones and a quantity of good friable sandy loam, with some brick rubbish or rubble, should be collected together. The rockwork must be determined according to taste and requirements, in respect to form and size, but there is no use in having it too large. Perhaps the oval form is the most convenient for building such a structure; and if the base is 5 feet long, a pile may be raised with a surface extensive enough to grow a sufficient supply for an ordinary family. The stones used in forming the first tier or layer may be about 8 inches high and kept close so as to keep them together, while the centre may be filled with ordinary brick or sandstone rubbish. When the first layer is completed, a portion of the soil should be laid over the stones at the side, and a number of plants of Parsley, taken carefully up from the bed in which they have been growing, should be planted as regularly as possible in all the holes and crevices, their roots being spread out in the soil, and their stems and leaves kept inclined outwards at the margin.

Having fixed the plants properly, proceed to erect a second tier in the same way, and so on with the others, till the pile is raised to the height desired; but with the subsequent tiers keep the stones 4 or 5 inches nearer the centre all round, and about an inch or so apart. Every stone should be placed directly over the point which forms the junction of those immediately below it; and every additional tier which is raised must be kept 3 or 4 inches nearer the centre than the one preceding it. In this arrangement of the several tiers the plants will not come directly over another, and the soil will not be washed down from the interstices by rain. If at the time of building the rockwork the weather is dry, the soil about the plants must be well soaked with water; but this must be done by limited supplies repeated several times, for if much water is poured on at once a portion of the soil will run down.

To prevent the action of drenching rains from having the same effect, it will be necessary to provide the winter covering at once. A number of stout ash sticks must be driven into the ground about 12 inches from the bottom of the rockwork, and attached by a good strong cord, so near one another that they may form an open arching figure at the top, and so placed that at any point they may be 12 or 18 inches clear of the plants. A covering of oilcloth or common canvas should be provided, and kept in readiness to protect the mound from heavy falls of rain until the soil has become consolidated round the sides. This covering will also be available during intense frost, when it must be carefully laid over the whole frame of sticks and removed whenever the weather is mild and open. In eight or nine weeks the pile will have become covered with strong healthy plants, which, besides affording a continual supply, will form an agreeable object both in summer and winter.

It may be urged that by this plan of growing Parsley the roots are liable to become dry in summer; but in admitting the probability of such a circumstance, we must bear in mind that if the plants could be kept from growing too vigorously during the summer months, they would be in the best condition for preservation during frost. Now the drought of a hot summer would have the effect of retarding them and conserving their energy until the time when their growth was most desirable. Besides, any extreme dryness could be very easily prevented by timely applications of water.—A. N.

GROWING FUCHSIAS.

PERHAPS, owing to some lack of popularity, Fuchsias in many places are not so well or extensively grown as formerly. Other plants have sprung into favour that have, to some extent, superseded this old favourite, with its graceful habit and quiet beauty; and as a kind of plea for the Fuchsia, the following remarks on its culture may be interesting, and I hope instructive, to some readers of the *Journal of Horticulture*.

But little skill is required to provide a display of Zonals, Petunias, Balsams, and other plants, which find their way to the rubbish heap sooner or later; but good culture is required to produce Fuchsias from 6 feet high and upwards perfectly furnished with growths, so that no stem or twig is seen, and so densely covered with flowers that 2 inches without blooms could not be found in the whole plant. Yet it is not so much skill that is wanted as love for the plant, for where love is there will be attention; where love is not there will be inattention and failure. The soil is the main item in Fuchsia culture. It needs something solid and good. No natural loam is half good enough or rich enough; but one-year-old turf from a medium loam may be taken as the best basis; still, as it is only what is artificially supplied that is to be depended on, that rather than the medium ought to be most thought of in preparing the compost.

The Fuchsia requires nitrogen, phosphates, and potash. We have never found a better way of giving these than by laying up good loam months before it was wanted with layers of cow manure between, and then a soaking of urine. Under cover no rain washed the manure out,

the soil fixed the potash and the phosphates, and turned the urea to nitrates. Meanwhile the cow manure had become soil—not the greasy fermented soil of a manure bed, and not the acidulated humus manufactured by worms—but sweet, light, wholesome, nutritious soil, gifted with root-producing, root-feeding powers. Soil so prepared would produce luxuriance in anything—for a time.

But “nothing in this world can last,” and nitrates speedily leave a soil through which water runs as it usually does in pots. Manure is not so rich in phosphates as one might think, and potash and phosphates are soon exhausted when only a small pot holds the rooting ground of a large Fuchsia. When the loam is chopped up for using at potting time then we sprinkle a little bonedust to yield future supplies of phosphates and also ammonia. The main supply of nitrogen we leave to the future, and other minerals (over and above the phosphates and potash) are supplied in the merest sprinkling of wood ashes. When the loam is very heavy or fibreless a little sand is given—only then. So far as at present can be done a perfect soil is thus secured.

In the matter of raising plants the only beginning is with cuttings. Of course, only those who have old plants from which to take cuttings can thus begin. Those who have not cannot get their young plants in too small a state. As usually treated plants of any great size have a check, and are not worth having. We cannot tell what time of the year is best for rooting cuttings, but prefer January. Cuttings taken then and properly treated will be 3, 4, 5, 6 feet high bushes and beautifully furnished the same year. A heat of 60° is needed to do the cuttings justice, and moisture to prevent flagging is necessary. If this can be given, an open bed is much to be preferred to a close case. Open porous loam with just the suspicion of sharp sand at the base of the cuttings is the best medium to root them in, and it should be on a bed or in a box. The single pot system is the plan to be avoided.

If the soil is kept warm—about 70°, and the cuttings never flag, they will speedily root and commence growing. If the soil is such as we have described they will grow vigorously. If only ordinary loam is used, and the orthodox leaf soil and sand added, do not be disappointed if they fail to move. When the growth is started the plants should be transferred into 4-inch pots. The loam should be made friable and porous, and only moderately firm. The crush of roots will make it too firm by-and-by. Moreover, we want the present roots to multiply rapidly to seize the nitrates and pass them up to the leaves to be manufactured into plant tissue. One crotch in the bottom of the pots, which must be without a suspicion of clogging dirt, will be enough. The soil should be warm. Returned to their warm quarters, given plenty of room, and all the air and light possible, they will grow very rapidly, and in a few weeks will take another shift.

Long before shifting is necessary, for we prefer a pot pretty well filled with roots, we are not sure but the nitrogen in the soil may be getting scarce. As soon, therefore, as the surface of the pot is white with roots, as it will surely do in open wholesome loam kept properly moist, yet never so wet as to induce souring, we begin to give liquid manure. Nothing surpasses urine. The water is just tainted with this, and the result justifies the practice. The urea in it as well as the potash are directly assimilable, and so long as every drop of water contains both the plants never want. Anything above a taint under such conditions is too strong.

Staking always requires attention, and also pinching. When rapidly grown in a temperature of from 55° to 65° and well fed pinching is hardly wanted, except with the “improved” varieties. Varieties of good habit grow the shape of a Spruce Fir naturally, and that form is the best. One stake is sufficient up the centre. A leader must be kept for training to this. If it grows freely and furnishes side shoots plentifully let it grow. If it fails to furnish these, or if it shows flowers, the top must be pinched and repinched, and a new leader selected continually. The side growths should be similarly treated, and tied in to furnish a pyramid as perfect as possible.

In repotting keep the soil rather low in the pots, and when the pots are filled with roots top-dressing and mulching can begin. The roots always come up, and must both be fed and protected. Large pots are not advisable. If such soil as we have recommended, and such manure be applied as advised, plants from 6 to 7 feet high, half covering the pot, and 3 to 4 feet through at base, may be grown in robust health in 10-inch pots. But they must never once become dry. By continually syringing, occasionally putting a little softsoap in the water, green fly and red spider will never be seen, and by judicious shading the flowering period may be kept up for months. If urine is not used because of the smell, nitrate of potash will make a capital substitute, better than sulphate of ammonia.

Fuchsias grown in the liberal way here recommended require a check in October. A proper drying-up accomplishes this, or a touch of frost will do it; the frost is dangerous; the drying gives a check that weakens much. It is successful, though. The sap goes out of the branches, they are pruned, and in a month or two push again, though very weakly. The drying killed the roots, and only slowly the plants recover. But they are in that way when they are shaken out of their pots, root-pruned and repotted. A check follows a check, both unnatural, dead branches, feeble growths, and eyesores being the result.

A better way is in autumn to pinch all growing shoots, then a week after to turn the plants out of the pots, reduce the balls, and repot. The soil is kept moderately moist. Under this treatment the tops grow no more. The leaves, instead of falling desiccated and dried to death, ripen off, deliver their essence to the stems, which, instead of being sent to rest unprovided with a store to start the plant in spring, is stored full. The roots, instead of being dead, grow into the new soil, and in

thus growing take off the surplus energy of a plant eager to advance. Such a plant not only starts with very much greater energy in spring, but gets no check afterwards, and instead of dead shoots and paltry growths becomes a huge shrub or small tree.

I will not now go into particulars about pruning, training, and routine treatment; but have pointed out the points where would-be *Fuchsia* growers err. The soil, potting, and feeding are the salient points, and when these are rightly attended to training and pruning are secondary points that the judgment alone can guide in.—FLORA.

THE PLUM OR RED-LEGGED WEEVILS.

ON May 13th I had brought me a number of large "weevils" of the genus *Otiorhynchus* by Mr. Deadman of the South Eastern Agricultural College, which were doing immense damage to Plum, Peach, and Cherry trees in the neighbourhood of Wye, Kent. These beetles were identified as *Otiorhynchus tenebriosus* and *O. fuscipes*, two closely allied species, and often confounded with one another. The "females are almost indistinguishable," I am informed by Dr. Sharpe, who kindly helped me in the matter of their identification.

Several species of *Otiorhynchus* are well known as serious fruit pests, notably the brown-legged weevil (*O. picipes*) and the black Vine weevil (*O. sulcatus*) in our own country as well as abroad. Few references only seem to have been made to the two species known as *tenebriosus* and *fuscipes*. Curtis in the "Gardeners' Chronicle" for 1842 mentions the former species; and Miss Ormerod, in her yearly report for 1883, gives an instance of their damage to Strawberry leaves in the garden of the College Farm at Cirencester.

DESTRUCTION CAUSED BY THE WEEVILS.

The beetles were first noticed about the first week in May, on account of the damage they were doing. Plum trees were the first affected, the upper shoots being quite stripped of their foliage, and the lower leaves eaten away in large patches. Buds, and even the bark, were also devoured. The trees in question were against an old wall, which for years had evidently received no care; in fact, quite unfit for fruit growing, but such instances are of value, as teaching us a lesson as to how and where insects are propagated. No sooner had they ravaged the upper parts of the Plum trees on one side of the wall than they passed over the top, and attacked in a similar way the Peach, Apricot, and Cherries on the other side, completely defoliating them. The destructive habits are not only found in the adults (fig. 43), but also in the larvæ, which live on the roots of various fruit trees. We noticed that large numbers of the beetles were eating also the leafage of the Strawberries, whither they had crawled to deposit their eggs. These maggots

I find do much harm to Strawberry plants as well as other fruit, devouring the rootlets, and even the older portions.

HABITS AND LIFE HISTORY.

Nearly all *Otiorhynchi* are night feeders, and certainly in these two species this is the case. The damage was not attributed to them at first, as none could be found. It was, however, soon discovered by the gardener that there were thousands of these insects under the ground along the wall during the day, and that they crept out at night and commenced to feed. Although jars full were collected along the wall yet the damage still continued. The beetles had taken possession of the hollows and spaces in the walls where the pointings had long since gone. A beetle could be found in nearly every "nail scar." Directly a pair of forceps were put into the hole the weevil drew back just like a crab in a hole. By far the greater number were females; these commenced depositing ova in my breeding cages at the end of May, and continued to do so until June 25th, when most of the adults had died.

The ova were at first white, becoming jet black in about two days, round and smooth in appearance. The females lay their eggs just under the ground near the Strawberry roots; and according to Miss Ormerod they also lay them at the roots of Raspberries, Gooseberries, and garden vegetables. About August the ova hatch into small footless grubs, which remain as such throughout the winter, feeding on the roots and rootlets. The larva (fig. 44) is creamy white, quite legless, and covered with a number of hairs, with the spiracles clearly defined at the sides. Like most *Otiorhynchus* larvæ they are usually curled up slightly as shown in the figure. The grubs remain feeding upon the roots until March or April, when they change into the pupal form under the ground where they have been feeding. The pupal stage lasts from fourteen to twenty-one days; the pupa (fig. 45) may, or may not, be enclosed in an earthen cocoon, and are pale brownish-white in colour, with darker hairs upon the abdominal segments. They are, as a rule, found about 2½ inches under the ground. Some I kept a few years ago remained in the larval state until June, but this is unusual.



FIG. 43.—OTIORHYNCHUS TENEBRIOSUS.



FIG. 44.—LARVA OF O. TENEBRIOSUS.



FIG. 45.—PUPA OF O. TENEBRIOSUS.

DESCRIPTION OF THE WEEVILS.

O. tenebriosus.—Length, 12-13 mm. A large and conspicuous black *Otiorhynchus*, shiny, with finely coriaceous head and narrow thorax; rostrum with central carina; antennæ, long, sharply elbowed, slender, and dark black; elytra, oblong, pointed at apex, with small patches of ashy hair in fresh specimens, and with lines of punctures; legs, red, elongate; femora, clavate, not toothed on under side. In the male the body is narrower, and the anal segment striated, and the elytra very distinctly punctured. The female is broad, with anal segment punctured, not striated.

O. fuscipes.—Length, 10-12 mm. Closely allied to former, and often found with it. It differs, however, in having the antennæ in both sexes, with the joints of the funiculus shorter and stouter. It is always a smaller species and less pubescent; the elytra of female are also more acuminate at apex, and more plainly punctured.

TWO BROODS.

The insect is undoubtedly two-brooded, for I find amongst my collection some specimens taken at Christmas, 1890, amongst a heap of old stones at Kingston-on-Thames, which I had not then identified. The females thus hibernating would lay their eggs about April, and by September these would have gone through their stages, and reached maturity. I have observed several *Otiorhynchus* larvæ during July; no doubt these would be the maggots of the second brood, or more correctly speaking, the first brood. Those, however, that appear during May and June are the ones that do most harm.

NATURAL ENEMIES.

Many of these *Otiorhynchi* are preyed on by sand wasps, who take them off to provision their nests for the use of their young larvæ. Two species at least prey upon them—namely, *Odynerus parietinus* and *Cerceris arenaria*. Blackbirds and thrushes also devour large numbers.

PREVENTION AND REMEDIES.

The larvæ at the roots are extremely difficult to get rid of. Light dressings of gas lime put round the plants during the winter, the ground having been first turned over about 3 inches deep, will do some good. Care must be taken not to put the gas lime on too strong, and to leave it some three weeks on the top before prong-hoeing it in.

For destroying the beetles hand-picking is quite sufficient. They can be collected in large numbers easily, and so cleared out, except in exceptional cases, as we have seen at Wye, where they can shelter during the day in crevices of the walls well out of sight. The gardener where these pests were working, and to whom my best thanks are due for pointing out several interesting features in this attack, found much benefit derived by spraying the trees with softsoap and quassia, the latter making the leaves distasteful to the weevil.

In regard to Strawberries one point of economical importance is to note that the beetles seek shelter near the plants to deposit their eggs. Shelter is readily found under the straw put between the rows, or more so still the grass cuttings, which certainly encourage them. It would be advisable to put the former on as late as possible, and clear it away directly the fruit is gathered. Regarding the latter it should strenuously be avoided, as it is a sure means of encouraging this and other insects. Strips of rag or rough boards put between the rows will attract the adults, which can then be collected and destroyed; but as they may have deposited their eggs this plan cannot be recommended unless the ground beneath is well cleared.

As these beetles readily fall if the tree is shaken, many can be caught by holding tarred boards under the trees at night and sharply shaking the trees, when the weevils fall and are fixed in the tar. Where wall fruit is attacked (as was the case at Wye), the walls should be kept clean with whitewash, and all crevices filled with mortar. The weevils being found in large numbers along the base of the wall in the ground could also be kept away by putting a line about a foot wide of ash or sand saturated with paraffin along its base, a plan suggested by Canon Fowler, and one of much service in keeping off not only these but many other wall-fruit pests. This would have to be renewed every week or so, as the odour of the paraffin would vanish.—FRED. V. THEOBALD, M.A., F.E.S.

CULTURE OF ROGIERAS.

THESE we rarely see nowadays, though they are plants of fairly easy culture, and very beautiful stove shrubs. They will also thrive well in an intermediate temperature. The great enemy of these plants is red spider, but by a constant and free use of the syringe they may be grown to perfection. A few plants, too, soon fill a house with their delicious fragrance, which is not overpowering, but mild, and pervades the atmosphere in an agreeable form.

In one particular the *Rogiera* is like the *Ixora*—namely, in repaying the free use of the knife; in fact, hard pruning is, in my experience, essential to its free-flowering and general well-being, and cannot be indulged in too freely. This should be done when the plants have completed their flowering, withholding water for a time till they have started well into growth, and keeping them syringed two or three times daily. If required, they should be potted at this stage, using loam and peat in equal quantities, and a fair proportion of sand and well-decayed stable manure to about one-fifth of the soil. The growth

should be completed in a warm temperature, and if some three or four growths take the lead, as is usual in these plants, particularly with *R. cordata*, they should be pinched back to within three or four joints from the break, to insure a uniform growth. This completed they may be stood out of doors, after the manner of Azaleas, in a sunny spot, and so get the wood thoroughly ripened. The species above named is a vigorous grower, and in consequence pot room should be limited, by adopting which a great number of smaller growths will be forthcoming, and consequently smaller trusses of bloom, which may be taken as a still further advantage, as they are much more useful, and in a greater variety of ways.

R. gratissima is smaller in all its parts, and produces exceedingly pretty trusses of bloom, which in bouquet arrangements have an almost unique appearance. This species is generally more compact than the first named. Both species are readily increased by cuttings made of half-ripe wood, and plunged in a good brisk heat as soon as rooted and the cutting pots have left the propagating frame. Attention should be given them at once, and as soon as fairly hardened they should be stopped, for they are in this respect similar to *Bouvardias*, and should never be allowed to become leggy, which they soon do if neglected in their early days. This species is more inclined to be bushy than the first, and it makes shorter-jointed wood.

Brown scale sometimes attacks both species, but not to the same injurious extent as red spider, which is best kept at bay with the syringe. Should it gain ground, however, it can be dispelled by using quassia chips and soft soap. Take a 48-potful of the chips (I name the size pot, which is more likely to be at hand than weights and scales) and 2½ gallons of soft water, boiling the same for a quarter of an hour, or if the chips have not sunk in that time boil a little longer, pour off the liquid, and add about 2 ozs. of the soap and stir well together. When cooled down it will be ready for use.—H. J.

VEGETABLE JUDGING AT SHREWSBURY.

WHEN I read the remarks of your reporter with respect to the judging in the vegetable department of the Shrewsbury show, I was both grieved and indignant. I knew those remarks were untrue. I felt that they were unjust and, that, in addition, there was the suspicion of a sneer in them. Indeed, in the words of a London ditty, "it aint what he said, as the nasty way he said it," which so much disturbed me. His implied accusation, that the judges were annually setting up a false and a degrading standard, and that the exhibitors were acting up to it, or down rather, showed a great want of knowledge, both past and present.

I considered that the present year reporter had little or no knowledge of past Salopian shows, or he could never have come to the conclusion he did, because the very opposite of his conclusion is the right one. As a matter of fact the standard of excellence of vegetable exhibits at Shrewsbury has risen annually for many years, up to the high standard of the present time. This fact every one of the vegetable judges will confirm, as also will such high-class exhibitors as Messrs. Wilkins, Waite, Pope, and Milner. I heartily endorse all that "One of the Judges" has written to you on the subject. "E. M.'s" letter, seeing that his conclusions are drawn from second-hand information, does not help the matter much; but nothing could be more sound and sensible than his last two lines.

Thirty years ago I should have fired up at your reporter's remarks, and rushed into the fray; but I am getting an old man, and take things more quietly, hence my delay in writing until I saw the letter of "One of the Judges." After reading it, I could no less than back him up, which I do most sincerely.—ANOTHER OF THE JUDGES.

I AM of opinion those who grumble at the judging of the vegetables at the recent Shrewsbury show must be representatives of two classes, one of these is the disappointed exhibitors, the other aspirants to be engaged as judges themselves. Both are common in the community; they always have existed, and always will do so. You know who the writer of this note is, and I think you will admit I ought to know as well as anyone, the condition of vegetables at Shrewsbury. I went over them carefully, being a section in which I am always interested, and I assert, and would have argued the point with anyone who had told me of it while there, that it would be impossible to judge the vegetables better than they were done at Shrewsbury.

Take a collection of twelve varieties, or even nine, it is a most difficult matter for anyone to stage each dish in a perfect condition; you may find nine, ten, or eleven excellent, and one, two, or three just a little "bit off," but none except the judges seem to take them into consideration, and if some of your smart critics only see one overgrown or faulty dish in a collection, they at once fall into the inexperienced error of condemning the whole collection, and rush off to another in which this particular dish may be strong, and wonder why the whole collection was not put first.

I do not think many of those who won in the vegetable classes at Shrewsbury can be regarded as inferior cultivators, as they are widely known, and able to produce and stage vegetables that indicate the very highest state of excellence. In some cases this may be a medium size, in others large, the judges knowing, I believe, what the right types ought to be, and they act accordingly; but I do not think the most

stupid or sanguine of them ever expect to get all who visit the show to consider the points in that light. Let me give a case in point. As you know, some of the Giant Runner Beans produce monster pods. They might be considered too rough to suit some, but good types were shown at Shrewsbury, though there were other dishes shown with pods of only medium size and although good and of fine quality, it was useless anyone trying to say they were "Giants," although no doubt, as your critics write, they would have gone for them.

Most judges of experience know by this time what fine proportions Veitch's Autumn Giant Cauliflower is capable of attaining. Heads the size of the crown of your hat are never thought to be overgrown representatives, but they take some getting up, and to reject these and favour heads the size of one's fist that are generally produced without any skill or effort would be going back to a mode of culture that is not in harmony with the advantages that growers now enjoy from those who have done so much to improve vegetables.

I am writing more than I anticipated when I began, but I defy anyone to say that the biggest of the prize vegetables at Shrewsbury were deficient of a corresponding amount of prominence in other points which are known to all good vegetable judges. Many frequenters of Shrewsbury show still assert that Mr. Lambert of Powis Castle (one of the unfortunate judges) exhibited vegetables in a manner that has not since been excelled. His collections, I can very well remember, were very striking for the extreme size of the produce, but I never once heard a whisper that they were deficient in quality. However, let those who may be pleased or displeased, I will be glad if you will let me take this opportunity of congratulating the Shrewsbury Society on this year having the finest display of vegetables I have yet seen anywhere, and my experience is not very limited.—AN OLD HAND.

[We know very well that our correspondent has won prizes for vegetables in many a keenly contested class, and that he is an experienced judge, though we think he did not officiate in the Shrewsbury classes referred to. It is just because of his experience that we are surprised he should weaken his communication by anything in the nature of an insinuation in which he has thought it appropriate to indulge. He evidently does not know that our reporter has judged more vegetables this year than either the "Old Hand" has or any of the judges he is desirous of defending. It was only by the merest chance that he (the reporter) had a break in his many engagements to enable him to visit Shrewsbury. He is convinced, and he is by no means alone in the opinion, that where a compromise has to be made between size and quality that the latter and not the former element should have the greater weight. It is not a question of controversy but of fact that exhibitors stage their produce to meet the understood views of certain judges, and they would be poor judges themselves if they did not do so, considering the object in view. We do not suggest that the Shrewsbury judges are responsible for grave errors. That is a matter of opinion, and like the judges of most shows they please the winners of the prizes very well.]

It is a matter of profound sorrow to me that I should have incurred the displeasure of "One of the Judges" at Shrewsbury. I fear that with all my native modesty, a long course of following upon the heels of judges, even of noblemen's gardeners, has served to render me critically minded, and still farther indifferent to censure, hence the recent scolding falls flat. There was a time when even a cat could look at a king, but now an editor is sent to jail if he criticises his Emperor. I fear horticultural judges are getting somewhat autocratic also, and the daring reporter must look to his ears if he ventures to pen an estimate of show awards that is not quite complimentary to those who make them. Why do not these distinguished gentlemen when making awards remember that other and not less capable eyes than their own will scan their judgments also?

Judging vegetables or anything else efficiently and correctly is no Royal attribute. A judge, with all his knowledge, can only be such if he have good judicial capacity to distinguish the best points of exhibits, and specially makes his judgments consistent. When judgments vary in character the public are confounded, and the exhibitor is driven mad. There is a common tradition, by many show committees religiously held, that judicial capacity rests only with gardeners to great noblemen. They "can do no wrong of course," yet I dare to aver that I have seen at least as many judicial blunders committed by these "salts" of the horticultural earth as by "common" men.

The bombast about the great growers who exhibited at Shrewsbury is all nonsense. The men who exhibited there have learnt the ideals of the judges at that famous show, and cater accordingly. A week later the very same men, almost certainly four at least of the leading vegetable exhibitors of the kingdom, were showing at Reading; not in such small classes as were at Shrewsbury, where the judging relatively was mere child's play, but in a class of forty dishes. Then here, knowing the usual requirements of Reading judges, who invariably favour quality as the primary feature, the general character of the exhibits was in that respect 20 per cent. before those at Shrewsbury; indeed, a more perfect lot of vegetables was never seen on one table than those four men had in their 160 dishes. I helped in the judging, and had as a colleague a gardener who always favours quality, and makes no mistakes. The job was the toughest I ever had, but when done the result defied criticism. That is the past experience which justifies the possible temerity of—YOUR SHREWSBURY VEGETABLE REPORTER.



WEATHER IN LONDON.—The weather in the metropolis during the past week has been remarkably uniform. The nights and mornings have been cold, even approaching frosts on one or two occasions, while the days have been bright and pleasantly warm.

— **FRUIT ESSAY COMPETITION.**—In consequence of the excellence and equality in merit of two of the essays on the "Commercial Aspects of Hardy Fruit Growing in the United Kingdom," the Council of the Royal Horticultural Society increased the prize money originally offered, and Mr. L. Castle, Manager of the Duke of Bedford's experimental fruit farm at Ridgmont, with Mr. S. T. Wright, Glewston Court Gardens, Ross, have had the honour of being awarded equal first prizes. One of these essays will be read at the Crystal Palace Fruit Show, and both will presumably be published as soon afterwards as possible. The adjudicators were Mr. A. F. Barron, Mr. J. Wright, and Rev. W. Wilks.

— **POTATO BLIGHT IN IRELAND.**—The Potato blight is becoming very general all over Ireland, but as yet the tubers have been only little affected. Potatoes are, however, not at all up to the mark, being as a rule very wet and sodden. The dry time in the early part of the year, and the very wet weather later on, encouraged a second growth of small Potatoes, which are a great means of causing this inferiority in the main crop.

— **DR. W. A. SETCHELL.**—We learn that Mr. W. A. Setchell, who is now Assistant Professor of Botany in the Sheffield Scientific School, has been selected to fill the chair of Botany in the University of California, which was made vacant by the resignation of Professor Greene. The people of California are to be congratulated on securing the services of a man who, while yet in early life, has won such an enviable position among the biologists of the country. Professor Setchell was elected a member of the Botanical Society of America last week.

— **A MANURE HEAP BURNT.**—Considerable excitement was caused at South Ealing on Sunday afternoon, the 1st inst., by the sudden breaking out of fire in a large heap of manure of about seventy loads in the market grounds of Mr. Robins in Gunnersbury Lane. The Hounslow branch of the District Railway runs through the grounds, the railway being crossed by an archway. It was on this arch, but at a distance of 20 yards from the railway, that the heap, consisting of ordinary stable dung carted from London, had been placed, and it is believed the fire originated from spontaneous combustion. The heap was about seven yards in length, four yards high, and correspondingly broad, and when the fire was at its fiercest the heat was intense. Eventually the fire-engines were brought to play upon it, and the flames were subdued, though by the frequent breakings into flame, there was no doubt a large body of fire within, and water was poured on to it throughout Sunday night. It is understood Mr. Robins' loss is covered by insurance.

— **THE ROYAL HORTICULTURAL SOCIETY.**—Mr. A. H. Smee informs us that he has given Sir Trevor Lawrence, President of the Society, notice of the following questions which he (Mr. Smee) proposes to ask at the next annual meeting of Fellows, or at such early period as the Council may think it desirable to call the Fellows together for the special purpose of taking them into their confidence. He will require "the production of the minutes of the Council which appointed this special Committee to report upon Chiswick, the date of its appointment, the names of the Committee, the reference and scope of its inquiry, the report it made, and all the correspondence emanating from the Secretary or other officer relating thereto, a statement of the proposed changes in the management of its Chiswick garden, the production of the minute book of the Garden Committee, and also the minutes of all the Committees (Fruit and Floral) which visit Chiswick for the purpose of the seed trials." Mr. Smee is of opinion that something like a vote of censure has been passed on these Committees by the Council adopting the report of the special Committee; but if this is so the members of the "special" have censured themselves, because, so far as we have been able to gather, they were, with one exception, chosen from the Fruit, Floral, and Orchid Committees, as well as the Chiswick Garden Board of Directors.

— **GARDENING APPOINTMENT.**—Mr. Edward Gristwood, late general foreman at Stoughton Grange, has been appointed head gardener to J. L. Ward, Esq., Belgrave House, Leicester.

— **THE Potato crop of 1895** occupies an area of 541,217 acres, as compared with 504,454 acres last year, or an increase of 36,763 acres, equivalent to about 7 per cent. of the total acreage.

— **AUSTRALIAN FLOWERS.**—The Orient s.s. "Ophir" has brought from Sydney a bouquet of Australian Lilies enclosed within a block of ice. They have been sent to the Agent-General for New South Wales, with the request that he will ask Her Majesty's gracious acceptance of them.

— **THE EFFECT OF NICOTINE ON GRAPES**—A paragraph has been sent to us from a medical journal, in which cases of injury are recorded as having resulted from eating Grapes from a vinery in which nicotine has been used for destroying insects. It would be well if gardeners who have used nicotine in vineries would state their experience on the subject. Some persons enjoy getting up a scare.

— **THE SOCIETY OF AMERICAN FLORISTS** has just held its annual meeting at Pittsburg with great success. We have nothing like this great Society in this country, although such an one might be inaugurated without much difficulty. Next year the meeting is to be held at Cleveland, Ohio, under the presidency of William Scott, a florist in Buffalo. Mr. Scott is a son of Alexander Scott, gardener to Sir George Staunton, at Leigh Park.

— **CARNATION DUCHESS OF PORTLAND.**—A few blooms of this variety have been forwarded to us by Mr. J. Lamb, Burton Joyce, Notts. The habit of the plant is very robust, and the constitution is of the best. The colour is white with profuse markings of bright rose, the utility being greatly enhanced by the indication of a Clove scent, though this was detracted from on account of the blooms having been packed in moss. The flowers are very shapely and produced in the greatest freedom.

— **SHIRLEY GARDENERS' AND AMATEURS' ASSOCIATION.**—The monthly meeting of above Society was held at the Parish Room, Shirley, Southampton, on the 16th inst., the President, Mr. W. F. G. Spranger, presiding over a good attendance. Mr. E. J. Wilcox, gardener to Col. W. S. Sinkins, Aldermoor House, gave a paper on "The Cultivation of the Fuchsia," which was most interesting and instructive, commencing, as it did, with the cutting, and ending with a plant finished for the exhibition tent. A hearty vote of thanks was accorded the essayist for his excellent paper.

— **WARE HORTICULTURAL SOCIETY.**—Through the kindness of Mr. and Mrs. Hanbury, the members of the Ware Horticultural Mutual Improvement Society spent an enjoyable afternoon in inspecting the gardens of Poles. Upwards of 100 members were present, and after going through the grounds all were regaled to a substantial tea spread on the lawn, Mr. and Mrs. Hanbury, family, and friends being present. Mr. Hanbury is President of the Society, and takes great interest in its welfare. Everything reflects the greatest credit on the gardener, Mr. Wallace, for having his charge in such a well stocked condition.—E. W.

— "J. R. S. C." writes:—"Some of your correspondents have referred to the fact that in their experience bees have been extra irritable this year—the reason doubtful. I might say that with regard to wasps hereabout many persons have noticed that though they have been tolerably numerous, the instances of stings being inflicted have been few. But I have long maintained that wasps have had a worse character given them than they deserve. One curious fact was reported to me where in a cemetery adjacent several colonies have formed their nests under flat tombstones. These could not be dealt with by the usual methods, but the wasps were destroyed by pouring in hot tar."

— **VEGETABLE SHOW AT BRIGHTON.**—The annual exhibition of vegetables and flowers grown from seeds purchased of Messrs. Tilley Bros. of Brighton was held at the rear of their London Road shop yesterday, and was attended by a large number of visitors during the afternoon and evening. The entries numbered about 200, or nearly three times as many as there were last year, while the quality of the exhibits was creditable alike to the exhibitors and to the firm of whom the seeds had been purchased. One of the best filled classes perhaps was that for Potatoes, Zenith being especially noticeable for size and general good quality; but Turnips, Onions, and Cauliflowers also made a good show.

— ONE hundred and twenty-three tons of water are given off into the air by an Oak tree carrying 700,000 leaves during the season.

— SEED OF *JUANIA AUSTRALIS* has been sent to Kew by Mr. J. Söhrens of the Santiago Botanic Garden. This species is peculiar to Juan Fernandez, and is now almost confined to inaccessible situations.

— A NOVEL IDEA.—Various schemes were tried to catch the pilferers of fruit in gardens near Edinburgh recently, but almost all failed. One gentleman had a number of fishing-hooks hung among the trees in his garden, and by this means has been successful in tracing a suspect, as one boy had to go to a doctor to have a hook taken out of his hand.

— *LILIUM LANCIFOLIUM ROSEUM* AT PETWORTH.—Amongst the many grand examples of cultivation in the gardens at Petworth House, the princely estate of Lord Leconfield, is a splendid specimen of *Lilium lancifolium roseum*. It is growing in a 16-inch pot, is fully 6 feet high and 9 feet in diameter, having upwards of 350 expanded flowers; a grand and imposing sight. Many improvements have been made since Mr. Pull has had charge here, which speaks volumes in his favour as a good all-round man. The kitchen gardens, as well as the flower gardens, are perfection.—A. O.

— THE NIGHTINGALE AND THE ROSE.—Between certain birds and plants there exist many curious traditions, as in the case of the nightingale and the Rose. According to Persian folk-lore, whenever the Rose is plucked the nightingale utters a plaintive cry, because it cannot endure to see the object of its love injured. In a legend by the Persian poet Attar, we are told how all the birds appeared before Solomon and complained that they were unable to sleep from the nightly wailings of the nightingale. The bird, when questioned as to the truth of this statement, replied that his love for Roses was the cause of his grief.

— CARDIFF EXHIBITION, 1896.—Cardiff is laying itself out for an exhibition on a large scale in 1896. As might be expected in a district so intimately connected with the coal and iron industries, the mining and engineering sections will be very prominent. Maritime interests will be well represented, as would be natural at a port where shipments of coal, coke, and patent fuel in 1894 amounted to 15,316,165 tons. Other sections of the exhibition will embrace the latest developments in electricity, in scientific instruments; while agriculture, horticulture, sports and pastimes will not be overlooked, the latter probably including a water show on a big scale. Representative men of all classes have the affair in hand, but Lord Windsor is President, Her Majesty the Queen, patron, and the Prince of Wales will be asked to open the exhibition.

— THE SHEPHERD'S KALE SEED CASE.—This case, referred to a few weeks since and adjourned again before the Southampton Borough Bench of Magistrates on Thursday of last week. A Mr. Shepherd, who claims to have been the originator of what is known in commerce as "Shepherd's Kale," through the agency of the Trade Marks Protection Association, prosecuted Messrs. Toogood & Sons, seedsmen, of Southampton, for selling seed of this Kale with his name attached without having the authority of the plaintiff. The charge was to the effect that such sale was a fraudulent misrepresentation, and intended to mislead. At the adjournment Messrs. Toogood & Co.'s case was presented, their senior partner being a witness, who said he purchased the stock in question from a Mr. Edney, a grower who had two years previously purchased seed direct from the plaintiff; hence the stock was absolutely true to name. He used the name "Shepherd's" according to the custom of the trade to denote the variety; indeed, there was no other name which served that purpose. The stock was entirely the same as that sold by the plaintiff. Mr. J. Nutting of the firm of Nutting and Sons, London, gave evidence as to the custom of the trade in relation to personal or firm prefixes, instancing Nutting's Beet as being found under that appellation in numerous seed lists. (Mr. Nutting might have said the same of Deil's Crimson, White's Black, and Pragnell's Exhibition). The reference to a firm's or raiser's name in this way in other seed lists was a good advertisement, and could not be objected to. In the production of seeds there was no secret, and with ordinary care one man's growth of any variety would be as good as another's. Mr. T. A. Newby of Messrs. Hurst & Co., London, gave similar evidence, specially referring to Hurst's Monarch Swede as being found in many seed lists. Eventually the Bench dismissed the summons with costs, which were fixed at 5 guineas. The plaintiff's counsel asked leave to state a case, which was granted, so that we may hear of it yet in a higher court.

— A MILLION ACRES OF FOREST are cut down every year to supply European railway companies with the sleepers on which the lines are laid.

— THE Lettuce is said to act as a compass plant, and that its leaves grow straight up, and have the faculty of twisting till the edges point due north and south.

— THE EFFECT OF COLOURED GLASS ON FRUIT.—M. Zacharewicz, Professor of Agriculture at Vaucluse, has found by experiment with different coloured glasses that fruit is finest and earliest when grown under clear glass. Orange glass produces an increase of vegetation, but at the cost of the amount of fruit, of the size and of its forwardness. Violet glass causes the number of fruit to increase at the expense of the quality. Red, blue, and green glass are hurtful to all kinds of vegetation.—("Nature.")

— HOPS IN ENGLAND.—The "Rural World" says—"We are able to give a statement of the acreage under Hops in each county of England in which crops were grown this year, and to compare it with the acreage of 1894. The figures for 1895 are as follows:—Berks, nil; Gloucester, 38 acres; Hants, 2875; Hereford, 7553; Kent, 35,018; Salop, 150; Suffolk, 10; Surrey, 1783; Sussex, 7489; Worcester, 4024; giving a total of 58,940 acres. Last year the figures were:—Berks, 11 acres; Gloucester, 39; Hants, 2911; Hereford, 7525; Kent, 35,520; Salop, 140; Suffolk, 17; Surrey, 1935; Sussex, 7589; Worcester, 3848; totalling altogether to 59,535 acres, an increase on the present year of nearly 600 acres."

— BATTLE OF FLOWERS IN CALIFORNIA.—The floral carnival held at Santa Cruz, California, 12th June, attracted crowds of visitors. The parade of floral floats and flower-bedecked vehicles was very elaborate. After the procession entered the carnival arena the queen, with her maids of honour, descended from her float and reviewed the parade, which passed three times around the vast amphitheatre. On the third time around the judges awarded the prizes. Then came the battle of flowers. It was a bloodless battle. Every spectator threw flowers and bouquets at those on the floats and in the carriages. The floral ammunition was abundant. The battle raged pleasantly until Queen Anita gave the order for it to cease.

— *POLYGONUM CUSPIDATUM*.—"The Gardener" (page 242) condemns the Polygonum as a plant for the herbaceous border, owing to its aggressive habit of growth. I think a properly managed plant of *P. cuspidatum* adds much interest to the border during the month of September. If the growth is confined to one stem, removing other growths as fast as they appear above the soil, that retained will grow in one season from 7 feet to 8 feet high, and its side growths will cover about a yard of space. When thickly studded with its drooping panicles of pure white blossoms it is a grand addition to the border, not only owing to its floriferousness but for the quaint character of its flowers. There is no comparison in the appearance of the plant when flowering in a mass from so many stems as when the growth is restricted to one. Under this latter plan the flowers are so much finer, as well as being more freely produced.—E. M.

— TREE PLANTING IN CENTRAL AFRICA.—With regard to the establishment of a botanic garden at Zamba, Mr. A. Whyte writes to the "Kew Bulletin." "As soon as I found the tree seedlings in the nurseries were sufficiently advanced to be planted out, I commenced forming avenues of them along the main roads of the plantation. On each side of the straight avenue leading from the steps of the terrace garden to the bottom of the grounds I planted out rows of *Cupressus macrocarpa*, *C. Lawsoniana*, *C. sempervirens*, and *Widdringtonia Whytei*, alternating with each other. Along the south and east avenue, Bananas, *Cupressus macrocarpa*, and *C. sempervirens* were put in alternately. The original main avenue was planted up with *Acacia decurrens*, *Acacia Melanoxylon*, *Eucalyptus* of different varieties, and *Grevillea robusta*. The cross avenue, bisecting the grounds, was lined with *Thuia orientalis* and *T. occidentalis*. I may here mention that all the trees in these avenues have done remarkably well, and at the date of my leaving, last April, they formed quite a pleasing feature in the grounds, and had grown to an average height of 5 feet in two and a half years from seeds. This refers to the Conifers only, some of the *Eucalypti* having shot up to a height of 45 feet in the same period. . . . An arboretum of interesting trees was also planted up at the east end of the terrace garden, and this we propose to extend down the sloping ground to the banks of the Mlungusi. One plot of ground was devoted to the cultivation of handsome native plants, and another to that of economic ones, both indigenous and introduced."

— **COLD WEATHER IN NEW ZEALAND.**—So severe has been the weather in New Zealand that Lyttleton harbour was covered on July the 16th with ice an inch thick. At Arrowtown, Lake Wakatipu, the ink was frozen in the telegraph office.

— **AUSTRALIAN LEMONS.**—A Covent Garden sale of Lemons just received from Australia has attracted attention to the scarcity of this fruit, and the capabilities of the Irrigation Colonies of Mildura and Renmark as Lemon growing districts. Five hundred cases were disposed of at prices ranging from 9s. 6d. to 14s. 6d. per case, which is regarded as an exceptionally good price at auction, but not fully representing the value of the fruit, and higher prices are confidently expected when the quality becomes known.

— **THE WEATHER LAST MONTH.**—August was changeable and showery up to the 14th; drier and warmer after, and fine harvest weather until the end of the month, with the exception of a few showers. It was much too dry for the autumn fruit, which will not be so large as usual. The wind was in a westerly direction twenty-four days. The total rainfall was 2.08 inches, which fell on nineteen days, the greatest daily fall being 0.50 inch on the 5th. Thermometer, highest in the shade, 81° on the 22nd; lowest, 45° on the 8th and 25th. Mean of daily maxima, 70°; mean of daily minima, 52.77°. Mean temperature of the month, 61.38°. Lowest on the grass, 36° on the 25th; highest in the sun, 142° on the 19th and 23rd. Mean temperature of the earth at 3 feet, 59.16°. Total sunshine, 175 hours 50 minutes. We had one sunless day.—W. H. DIVERS, *Belvoir Castle Gardens, Grantham.*

— **BANANAS IN AMERICA.**—During the first six months of the current year more than 10,000,000 bunches of Bananas have been sold in the United States, and since about sixty vessels are engaged in carrying this fruit to our markets, and from fifty to a hundred men are employed in unloading each cargo as it arrives, the Banana business now probably takes rank as the leading branch in the fruit trade. The great increase in the consumption of Bananas is due to the fact that the country fruit stores can dispose of them more readily than that of other kinds of fruit on account of their cheapness, and many country merchants have built ripening rooms for the fruit when received by them in a green state. According to the "Fruit Trade Journal" the arrangements for receiving and discharging cargoes are more systematic in New Orleans than any other port of this country. The vessels there unload immediately on arrival at any time of day or night, and the railroads give special attention to shipments, so that the Banana trains often leave New Orleans and make as good time as passenger trains to their destination. In 1891 New Orleans for the first time received more Bananas than New York, but already in the first half of the year her importations excelled those of New York by more than 800,000 bunches. Mobile ranks as the third port in the number of bunches received, while Philadelphia and Boston compete closely for the fourth place.

— **CLEANING TOMATO SEED.**—I do not know by what process Tomato seed is cleaned for the trade, and in penning these notes it is not my intention to suggest one. No doubt there are many who like to save seed for their own use, but do not know the best way to accomplish this, so perhaps a little information may not be out of place. It is rather a difficult matter to separate the seed from the surrounding pulp unless the right methods are used, then it becomes the work of a few minutes only. In one of my situations as foreman we had to save seed of several varieties annually. Finding it a difficult matter to perform this work satisfactorily by other methods the following was tried:—The fruits were cut in halves horizontally and the seed picked out with a pointed stick with as little pulp as possible, and put in a muslin bag; it was then well rubbed between the fingers and thumb in a basin of water until the pulp was separated from the seed, and finally cleansed by washing in water, the good seed sinking to the bottom and the pulp and bad seed poured off with the water. Two or three washings will leave the seed quite clean. Sometimes it is necessary to return it to the bag and give a second rubbing. In saving seed good shaped fruit should be selected and allowed to remain on the plant until quite ripe. It ought to be cleaned a few days after being gathered, for if allowed to remain long the seed will sprout and be spoilt. I recorded this method of cleaning Tomato seed in one of the gardening journals at the time, and was criticised by a correspondent, who said that water had an injurious effect on seed, and that cleaned without water it would germinate much better. In reply to these remarks information was solicited, but as far as I can remember it did not appear. I have yet to learn what injury is done by washing, as seed so cleaned for several years has always germinated very freely.—J. S. UPEX.

— **AUSTRALIAN APPLES.**—Some months ago several cases of Apples, of the Northern Spy variety, were sent to London from Australia, for the purpose of experimenting. The account sales show that they have sold for 8s. 6d. per case. This leaves about 6s. 6d. per case after paying all expenses, which pays considerably better than the local markets. At the time the fruit was dispatched, the same kind of Apples sold locally only realised 1s. 6d. per case, from which expenses had to be deducted.

— **SPRAYING POTATOES.**—The advantages of spraying Potatoes for the purpose of checking disease are pointed out by Mr. J. Cunningham, of Kilboy, Nenagh, who states that immediately after a heavy thunderstorm most of the Potatoes grown in the district became seriously affected by the disease, and the haulm turned black; his own crops that had been sprayed in July were found to be almost free from disease when examined after the storm. The few spots of disease that were noticed were on leaves that had been produced after the spraying.

— **POTATO SELLING EXTRAORDINARY.**—Fruit growers frequently have cause to complain of the exceptional commission taken by Covent Garden salesmen, but what would they say if they sent their goods to Manchester? Recently a farmer living at Long Sutton sent over 2 tons of Snowdrop Potatoes of the best quality, and half a ton of seed Potatoes were also forwarded to a Manchester salesman. The return just to hand shows the sum of 17s. 5d. to the farmer, although the Potatoes were worth 50s. per ton at home. In Manchester the amount realised was £4 10s., and, allowing 6s. 9d. for commission, £3 0s. 7d. carriage, and 5s. 3d. portorage (in all £3 12s. 7d.), the sum of 17s. 5d. was left for nearly 3 tons of Potatoes. After paying for the cost of lifting and other expenses, the farmer will not only lose the Potatoes, but will be 20s. out of pocket over the transaction.

— **DEATH OF A KEW SPECIMEN.**—The handsome specimen of *Cyathea medullaris*, which has been for many years a striking feature in the temperate house at Kew, died during the present summer at a goodly age. It was presented by the late Prince Consort in 1856, and was then of considerable size, so that its age is estimated to have been about sixty years. Early in the current year it showed symptoms of ill health, and it finally collapsed at the end of June. Its stem was then 31 feet in length, and 12 inches in diameter at 3 feet above the ground. When in robust health the head contained about a dozen fronds, each from 12 to 15 feet long, and about 6 feet in breadth. The species is the tallest of the Tree Ferns of New Zealand, and in the moist ravines of that colony specimens often attain a height of 60 feet. The caudex is slender, with a large conical base of hard root fibres, closely matted together to the thickness of a yard or more. There are several fine specimens of *Cyathea medullaris* in the temperate house, one of which was presented to Kew by Lord Swansea in 1887, and is now about 20 feet high.

— **THE OLDEST HERBARIUM.**—The oldest herbarium in the world is to be found in the Egyptologist Museum at Cairo. It consists of a large number of wreaths and garlands of flowers, collected together from ancient Egyptian graves. These floral remains are practically all in a well-preserved condition. In most of the flowers those parts which have been protected by an outer covering are, in spite of their extreme delicacy, perfectly intact, while their colours have been preserved in a remarkable manner; it has been even found that some of the Water Melons, by immersion in water, showed that they still retain possession of their green colouring matter. The most interesting feature of these collections is their great age. Some of them were immured in sarcophagi so far back as 2500 B.C., certain legume of Clover obtained from the brick pyramid of Dalschur, a handful of Barley ears and Juniper berries from a grave at Sakkara undoubtedly belong to that period, while the floral remains obtained from the mummy found at Deir el Behara in 1881, and the rich booty yielded by the tombs of Ahmes I. and Rameses II. are equally old. There is, however, a difficulty in determining the age of some of them with any precision. In several instances the mummies have been opened, and afterwards reswathed, and it is almost impossible to ascertain whether they belong to the first or second period. But at the lowest estimate they are over 3000 years old, while the oldest herbarium in Europe has scarcely reached its 400th year. Among the flowers found in this collection are blue and white Lotus, the red Poppy, oriental Larkspurs, Hollyhock, various species of Chrysanthemums, Pomegranates, Willow leaves, and several kinds of Grasses of later date—the Græco-Roman period—and the Celery leaves which were found mixed with Lotus leaves and flowers in the coffin of the so-called Kent mummy.—("Echo.")



OCTOBER CHRYSANTHEMUMS.

IN looking over my notes of the N.C.S. October Show, for last year, I am reminded what a large number of first-rate varieties can be had in good form by the middle of that month. Perhaps the most promising to look out for among the recent novelties are Frank Wells, Souvenir de Petite Amie, Th. Denis, Petit Délaux, Mme. C. Molin, Commandant Blusset, Mrs. W. H. Lees, Duchess of York, which were all good last season.

Older varieties that were well shown were Louise, President Borel, Mrs. C. Harman Payne, Eda Prass, Mme. E. Rey, W. Tricker, Wm. Seward, Comte de Germiny, W. H. Lincoln, Mlle. Thérèse Rey, Chas. Davis, and Van den Heede.—P.

WINDSOR CHRYSANTHEMUM SHOW.

THE balance sheet and annual report for the past year, together with a schedule of the show to be held in the Albert Institute, Windsor, on November 8th next, are just to hand. The Committee's report is in every way a favourable one, and the balance in hand proves a satisfactory financial state of affairs. In the prize list of the forthcoming show, in which classes have been arranged for plants, fruits, and vegetables, as well as for Chrysanthemums, the awards are generous, and should bring forth keen and strong competition. Mr. Herbert Finch, Bank House, Eton, is the Hon. Secretary, from whom schedules and full particulars may be had on application.

CHRYSANTHEMUMS AT CORNSTILES, TWYFORD.

READERS of the Journal have often seen the name of F. W. Flight, Esq., as a prizetaker in Roses and Chrysanthemums. Never on any previous visit has Mr. Nevill (the grower) had such a promise of fine flowers, the five hundred plants being perfect. They are all grown in 10-inch pots, and are in the best possible condition. There are no weak or sickly plants amongst them, and on the whole they are the finest plants I have seen. Amongst the Japanese showing colour are Le Grandson, Louise, Goldfinder, Commandant Blusset, and W. H. Lincoln. Others showing good promising buds are Miss P. Shotton, Eva Knowles, Duchess of York, Mrs. C. E. Shea, Duchess of Wellington, C. Blick, Mme. Sarlin, Mr. R. S. Trafford, Miss Dulcie Schroeter, Miss Elise Teichman, Lady Randolph, and Miss Goschen. The incurved are very fine, and include Queens, Tecks, J. Fullford, Sir Titus, C. Curtis, J. Agate, Owen's Crimson, W. Tunnington, C. B. Witnell, and M. P. Martigent.—W.

CAMBRIDGE (NEW ZEALAND) CHRYSANTHEMUM SOCIETY.

WE have been favoured with a copy of the "Waikato Times" for July 27th last, in which is given the report read at the last annual meeting of the Society, and from which we are glad to see the flourishing financial condition and the increasing popularity of this Colonial Association. That the cultivation of the Chrysanthemum is increasing with extraordinary rapidity in New Zealand is an undoubted fact, and that the flame is being vigorously fanned by a few enthusiasts is also indisputable.

From the above publication we extract the following paragraph illustrating the condition of the monetary department.

"The fourth annual meeting of the above Society was held on July 25th. After the minutes of the previous annual meeting had been read and confirmed, the balance-sheet was read. It showed a credit balance of £2 11s. 4d., the expenditure having been £115 15s. 4d. The assets of the Society are valued at £80, and the liabilities are nil." Doubtless many of our home societies would be more than satisfied if they stood on an equally sound basis.

The report of the Committee says, "Our membership has been maintained, our list of growers and exhibitors increased, the attendance of the public maintained, the importation of new varieties of the first order of merit greater than in any preceding year, and our financial receipts have been good, enabling us to pay off the Marquee Syndicate in addition to discharging the current liabilities of the year. Every known liability has been paid, and the whole of the show plant, store house, and marquee is now the Society's property, and free of debt. The estimated value of these assets is £80." Referring to the fourth annual exhibition the report goes on to say that "this was held in the Society's marquee on Friday and Saturday, the 26th and 27th of April last, and was in every sense, weather excepted, as satisfactory and progressive as any of its predecessors. In one important aspect much more so, in that the Society was favoured and honoured by the presence of His Excellency the Governor, Lord Glasgow, who, with Lady Glasgow, our patroness, Lady Dorothy Boyle and Captain Preston, A.D.C., came from Auckland and opened the exhibition."

The remainder of the report is devoted to a brief notice of the quality of the blooms held at the show above mentioned, where the flowers were very materially superior to any that had been staged in previous years. The election of officers and the customary votes of thanks closed what could not be termed other than a successful meeting.

In tendering our congratulations on the progress made, we can but express the hope that the society will continue to flourish and grow, and that each succeeding year will bring us copies of as favourable reports as that now before us.

A NEW ZEALAND AUDIT.

As Honorary Secretary of the Cambridge Chrysanthemum Society Mr. Martin McDermott writes:—"Our Society takes a very great interest in the cultivation of the Chrysanthemum at home. We found the analysis published in the *Journal of Horticulture* of great help to all the growers here, and in a small way compiled a vote of our own. Next year we hope to have an analysis covering the whole of the colony."

Mr. J. Wells, Cambridge, N.Z., who compiled the analysis, writing in the "Waikato Times" says:—

"A few remarks on the position attained by certain varieties may not be out of place. Vivian Morel heads the list; and deservedly so, for a better type of Japanese Chrysanthemum it would be difficult to imagine. It possesses size and refinement, while its habit of growth is good. The three next, viz., Charles Davis (a sport of Vivian Morel), the Queen, and Mlle. Thérèse Rey made their first appearance on the colonial show board last April, and yet they have gone to the top at a bound. All that has been said for Vivian Morel applies to these varieties. Space will not permit of a criticism of each of the sorts, but with the exception of the last three they are a good set, and any exhibitor having them 'very fit' at show time would be hard to beat. The objection to Golden Wedding is that it is rather late, International is rather early, while G. W. Childs is rather small; though, be it noted the first and last of these three are the very best of their respective colours. Because they mature too early for our shows accounts for such old favourites and first class varieties as Edwin Molyneux, Puritan, and Gloire du Rocher being so far down the list. Subjoined is the list of thirty-six as voted for arranged in their order of merit, and with it I would tender my thanks to all who have in any way made its compilation possible.

Vivian Morel, Chas. Davis, The Queen, Mlle. Thérèse Rey, Col. W. B. Smith, Mrs. B. Findlay, Miss D. Shea, Sunflower, Eda Prass, Duke of York, Mlle. M. Hoste, Grandiflorum, Florence Davis, Mrs. C. H. Payne, Stanstead White, Wm. Seaward, Mrs. E. D. Adams, Thunberg, Viscountess Hambledon, Niveus, Domination, Golden Wedding, International, G. W. Childs, Excelsior, Mrs. Libbie Allen, Gloire du Rocher, Yellow Lacroix, R. C. Kingston, Edwin Molyneux, Lady T. Lawrence, Miss A. Hartshorn, Mrs. Wm. Trelease, Mr. A. H. Neve, Eynsford White, and Wm. Tricker."

It will be noticed that on comparing this list with the thirty-six as given in the *Journal of Horticulture*, that while there are several occupying similar positions in the two lists, there are also some curious differences, for which the varied climatic conditions will probably account. The step is one in the right direction, and Mr. Wells is deserving of thanks for the time he must have devoted to work which cannot but be conducive of beneficial results.

SUNFLOWER STOKE PARK FAVOURITE.

IT is not often that a new Helianthus is exhibited before the Royal Horticultural Society that is sufficiently good to deserve a special mark of recognition. At the last meeting, however, Mr. J. Hughes, The Gardens, Stoke Park, Guildford, staged blooms of the above variety, for which the Floral Committee adjudged an award of merit. The flowers depicted in the woodcut (fig. 46) are of a medium size, the colour of the ray florets being a rich golden yellow, contrasting admirably with which is the black centre. The habit of the plant leaves little to be desired, while we understand that large numbers of flowers are produced over a considerable period. This fine Sunflower should be hailed with pleasure by all lovers of hardy flowers on account of its pleasing appearance in the garden, but also for its undoubted utility for decorative purposes in a cut state.

SHRUBS.

WITH the advent of autumn shrubs and shrubberies come naturally within the range of everyday thought and work. That is of course in cases where they form subjects of thought at all, or where any labour is expended on them. Keeping shrubs within bounds is not a matter of difficulty in cases where they receive annual attention, indeed one man trained to the work is able to prune a large number in a comparatively short time. As I do not dig the ground among shrubs, the uncovered spaces being carpeted with grass, much labour is saved on this item of management alone. Whether or not digging is beneficial I cannot say, but certainly it is less tidy looking than grass, and I am sure the labour saved is well utilised by attention to pruning and other details. Shrubs may be pruned now, including deciduous kinds. The usual plan no doubt is to leave these alone, but especially when young, such important flowering plants as Crabs, Hawthorns, Lilacs, Plums, Laburnums, Cherries, and Almonds ought to be subjected to an annual inspection. All that needs doing is the removal of any shoots that have become crowded. With the aid of a pair of French pruners I can overtake in a few hours all the pruning required for a year.

Mulching is another matter in connection with shrubs that must be

undertaken as needed. The soil here is in many parts gravelly, and the benefits following an annual or biennial mulching can hardly be over-estimated. This is more especially the case with flowering plants whether evergreen or deciduous, and particularly so as regards peat-loving plants. I am not at all particular as to what material is used for this purpose. Sometimes it is soil, occasionally manure, and most often prepared compost from the refuse heap. Those having a poor soil to deal with, and who have not yet tried mulching to shrubs, will be satisfied on trial that it repays any little trouble.

In addition to employing decomposed and prepared refuse for

compost incorporated with the natural soil will be quite sufficient. Last year I had to plant a number of *Ampelopsis japonica*, *Carpenteria californica*, new forms of *Cornus*, *Clerodendron trichotomum*, and others, and for these I made up a compost of loam and decayed rubbish, the two in equal proportions, and all have done well. Some plants, *Spiræas* for instance, grow and flower well on the poorest soil, consequently so much trouble is quite unnecessary in their case.

The beauty of flowering shrubs is now hastening their recognition as desirable plants to introduce into shrubberies instead of the ridiculously limited number too commonly employed. But it would be



FIG. 46.—SUNFLOWER STOKES PARK FAVOURITE.

mulching I also use it for planting shrubs in. It is now many years since I first tried it to make up beds for *Rhododendrons*. The natural soil was so bad that on it I placed a thick layer of the material, planted the *Rhododendrons* therein, and I have just made up another large bed into which a collection of peat-loving shrubs is to be planted. The material in this case is nearly 2 feet in depth, and with it a layer of sand nearly 3 inches in thickness is thoroughly incorporated. From the nature of the material being mainly humus, it has a tendency to become quickly exhausted of plant food, but if a surface dressing of manure is annually applied there will be no decrease in either strength or beauty. For some plants half loam and half compost is best, but for ordinary kinds, such as *Laurels* and *Yews*, a good addition of the

unwise to dispense with those kinds that have done duty for so long. There is some reason why *Laurels*, *Yews*, and *Box* have for so long held sway. Possibly they may have killed other plants by overgrowing them, but it is more likely that their hardiness and adaptability to different soils and varying situations has procured for them so much popularity. Shrubs, it must not be forgotten, are most useful as screens to hide unsightly objects. As a shelter to more important plants they are indispensable. Where the *Portugal Laurel* is afforded space to grow to its normal dimensions, in addition to its other valuable properties, it becomes one of the most beautiful of flowering shrubs. The *Laurels* here during the past summer while in bloom were completely covered with their spikes of sweet-smelling, whitish flowers. In the

same way many of our native deciduous flowering shrubs surpass exotics in beauty, of which none can excel in beauty the Hawthorn, the Gean, and the Sloe.

We ought to add flowering shrubs of other climes in order to increase the variety, and to give more interest to grounds, but these, though beautiful, are only secondary to Laburnums and other plants already named. In Scotland many flowering shrubs succeed in the open, and of Spiræas there is quite a lengthy list. Then there are Deutzias, Lilacs, Weigelas, Ghent and other hardy Azaleas, Roses, Honeysuckles, Escal-onias, Fuchsias, Olearia Haasti, Amygdalus Davidiana and its white form, Prunus Pissardi, Pyrus, Cydonias, hardy Heaths, Daphnes, Currants, Hydrangeas, Garrya, Genista, Daboecia polifolia in variety, Strawberry Trees, Rubus, Philadelphus, Viburnum, Kalmias, Calycanthus, Hypericums, Leycesteria formosa, Berberis, and others. In addition there are the shrubs that bear ornamental fruits, including Elders, black and red berried. The common Barberry, Mahonia, Roses, particularly Rugosa, Crab Apples in variety, the Sea Buckthorn, the Strawberry Tree, the Snowberry and the "Wineberry" or Japanese Bramble, which has been covered with shining red fruits.

A not uncommon mistake perpetrated by purchasers of new shrubs is selecting them much too large. If a shrub is healthy, though small, and well rooted, it is not unlikely to overtake larger plants that cannot be removed a distance without suffering. It may also be remarked that new shrubs ought, if possible, to be planted directly on arrival. It is dangerous to leave them unplanted. In cases when newly bought shrubs cannot, on arrival, be put in permanent positions, it is much better to let them remain until the ensuing summer, when without any fear of danger whatever, replanting can be effected. I re-arranged portions of two Yew hedges in the end of May, and it was not possible at any time to point out the difference between those lifted and those left.—R. P. B.

SEPTEMBER SPIDERS.

AUGUST and September are the months when spiders are abundant about gardens and plantations; probably there are more in August than September, though that has its particular species, which come not till the autumn glow has arrived, and the air is tolerably calm. Workers in gardens cannot fail to make acquaintance with these insects—if insects they are, for naturalists do not agree as to their position amongst the smaller creatures—not only by seeing them and their webs, but by feeling their movements over the person. Stray spiders frequently crawl upon our skins or our clothes, coming on us accidentally, and anxious enough to escape. Why they should rouse a feeling of dislike in so many persons is singular, unless it is to be accounted for by the retention of foolish ideas or apprehensions originated during childhood.

There is nothing really repulsive about any of our native spiders, nor is a bite from them to be dreaded, as in hotter countries, where the poison of some species is highly injurious, or even fatal. I have heard of a very few instances where a spider, crawling upon someone's neck or arm, perhaps causing a hand to be hastily applied to the part tickled, has, in self-defence, pierced the skin with its fang. The worst result that has followed has been a swelling, somewhat like that produced by a gnat bite, the irritation passed off in a few days; but this is a thing that seldom happens, even to gardeners. We have, however, much more serious objections to the presence of spiders in gardens, especially the web-spinners, their insect traps spread upon plants and shrubs being unornamental, several of the smaller species also roll up or fold leaves, as temporary hiding places, and for the purpose of covering their egg-bags.

On the other side, some things may be said in favour of spiders, besides the good character given them by moralists, as examples of diligence and perseverance in the face of difficulties and dangers. Spiders generally are great destroyers of other insects, and since they kill multitudes of those that are damaging to our crops in some stage of their existence, we must account them so far beneficial to us that they should be protected when it is possible. Their appetites are voracious, and their activity constant, the number of victims to webs placed in favourable positions is astonishing. We have an instance of it just now, swarms of craneflies or Tipulæ are on the wing, and large captures of them are made by spiders to our advantage, for the grubs rank amongst our very injurious insects. Even while they are quite juvenile, and too small to form webs, I believe the common garden spiders, of which we see yellow-bodied troops marching about during the spring, feed upon aphides, poduræ, and various creeping tiny insects till they can secure bigger prey.

Growers of Grapes in some parts of the Continent allow a species of Theridion to form its webs on the bunches, which it is apt to do, they thinking that the Grapes are thus protected from the attacks of other insects. Again, spiders have some repute as weather prophets, for it has been noticed that if they are busy repairing their webs early in the day after a wet night, an improvement of the weather is very probable. Mr. Murray tells us that in several low-lying districts of the west of England a bolus of rolled-up spider's web is still taken for the ague occasionally prevalent, and its efficacy vouched for. Another use of this web is that of arresting the flow of blood from a cut or abrasion, which it usually will do.

At the period when every natural object received a pronoun expressing sex, the spider was "she" (even yet, in some parts of the west of England, most things are "he" or "she"), I suppose from its spinning propensities, not because our worthy ancestors had observed that the females were

more in evidence than the males. Amongst some of our garden species they do apparently predominate, or at least are chiefly conspicuous, the smaller males placing their webs in less noticeable positions. It has, indeed, been suggested that male spiders generally are lazy fellows who sneak about to steal food from the webs of their companions. We do know that courtship with them is apt to have its dangers, and the case is not uncommon of a female Epeira seizing a male that is cautiously approaching, securing him to her web, and then devouring him. Judged fairly, the large and abundant spider, formerly called the cross spider, from the yellow-and-brown adornment on its back, resembling a triple cross or tiara, is handsome rather than ugly; it is also named E. diadema, and frequently sits conspicuously in the centre of the web, head downwards; but occasionally it hides close by under a leaf. Though many of the webs are spread over bushes and plants, some, as we may observe, are placed near the ground, which secure low-flying insects, or those about to settle on the earth.

These Epeiras, or geometric spiders, capture more flies than insects of any other order, but they also get butterflies and moths, occasional caterpillars, and even beetles; of course, some of the Hymenopterous order, such as ichneumon flies, bees, wasps, and even hornets have been found in their webs, the spider showing both agility and cleverness when it has one of these dangerous captives, and generally manages to enwrap them without getting stung; it then leaves them to struggle till exhausted. Small spiders of the genus Linypha that are common in gardens, along hedges or clumps of herbage, mostly black or grey, have a peculiar method of arranging their webs. One of these is in the form of a horizontal sheet of fine silk, from which numerous lines branch off to surrounding objects; these serve a double purpose—they support the web, and insects striking against them are often precipitated on to the sheet, where the watchful spider waits for its expected victims.

Then we have another remarkable variety of web in that constructed by the genus Ciniflo, a loose irregular net, which has usually a dirty appearance, even when not particularly soiled. The threads are flocculent and compound, more or less twisted; under the microscope they have a distinctly blue tint. It will be noticed by gardeners that a Ciniflo web, if handled, adheres closely to the fingers. Allied to these are the Agelenæ, which spin on banks or low bushes, thick, compact, white webs having a tube or tunnel at the inner end. Somewhat similar is the web of a Tegenaria, found in houses, occasionally in conservatories, with a little tube or nest at one angle.

There are still a few Theridions about, though most have disappeared for the season. On many plants we see during the summer the small cocoon of T. pallens, of a pearly white, rounded, but having little points on its surface. It is said that in this genus the females sometimes watch over their young progeny for a good while, providing ants and other insects as food. Here again we have another type of web. That of a Theridion is composed of a number of fine, distinct threads, which cross each other in all directions. The medium-sized T. tepidariorum, brown, with a pale abdomen, black streaked, is chiefly found in hot-houses, and is presumed to be a naturalised foreigner. It should be spared when possible. September is the month for a display of "silvery gossamers" spreading a film of web over acres of common or meadow land. Some of these spiders rise in the air, floating a long distance.

Other spiders tolerably abundant in gardens make no webs, but chase insects by running after them, or leap on them with a tiger's spring, such as the black and white Salticus scenicus. Well known, too, is the longlegged fellow called the harvest man or daddy longlegs, Pholcus phalangoides. In justification of the spider race, I must add that the "red spider" is not truly a spider, but a mite like the harvest bug, which has been rather annoying this season.—ENTOMOLOGIST.

JUDGES' DUTIES.

EVIDENTLY there is a varied opinion affecting the duties of judges at horticultural shows if the comments which have appeared of late in the Journal may be taken as evidence. Certainly there are times when the course taken by "A. D." from an exhibitor's point of view would be welcomed, and that of the other correspondents equally acceptable, according to the position one may happen to be placed in. It is, however, quite an established fact that judging will never be done to please everyone, and the same argument holds good in the leniency displayed by judges towards those, who by sheer accident, place too many or too few specimens in a dish of fruit or vegetables.

There are many exhibitors who cannot help displaying nervousness when staging fruit or vegetables, and often where the mistake is made of placing too many fruits is in providing an extra one in case of accident. It is not unusual in the unpacking of soft fruits on the morning of the show to find one out of the number required for a dish showing signs of decay, the staging of which, should the competition be keen, would quickly decide the case. I am sure very many of your readers who are exhibitors will support the views held out by "A. D.," who is apparently fighting his cause single-handed, and I hope that the same spirit will be found in those adjudicating on the merits of fruits or vegetables in collections in the future.

At the same time, it must be admitted that judges are not called on to favour anyone in the manner suggested; but such action as that displayed by "A. D." certainly demands respect from exhibitors generally. I was once disqualified in a collection of fruit by having, for some unaccountable reason, one Morello Cherry in a dish of a dessert kind of a similar colour, and this one of the judges happened to taste and at once decided to disqualify, because, as they stated, I had seven

varieties instead of six. But for this my exhibit would have gained the premier prize, and I was naturally disappointed to find it marked "disqualified," and inquired the reason. I invited them to taste more of the dish of Cherries, which they did, and could find no other Morello in it. If "A. D." had been judging in that case I fully believe such a trivial matter would not have merited disqualification.

I certainly do not agree with "Y. B. A. Z." (page 228) in his objection to the use of Parsley as a garnish to the vegetable dishes, especially in collections. One only requires to see two of these staged, one furnished with the bright green groundwork of Parsley and the other without any garnish at all, to decide which has the better appearance and effect, and it will be an evil day when these are to be staged without any accompaniment, whether it be Parsley or any other vegetable garnishing. It is altogether too popular with the public to be dispensed with, tasteful arrangement claiming greater interest with them even than quality. In judging, of course, quality comes first; but artistic arrangement is not usually an undeserving art.—W. S.

NARCISSUS TELAMONIUS PLENUS.

THE bulbs of this useful old double yellow Daffodil from Lincolnshire are larger than we have had them for many years past, judging from the bulbs abundance of flowers will certainly result. For our earliest blooms the bulbs have been boxed fully a month, and we are convinced, after many years' experience, that there is no other Daffodil that will yield such an abundance of flowers for the labour and expense required in production. Obvallaris may be useful for early work, but we have not succeeded in forcing it into bloom earlier than the common double yellow. We promised some time ago to give details of culture in time to be of service to those who need information on this subject. Many persons evidently do from the numerous letters that reach the Editor during the spring months asking why the flower spathes are blind.

We grow the bulk of our stock for cutting in boxes 2 feet 4 inches long, 1 foot wide, and 4½ inches deep. These are smaller than we have been in the habit of using, but they are a convenient size for men to shift from one place to another. When 18 inches wide and the soil is moist they are rather too heavy. Where a lesser number of flowers is required at one time boxes 18 inches long and the same width and depth as the others will be found very useful. The strips that form the bottom of the boxes should be about 4 inches wide, with ½-inch spaces between, so that good drainage is certain. When in active growth liberal supplies of water are needed, but on no account must water stagnate about the roots.

When plenty of openings at the base are provided no other drainage is needed. A thin layer of old Mushroom bed refuse or thoroughly decayed manure is spread over the bottom of the boxes, then a good layer of the compost in which the bulbs are to be grown. This may consist of old potting soil, a third of fresh loam with the addition of sand, a little leaf mould, and one-seventh of decayed manure. The compost placed over the manure should be made firm and sufficiently deep to allow of the top of the bulbs just being buried when the soil is level by the sides of the boxes. The bulbs must be packed closely together in the boxes. The spaces about the bulbs should be filled with soil by the aid of the fingers and pressed as firmly as possible without injury to the bulbs.

After the bulbs are boxed they should be placed outside and covered with 4 inches of fine coal ashes or cocoa-nut fibre refuse. The soil ought to be in an intermediate state for moisture; on no account ought it to be so dry as to necessitate water being given, and on the other hand it must not be too wet. If dry weather ensues it is sometimes necessary to cover the ashes with litter, or even water the surface, the former being the better method. If grown in pots the treatment is the same, only the 6-inch pots, which are the best size, should be drained, and six bulbs can be grown in each.

By the time the bulbs have made 1 inch of growth they will be ready to remove from the ashes, as the boxes will be full of roots. Success or failure depends entirely on the treatment they receive from this time forward. Those not needed for early forcing should be placed in a cold frame, and light gradually admitted to them until the foliage is green. Those needed for early flowers may be stood under the greenhouse stage, where partial light will reach them, and the drip of other plants will not fall on them. After about ten days they may be placed on the floor of any cool house where a little heat from the mains can reach them. I am writing now of forcing one or two boxes at a time, and not large quantities. The bulbs in the side of the box nearest the warmth will soon show signs of moving, and the box is then turned round. This starting is the most dangerous period in the forcing of double Daffodils.

They start splendidly after being in a cool house for a fortnight if stood on a bed of leaves, the moist genial warmth suiting them well if abundance of air is given at the same time. Once the plants are on the move an intermediate temperature may be given until the flowers are pushing up freely. Gentle forcing is necessary for all bulbs until they reach the stage indicated, when they will bear close warm treatment with impunity, but at no time do we advise a higher temperature than 65°.

When first removed from the ashes we do not soak the boxes with water. On the contrary, we merely dew them with the syringe once or twice a day until they display signs of growth. After this stage we give them a good soaking of water, and never allow the soil to become

dry, nor, on the other hand, do not pour water into the boxes for the mere purpose of doing so. Feeding we do not practise, and have never found it necessary. Give the plants a good fairly rich compost and they need no feeding afterwards. If attention is paid to the details given cultivators need not fail in growing to perfection Daffodils to whichever section they may belong.—WM. BARDNEY, *Osmaston Manor*.



TEA ROSE MAMAN COCHET.

I CUT a bloom of this Rose the other day nearly 5 inches in diameter and beautifully formed and coloured. I cannot speak too highly of this variety. It is one of the best Roses of recent introduction. It does well on both dwarfs and standards, and blooms continuously and well throughout the season. It should be in everybody's garden. I am so delighted with this new Rose that I shall be glad if you will advise the readers of the Journal to grow it, knowing as I do that it will be to their advantage to do so.—HY. V. MACHIN.

[We can say nothing that would add weight to Mr. Machin's estimate of this Rose.]

PLANTING ROSE STOCKS.

I PREFER early spring for this instead of autumn. All through the winter and summer the bulk of our young stock has been below the soil, and to lift and expose the soft bark to a severe frost does not recommend itself to me. We may now plant as shallow as possible, but not in too rich a soil, unless they are in permanent quarters. We must also consider this point as regards distance between the stocks, and again give a little thought to the habit of growth possessed by the varieties to be worked. Why I would not use a rich soil at this stage is because a coarsely grown stock often overflows the bud with sap, or the bark overgrows and smothers it.

The planting out of stocks to bud on, and their transplantation as Rose plants, affords another good opportunity of cutting out any suckers, which seldom develop on properly worked plants after the first season. Besides, we can get many more plants on the same ground, and be sure of sufficient for the purposes intended. Supposing we intend to grow a collection, some of such growth as Madame Gabriel Luizet and Gloire de Dijon; others like Baroness Rothschild and Mrs. John Laing, or such short growers as Etienne Levet and Lady Mary Fitzwilliam, it is much best to set out our number of stocks at suitable distances. The strongest growers need 3½ feet between the rows and 1½ foot from stock to stock. Three feet is ample for such as Mrs. John Laing, with 1 foot in the row; while the dwarfier growers may be cultivated in maiden stage as closely as 2 feet by 9 inches.

Always plant dwarf stocks as shallow as possible, and then draw up some soil around them. This acts both as a protection and as a support during the time they are not rooted into the soil enough to stand firmly. When budding time comes round again, we remove this ridge of soil, and thus expose a soft and pliable bark as well as greatly facilitating the insertion of the Rose bud upon the base of the stock. As I have already pointed out, we cannot get this too close on the crown of roots.

Early rooted cuttings may also be lifted in November and potted for grafting the following spring. Standard and half-standard Briar stocks need a little preparation. I like to have these before hard weather sets in, as the collectors are apt to get a few at a time and let them lie about exposed to frosts and drying winds. When planted early these also callus and root before trying weather arrives, and they invariably do better than late planted stocks. I trim Briar stocks much closer than many, and find it an improvement. When planted with coarse and straggly roots or knobs there is not only a much greater risk of future suckers, but it so often happens that the new roots are formed on the edge of the coarse roots, becoming broken and otherwise injured during lifting.

Like the dwarfs, I prefer to plant these thickly, and raise a maiden Rose tree, transplanting this again later; but we do not root the standard stocks a season previous to budding. They are set in rows, prepared the same as for dwarfs, but 3 feet from row to row, and 9 inches or more from stock to stock. As growth breaks in the spring, all but two or three of the most prominent, and situated nearest to the height we desire our future Rose trees stem to be, are rubbed off. This gives us a stronger shoulder to work the bud on, and prevents so great a tangle of growth, which would otherwise hinder the operator. If possible choose the shoulders to be on opposite sides, as if they are directly above one another it is obvious that the Rose growths from each will crowd and incommode.

When lifting maiden standards for transplantation we must again give a close look for suckers. Never aim at higher stems than you can avoid, and still suit your purpose; nor should we attempt any but strong and free growers in this form. Short hedge Briars, about a foot or two only, are most useful for many of the delicate Teas and H. Perpetuals, and more especially for those of drooping habit, like Souvenir d'un Ami and Niphetos for example.—PRACTICE.

CARDIFF CASTLE.

It was as a stranger in a strange land that the writer entered Cardiff, but the welcome from the genial Mr. Pettigrew was so hearty as to make one feel at once perfectly at home. For many years now this talented cultivator has presided with signal success over the gardens of Cardiff Castle, and the visit was looked forward to with more than ordinary interest on account of the excellent reports that are always floating in the horticultural air anent the grand Pears, splendid Grapes, superb Apples, and the world-famed vineyards. The ideals that had been formulated as to these things were high, nevertheless they were more than realised; indeed, they were easily surpassed. Good Pear growers have been heard to say, "This is a bad Pear year everywhere," but had they been at Cardiff about three weeks ago they would have had to place at least one very emphatic reservation to their opinion, for the Pears there this year were as numerous as anyone could wish to see, and in addition the quality quite as high. Let us, however, just glance round the garden generally, and return to the fruits in good time.

A query as to whether we would like to look round the pleasure gardens adjoining the Castle was met with a prompt reply in the affirmative, and under able guidance we quickly set out. Not that we expected to see anything very extensive in this department, for it was impressed on the mind that we were in the heart of a great town, so could scarcely conceive the possibility of anything elaborate. In this respect we were most agreeably mistaken, for the grounds are of very great extent indeed. This was soon discovered as we made our way through the massive doors in the wall that divides the estate from the main road, for we seemed at once to be in the country instead of the town. Spread before the eye was a veritable panorama of magnificent trees, green springy turf, clumps of evergreens, a winding stream, and last, but by no means least, the Castle itself. It is an interesting pile, imposing in its stately grandeur. Looking at it forces the mind back to olden times, kept fresh in our memory by the writings of Macaulay and other great historians, but the feudal days are over, and we have to regard a splendid home—indeed, it is quite one of "the ancestral homes of England," in every way worthy of the illustrious family of Bute that calls it its own.

The drives through these grounds are full of interest, especially with such a guide as Mr. Pettigrew, for points worth notice are brought up by him at every few yards. The grass, on which tennis and other games are played, is in splendid condition, rendered more appreciable by great clumps of Rhododendrons here, other plants there, with comfortable seats in the most pleasing profusion. The mowing is decidedly not the work of an hour, for it is evidently done with the greatest care, the result being extremely gratifying. As progress is made we catch frequent glimpses of the river Taff rushing on its way to the sea. Again, in another direction, is the canal, fed by the river, which in turn feeds the celebrated Bute Docks, that have done their full share in making the town of Cardiff the famous seaport that it is to-day. On all sides are trees—some young, others old, but with scarcely an exception all showing the vigour of health. Many of these—perhaps thousands will better express it—were planted by the present gardener, and are fast developing into sturdy specimens as they come towards the end of their teens. In a few years another generation of men will tend and visit these gardens, but the stately trees will for generations raise their heads and sway in the breeze as living testimonials of a man whose name will ever be green in gardening England as one who did his duty with untiring energy and devotion.

But let us now pass to the vegetable garden to ascertain whether the comforts of the flesh are studied with equal assiduity and success as those of the eye. A wander round soon convinces us that this important department is admirably managed. Really there are two gardens, in both of which are grown vegetables and fruits. One is at some distance from the other, and though of some years' standing is apparently the junior. Spread on the walks of this were Onions in extraordinary numbers, not large in size, but such as find the greatest favour, being solid, good keepers, and excellent cooks. Cauliflowers were noticed as being in fine form, while Broccoli proves that the future as well as the present is ever in view. Peas were not yet quite over, and all other crops in season were seen in abundance. But there is still much to be done, and however much one might feel disposed to linger justice demands that we continue to press onwards, so that all may be seen if only a moiety be mentioned.

Now we come to what is the actual centre of attraction, and that is the Pear trees. For years these have been familiar, at any rate by proxy, to the majority of the gardeners in the United Kingdom, and doubtless to numerous others in various parts of the world. That they are thoroughly deserving of such renown cannot for a moment be questioned, for they are models of excellent management, and show at every aspect the presence of the master hand. Year after year, good season or bad, these trees bring their quota of luscious fruits; and a few weeks ago the branches were weighed down by the weight of the crops thereon. From bottom to top of the splendid branches of the pyramid-shaped trees they were clothed with fruits, of which thousands will long ere now have been gathered. Apparently the main objects that have been kept constantly in view in the training have been the unrestricted admission of light and air, for the thorough maturation of wood and bud. Consequently the trees are open—thin, some persons might term them—in appearance, there being an abundance of space between every branch and every bud.

On the various walls, and there are several admirably adapted for

the purpose, are large numbers of other Pear trees, the training here again being the same in principle as the system mentioned in the preceding paragraphs. Many of these are veritable giants, that have been growing and bearing for a goodly number of years, but one and all are in the best of health, and almost, if not absolutely, destitute of disease or insect pest. Much more might well be written of them, but let it suffice to add that they are perfect examples of what skill and perseverance will do. Perhaps some readers of the *Journal of Horticulture* will be interested to know the names of a few of the most prominent varieties, and the premier place may be given to what is usually the Goliath of Peardom—namely, Pitmaston Duchess. Everyone knows the strong handsome growth and fruit of this variety, and perhaps nowhere will be found better examples than at Cardiff. Other varieties are Glou Morceau, Beurré Clairgeau, Louise Bonne of Jersey, Williams' Bon Chrétien, Duchesse d'Angoulême, Beurré d'Amanlis, Jargonelle, Beurré Diel, Doyenné du Comice, Marie Louise, and Bergamottes in variety.

Turning now to the Apples we see an equally satisfactory state of affairs, and once again the system of culture is essentially the same. Almost all kinds are carrying handsome crops, but in this respect the palm must certainly be accorded to the Wellingtons, of which the trees are laden with handsomely coloured, shapely fruits. The uniformity of size is a striking picture, and if either these or the Pears were graded the "smalls" would be most decidedly in the minority. Closely following these in point of beauty are the Cox's Orange Pippin, or as many persons call it the prince of eating Apples. The sample of these is a beautiful one, not particularly large, but even, firm, and clean, such as is fit to put on the table and be eaten by anyone. Then there are other sorts including dessert and culinary, all in capital condition and something of which one may be justly proud. Apart from the Apples and the Pears there are the Plums, the Green Gages, and other fruits, but we must be moving or we shall certainly never reach those vineyards, which must not be missed on any account.

Before we commenced our journey to the vineyard we took a hasty look through the houses and frames in the gardens, and there saw many things of great interest. The Grapes, of which many had been cut, were looking remarkably well, the finish of the Hamburgs being good, and of the later sorts full of promise. Large bunches are not the chief desideratum, but rather those of medium size and composed of even well-coloured berries. Despite this several charming bunches of Muscat of Alexandria were observed, in which the beautiful amber tint was coming just about as it should. The Madresfield Court, occupying a large amount of space, were, at the time of the visit, in excellent condition, the latest of the berries being then changing their colour. The crop here looked to be a heavy one, but the condition of the Vines showed that they were easily capable of carrying it and even more. In an adjoining pit Pines in the best of health were seen, while in a large span-roofed house the last of the Melons, for which Mr. Pettigrew is so justly famed, were producing some handsome fruits. Peaches and Nectarines under glass had all been gathered, leaving the trees in such a condition as to promise good crops next season.

For the decoration of the Castle when such is required large numbers of plants of various kinds are grown, comprising those cultivated for their foliage and others for the flowers. The most imposing display a few weeks ago was formed of plants belonging to the former section, amongst which good health was everywhere prominent. Handsome Crotons, both large and small, are largely grown, and the richness of their colouration proves that excellent measures are adopted in their cultivation. Then there were Dracenas, Palms, and numerous others, all in fine form and admirably adapted for the purpose for which they are grown. Amongst flowering plants Zonal and Ivy-leaved Pelargoniums did their share in affording brilliancy, while Tuberoses, with white fragrant flowers, lent additional charms. Others there were besides these, all in good health and generally in large numbers. The Orchids alone form a somewhat limited collection, including several good sorts, though no attempts are made to bring the collection right up to date in every respect.

Now we are reaching that which we have been so eager to see, and that is the outdoor Vines, of which so much has been heard at various times. Many years ago when the first vineyard was instituted at Castle Coch failure swift and sure was promptly prophesied. Such, however, has been by no means the case; on the contrary, the initial experiments were so completely satisfactory as to justify not only an increase in the number of Vines, but also the eventual establishment of another vineyard at Swanbridge, which is situated adjacent to the waters of the Bristol Channel. Undoubtedly the close proximity of the sea, with practical immunity from frosts, have had much influence on the success of the enterprise, but it is almost, if not quite, certain that there are many other positions in the British Isles where Vines could be grown, so far as climatic influences are concerned, with as much success as those at Castle Coch and Swanbridge. Excellent wine is made from these Welsh Grapes, which, when bottled, brings good prices in the open market. Of course the seasons have a great influence on the results, but this, though not perhaps to such a great extent, has to be reckoned with everywhere, and this season has proved a disastrous one at Castle Coch, where the mildew on a hedge found its way to the Vines and quickly spread over the whole, ruining the crop for this year.

At the Swanbridge centre, however, things are in a far more satisfactory condition, as almost all the Vines there are carrying good bunches of fruits, some indeed of the earlier sorts were already changing colour. The standard variety named Gamai Noir is rather later, though the berries need not be absolutely ripe for wine making. The bunches

are of good size, and when ripe the colour is a rich blue-black. The leaves are of remarkably stout texture, and as large as many Vines that are grown under glass. The plants grow to a height of between 4 and 5 feet, and are each supported with a good stout stake. That the treatment they receive, and the soil they are grown in, are in every way suitable is plainly apparent from the splendid health and condition of the plants. The whole undertaking reflects the greatest credit on everyone concerned with it, and eventually when the whole of the Swanbridge field is stocked one will be able, when in the middle thereof, to fancy oneself in Italy or France without any trouble.

From Swanbridge we drove back, a distance of about seven miles, partly by the seashore and the remainder by road, at the sides of which were growing trees that had been planted by our host. Soon Cardiff was sighted, and shortly afterwards we were seated in Mr. Pettigrew's charming home, resting after our long afternoon's work. Before bidding adieu to Cardiff we had a hasty look over Roath Park and other of the open spaces, but notes of these must be reserved for a future occasion.—NOMAD.

ATHANASIA ANNUA.

SEVERAL shrubby evergreen species of the genus *Athanasia*, natives of South Africa, are known, and occasionally but rarely they are seen in greenhouses where collections of scarce or interesting plants are grown. One *Athanasia*, however (fig. 47), is of annual duration only, and was at one time a rather familiar occupant of English gardens. It is a native of North Africa, chiefly in Barbary, and succeeds out of doors in this climate during the spring and summer months. The whole plant is rather fleshy in structure, like many other members of the Compositæ. The leaves are pinnatifid, and the florets tubular in close fleshy heads, these again being clustered in dense corymbs suggestive of some of the *Achilleas*, especially *A. ægyptiaca*, but the individual heads are more prominent, and the corymbs are consequently not so flat. When cut the flower heads last for a great time in water, and even when cut and placed in a cool position they remain fresh for more than a week out of water. The plant succeeds in any light well-drained soil and is raised from seed sown in early spring.

A FAMOUS METEOROLOGIST AT HOME.

A CHAT WITH MR. G. J. SYMONS, F.R.S.

No meteorological event of any importance, from a drought to a hurricane, is considered quite complete until Mr. G. J. Symons has been heard on the matter. But few would suspect the amount of interest to be derived by the mere layman from a visit to the famous meteorologist in his modest quarters in Camden Square. It was *à propos* the recent big storm that a representative of the "Westminster Gazette" called on Mr. Symons, though, as it proved, Mr. Symons had nothing very exceptional to report concerning that particular downpour.

A FAMOUS THUNDERSTORM.

"It was a good average thunderstorm," he observed "but nothing like some of the storms which we have had in former years—nothing like that of 1878, for instance. That was on June 23rd of that year, and, luckily enough, I happened to be able to obtain an absolutely perfect record of it from beginning to end. It began about one o'clock in the day with thunder and rain. I scarcely know why, but I started at once recording the indication of the storm-gauge; and the rain becoming torrential, I continued it every half minute until the fall ceased. It is an unusual thing in London for an inch of rain (which I may tell you represents 101 tons weight per acre) to fall in twenty-four hours; but in this case we had a fall of $3\frac{1}{4}$ inches, and it all fell in an hour and a half. That was something like a thunderstorm. As to the one the other day, I was out of town myself at the time, but of course our recording gauges tell us exactly what happened." And Mr. Symons produced a chart showing in pencilled curves the duration and volume of the rainfall over the Camden Square area throughout the storm.

HOW THE RECORDING IS DONE.

"How is that produced?" "The simplest thing in the world. You can have a look at the instruments out in the garden presently. You have a cup or vessel arranged underneath an ordinary rain-gauge, so that the fuller it gets the lower it sinks, thus actuating a lever, which in its turn moves the pencil over the surface of the chart. That is to say, as the vessel increases in weight it pulls the lever or arm with the pencil attached farther and farther from its normal position, and as the paper at the same time turns round by clockwork on a cylinder, it is obvious that you get in this way a complete record at once of the time and of the intensity at which the rain fell."

A visit to the garden in due course confirmed the truth of Mr. Symons' words as to the simplicity of the apparatus, difficult as it is to describe it on paper.

Even more remarkable is another machine numbered among Mr. Symons' treasures, by means of which, in the course of a thunderstorm, not merely the rainfall, but the thunder, the lightning, the successive movements of the barometer, and the hail (if there be any) are all

recorded with absolute exactness by separate indicators in the form of one chart, the paper again revolving continuously on a cylinder by means of clockwork.

3000 CORRESPONDENTS AND THEIR WORK.

Other instruments set up and silently discharging their duties in various parts of the garden—it is just an ordinary suburban back garden with a small office at the end of it—are barometers, thermometers—"dry," "wet," "maximum," "minimum," and the rest of it, ground thermometers (giving the temperature at 12 inches, 4 feet, and 10 feet below the surface), rain gauges without number (for Mr. Symons, most cautious of statisticians, will not trust even his own machines unless they corroborate one another), snow gauges, thermographs, and evaporation tanks—the inspection of which, at any rate under the



FIG. 47.—ATHANASIA ANNUA.

guidance of such a capable cicerone as Mr. H. Sowerby Wallis, Mr. Symons' trusted colleague and assistant, is nothing less than a liberal education to the layman in the meteorologist's science.

But, as Mr. Symons explained, strictly speaking, a good deal of this is not what he considers his work proper at all. It is with the results of other men's observations rather than his own in particular that he is chiefly concerned. "Strictly speaking, my business is with the rainfall over the British Isles," he observed on this point, "and with nothing else. I myself am not so much an observer as a collector and compiler of the observations of others, and, considering that our staff of observers scattered all over the United Kingdom now exceeds 3000, I think you will realise that I have quite enough to do in this way. As you probably know, the results of our labours here are published annually in a volume—'Symons' British Rainfall'—the size of which to-day compares strikingly enough with the original slender little pamphlet from which it has grown."

"How did I come to start my rainfall records? I was engaged in the Meteorological Department of the Board of Trade at the time, and as it seemed to me the work needed doing, I began keeping observations on my own account. That was in 1860, when I got together and printed in the 'Builder' a summary of the rainfall of 1859. I have forgotten the exact number of records dealt with, but it was very small—perhaps

something like a hundred. The table was very favourably received, however, and I was induced to go on. The next year I had a larger number of stations, the next year again more still, until now, as I have already told you, they number over 3000."

A STORM AND ITS CONSEQUENCES.

The history of the present Meteorological Office, by the way, as outlined by Mr. Symons, is rather curious. It owed its origin in the first instance, it seems, to Leverrier, the great French astronomer—or, more strictly speaking still, to a storm in the Black Sea during the Crimean War which wrought havoc and disaster among our ships. Leverrier, at Paris, had traced this storm right across Europe, and on the strength of this suggested to Sir George Airey, the Astronomer Royal, that a storm signal intelligence department might be of much service to our shipping. The result was the establishment of the Meteorological Department of the Board of Trade under Admiral Fitzroy. Later on it became the Meteorological Office with extended functions, some of which, if Mr. Symons may be believed, it performs considerably better than others.

Asked the practical use of the work to which he devotes his existence, Mr. Symons had no difficulty in justifying his labours. "The whole science of hydrology," he explained, "depends on the study of rainfall, and the scientific study of rainfall can be based only on accurate records of successive years continued over a prolonged period. It is on the rainfall, of course, that the whole question of water supply over the entire kingdom depends. Rain is absolutely the only source of water supply we have. Even a spring is only water found underground, which has fallen on the earth as rain in another place. Therefore, in considering all questions of water supply, it is of the first importance to have accurate information as to the average rainfall in and about the particular locality concerned, and this information our records, of course, supply. If Newcastle or Birmingham, or London for that matter, wants a new water supply, they can only find out where to go for it by consulting our records, and this, of course, is what they do."

Of the thousand and one other interesting things which Mr. Symons and his courteous assistant, Mr. Wallis, had to tell and show, space, alas! fails here to speak.

NUTS FOR RIPE WOOD MEN TO CRACK.

My first note on this subject was written before "D., Deal's," paragraph appeared. Had I known he contemplated tackling this thorny question I should not have presumed to come forward, but have left the discussion to one so capable. I trust, however, that having put his hand to the plough he will not now look back, the instructive object lessons of this present season being too important to be allowed to pass unnoticed, especially as they all tell so strongly against the influence of ripe wood.

It is evidently felt by the advocates of this theory that facts are at present against them, few apparently having the courage to come forward and pick up the gauntlet thrown by "D., Deal," or myself. "Another D.'s" attempt to credit the season of 1893 with the fruital profusion of 1895 is scarcely worthy of serious consideration. "W. D., Turnford," is clearly on our side. I must, therefore, do no more than thank him for his assistance in seeking to eradicate error.

Even Mr. Pettinger does not seem quite so strong in his convictions as a year ago, though he tries to make out I was then wrong about the blooming of *Stephanotis floribunda*. The finest trusses are always produced on the young running growth, flower buds being thrown out therefrom at the axil of every leaf as soon as these latter appear, consequently there is no "ripening" in question. Further, this very wood in winter, after it has "ripened" or "matured," is cut back and thrown away. What then becomes of your correspondent's theory in face of these simple, well-known facts? It utterly breaks down under the test. Later on he endeavours to justify himself by asking, "Where does the soft growth spring from?" Naturally, it must start from some part of the plant just as the original stem sprang from the roots, ripeness having nothing to do with the matter, unless your contributor a believer in ripened roots as well as ripened wood.

American Apples he suggests as bearing upon his doctrine, ascribing their good qualities to the baking the trees get in summer, quite overlooking the months of severe and prolonged frost experienced during winter, thereby insuring complete and perfect rest to vegetation. I may leave Mr. Pettinger and "W. D." to settle their little difference respecting Grape growing, merely pausing to wonder how the Cardiff Castle out-of-door Vines—of which we heard so much a year ago—have done this season. I suspect uncommonly well, though theoretically they should have proved a complete failure.

After this your correspondent attempts a perfectly untenable analogy between ripe seeds and ripe wood. There is no resemblance between the two. Seeds are practically dead, though with the germ of life in them, while wood is very much alive and full of sap, as anyone would quickly discover who attempted to make a fire with "green wood," however ripe it might be.

Before concluding I should like to remind your readers that last year one able controversialist hailing from the Emerald Isle particularly instanced Strawberry plants as requiring their crowns ripened. I am exceedingly curious to know, therefore, how he explains the splendid Strawberry crop of 1895 following upon the wet and sunless summer of 1894. That writer also emphatically stated, with apparent sadness, that he knows the wood of his trees were not ripened last season; yet

hardly far away in Dublin town is a celebrated Jargonelle Pear tree growing against Sir Phillip Crampton's house, every spur and branchlet of which (I learnt early in August) was thickly set with fruit. Moreover, that in all its long history this seemed a record year so far as fruitage was concerned, although in exceptional seasons 2000 fruits have been gathered!

Perhaps, however, the strongest evidence on this question has recently appeared in your pages, where Mr. Gumbleton, writing upon "Buddleia Colvillei," page 84 of present volume, says, "It did not bloom either in 1893 or 1894, nor did I expect it would again do so till we had a very hot and dry season to thoroughly ripen (?) the young wood, and this we certainly had not last summer; yet, to my great surprise, the shrub bloomed profusely during last May and June," &c.

This is, I venture to think, a clincher, and a very hard nut for the ripe wood men to crack!—THE SCEPTIC.

ST. JOHN'S NURSERIES, WORCESTER.

AMONGST the famous nurseries in the kingdom that of Messrs. Richard Smith & Son ranks as one of the foremost. The business was started in a comparatively small way close on a century ago by the father of the present senior partner of the firm, who has retired from an active participation in the business, and enjoys his well-earned rest.

As a convenience for visitors to the St. John's Nurseries it may be well to note that a tram line leading from the centre of the city passes by and terminates in close proximity to the principal entrance of the nurseries. At this point the attention of the visitor is arrested by the wide straight drive, upwards of a mile in length, leading through the nursery, and bordered on each side by a wide space containing specimen trees and shrubs in great variety and healthy vigour, and all rendered fit for removal at almost any season of the year. The whole area of the nurseries is about 200 acres, a striking contrast with the original extent of 4 acres only. Leading from the main entrance to the offices (formerly the residence) one of the first objects of note is an old specimen of *Pinus excelsa*, bearing a number of long elegant cones. But more remarkable, and growing immediately opposite the entrance into the office, is a magnificent old Weeping Beech (*Betula pendula*). It was planted there about eighty years ago, and is considered to be the finest and most picturesquely grown specimen of its kind in the kingdom. To form a definite conception of the extent and character of this establishment something more than a pen and ink sketch would be required, but some idea of the magnitude of its resources may perhaps be acquired by the mention of a few of the more notable features and subjects which came under the notice of the writer during a somewhat hurried "tramp" on a hot summer day over the major portion of the establishment, in company with an expert and courteous guide.

As time would not allow of our ascertaining the amount in figures of the numerous trees and shrubs, provided for the trade and privately, in this gigantic nursery—in fact, it would be almost superfluous to attempt it—we propose instead to advert more particularly to a few of the prominent subjects which came under our notice. Commencing with fruit trees, for which the firm has been for so long a period renowned, the Apple naturally occupies a foremost position, and amongst other numerous varieties were large sections of Worcester Pearmain, Golden Winter Pearmain, Cox's Orange Pippin, Blenheim Pippin, Cox's Pomona, Bramley's Seedling, Annie Elizabeth, Lane's Prince Albert, Stirling Castle, Ecklinville Seedling, Lord Suffield, Warner's King, and Dumelow's Seedling or Wellington. In passing along we observed several "hands" busily engaged in the process of "budding" Apples on vigorous stocks. Altogether a healthier collection of Apple trees in their various stages and forms of training could not be desired, and the same remarks apply to the immense numbers of Pears, Plums, Peaches, Nectarines, Cherries, Damsons, and bush fruit, apparently sufficient in quantity to stock a nation.

An important element in the culture of the major proportion of the young fruit trees in St. John's Nurseries is the periodical transplanting, which must involve a vast amount of labour. The natural soil is conducive of strong and healthy growth, especially of the fruit and forest trees, necessitating the frequent transplanting of such as are grown in it. We may here mention that the Mistletoe is grown on standard Apple trees, and for which there is a ready sale. "Keepsake" Gooseberry, a green coloured variety, is grown largely here, and is a strong rival of "Whinham's Industry." The flavour is excellent, it is fit to gather earlier, and its thick skin renders it a capital berry for travelling, while the ample foliage protects the embryo fruit from frosts. Amongst other fruit trees and plants reference must be made to the large stock of Vines in pots in most vigorous health, short jointed and well ripening, growing in one or two span-roofed houses.

Amongst the forest and ornamental trees our attention was particularly drawn to large "sections" of exceedingly strong and healthy Acers in variety, of which *A. lutescens* and *A. colchicum rubrum*, with very distinct foliage; *A. heterophyllum dissectum*, *A. laciniatum*, *A. macrophyllum*, and *A. saccharinum* are all worthy of mention. Of Oaks one of the most attractive was *Quercus coccinea*, and several of the American varieties were exceedingly handsome, changing in the autumn to all the tints of red, orange, and brown. Amongst Elms Wheatley's variety of the Cornish should be extensively used for its graceful habit. Very striking and beautiful also was a new weeping form of the Copper or Purple Beech. Conspicuous amongst other ornamental foliage trees was the golden variegated Spanish Chestnut

(*Castanea vesca aurea variegata*), a suitable tree for extensive planting in pleasure grounds and parks. Thorn, Paul's Crimson also stands prominent amongst the numerous varieties grown here. Hollies, of course, were met with in thousands, and large sections of standards and weeping trees of the Golden Queen, Silver Queen, and the new Milkmaid Holly appeared in splendid form. Fine specimens of Golden Yews, in all sizes and forms, courted much attention, as likewise did a large number of that best of all Laurels, *rotundifolia*, in the best of health. With this, and such other kinds as the Colchic, the Caucasian, and *latifolia*, the common Laurel may readily be consigned to oblivion, if only on account of its comparative tenderness to withstand severe frost. Large quantities of *Aucubas*, comprising many varieties, claimed due attention, for which there is ever a great demand. The colouration of the foliage appeared to be exceptionally bright and vivid.

Of Portugal Laurels we noticed a large group in a flourishing condition, having thoroughly recovered from the effects of the past winter; in fact, there were but faint traces to be observed of the severe ordeal that all kinds of shrubs had passed through in this respect. It is superfluous to add that immense numbers of "forest stuff" of all kinds covers a large portion of the nursery. "Quick" Thorns occupy a predominant position, while the common Privet holds its own as a covert plant against the other varieties, keeping closer to the ground, and growing where many plants will not flourish. Ere leaving this section a word of praise must be accorded to the fine examples of one of the latest and most popular ornamental trees—viz., *Prunus Pissardi*, surpassing as it does the Purple Beech in richness of colour, the leaves also remaining on the tree much longer, and for contrasting with, for instance, *Acer Negundo variegata*, it is unsurpassed. When viewing the tall and vigorous specimens at St. John's, one felt inspired with a sense of covetousness to possess the whole to utilise for pictorial effects in parks and gardens.

We next come to the Conifers, of which a volume might be written, so numerous and varied are they. One of the first "sections" that claimed attention was the beautiful and graceful Himalayan Cedar, *Cedrus deodara*, in pleasing variation of hue and habit, including more definite varieties such as the choice and attractive *deodara verticillata glauca*, *deodara robusta*, and *deodara alba spica*. Equally attractive was a long stretch of Cedar of Lebanon, and the Atlantic species (*Cedrus atlantica*), a much faster grower than the former, and *C. atlantica glauca*, still more beautiful and robust than the green form. *Apropos* the glaucous variety it is magnificently exemplified in the grand avenue at Madresfield Court, raised we believe from a packet of imported seeds supplied to the late Earl Beauchamp by Messrs. R. Smith & Co. Amongst the numerous species of *Abies* and *Picea* our attention was particularly drawn to the beautiful *Abies Parryana glauca* in the enjoyment of robust health. Other species, such as *Abies polita* (the Japan Spruce), *A. Alcoquiana* (of the Hemlock Spruce division), *A. Hookeriana*, *A. Mertensiana*, and *A. orientalis* were also in fine form. Several of the species of the Spruce family were also more or less abundant and flourishing, whilst the well tried and popular Douglas Fir occupied a very prominent position. Not less interesting and beautiful were several colonies of *Piceas*, notably the beautiful *P. nobilis glauca*, such kinds as *P. amabilis*, *P. lasiocarpa*, *P. magnifica*, *P. pinsapo glauca*, and *P. Nordmanniana*, which massed as they were formed inimitable pictures of arboreal beauty. With regard to the *Pinus* family, the merits and attractions of several of the numerous species cultivated here approximate so nearly to the preceding Conifers both in beauty and form that it would be almost superfluous to refer to them specifically. A similar remark equally applies to the various species of *Cupressus*, *Thuja*s, and *Retinosporas* grown by the acre at St. John's.

Relative to Roses, even if not mentioned, it may be taken for granted that hundreds of thousands, in great variety and species, are annually disposed of. The rich alluvial soil of which the nursery consists evidently suits the Rose to perfection. Not the least interesting feature in connection with the working of this vast emporium of plant life is the extent of the packing sheds and material required for the execution of orders to all parts of the world. Time would only permit of a cursory inspection of the glass department, covering as it does an area of about 5 acres, but amongst others were noticed one house filled with those well-known exhibition specimens of *Clematis*, enjoying comparative rest, others replete with *Bouvardias*, *Pelargoniums*, *Azaleas*, *Aralias*, *Ferns*, and stove and greenhouse plants, all showing signs of great care and attention, as also did a fine group of well-ripening, short-jointed Vines in pots.

Not the least noticeable feature, everywhere evident over the acres of ground we traversed, was the comparative absence of weeds and a general observance of law and order—strong testimony of the extent of labour employed by the firm, which evidently seeks to do all things well—and succeeds.—W. G.

EDINBURGH HORTICULTURAL SHOW.

SEPTEMBER 11TH AND 12TH.

THE autumn show of the Royal Caledonian Horticultural Society, held on the above dates in the spacious Waverley Market, Edinburgh, was characterised chiefly by the splendid display of hardy fruit that was brought together from all parts. Grapes were considered by competent judges to be less in quantity and below the average in quality of those generally seen in the northern metropolis. Cut flowers were, however, well shown, and contributed largely to the success of the exhibition. Vegetables again were of high-class quality, though not

so largely represented as is sometimes the case. Plants, on the other hand, were about the usual.

Of the latter a table of plants, 20 feet by 5 feet, arranged for effect, was the chief prize. Only two competitors came forward, and to that arranged by Mr. G. Woods, gardener to J. Buchanan, Esq., Oswald Road, Edinburgh, the first prize was awarded. In addition to the usual *Crotons*, *Dracenas*, and *Palms*, *Liliums* and *Orchids* were freely employed. A number of *Oncidium incurvum*, with the spikes arching boldly out, and away from the more formal plants that formed the backbone of the composition, imparted an airy and graceful appearance to a really charming group. Mr. McIntyre, who secured the second prize, set up a group in the highly finished style for which he is noted. As a whole it was certainly less effective than the first-prize table, though some thought it superior. Both were capital arrangements, and much beyond the average.

Among pot plants those staged by Mr. Lunt, Keir House, Stirling, were splendid examples. The *Crotons* *Etna* and *Chelsoni*, to which the first prize was given, were magnificent plants beautifully coloured; and in the class for six foliage plants those which were first from the same grower were equally fine. They included another grand *Croton*, *Anthurium crystallinum*, *Alocasia metallica*, and *Dracena Doucetti*. Mr. Lunt was first for six foliage plants in 9-inch pots. Mr. McIntyre and Mr. Stewart, Brayton, Carlisle, also showed well in the classes devoted to foliage plants. Ferns were numerous and well shown, those from Mr. Napier, gardener to Neil Fraser, Esq., Murrayfield, being particularly good. Mr. A. Urquhart, Mr. J. Bald, Canaan House, and Mr. McIntyre also staged good plants of *Adiantums* and other Ferns. Mr. W. Mure, Carlisle, and Mr. Napier were the most successful in the classes for British Ferns.

Orchids were not numerous, nor were they particularly well shown. For four distinct species Mr. Allen, gardener to J. Bunson, Esq., Arundel House, Dumfries, was first with *Odontoglossum Harryanum*, *O. grande*, *Cattleya Eldorado*, and *C. Dowiana*. Mr. Hutcheson, Balmedie, Aberdeen, was second, and Mr. D. Wilson third. Mr. Curror, Eskbank, with an excellent piece of the graceful *Oncidium incurvum* took first for one Orchid. Mr. Sharp, Forgandenny, secured first for three *Cypripediums* with *Schroderae*, *oenanthe superbum*, and *Harrisianum superbum*. Mr. Wood was second. Among a variety of other plants for which prizes were specially provided *Liliums* were very good, Mr. Bald being first for three varieties, and Mr. Murray, Blackford House, occupying the same position for two plants of *auratum*.

In the cut flower section Roses formed the most interesting display. The blooms of these were as a whole not so large as those shown at the same time last year, but they were, nevertheless, very good, and many of them well coloured. The nurserymen, naturally, were far ahead of the gardeners, though three firms only were represented, and of these the chief honours fell to Messrs. J. Cocker & Sons, Aberdeen, whose blooms secured for them ten firsts out of a possible thirteen. In the class for thirty-six distinct varieties Messrs. Cocker & Sons had fine blooms of *Caroline Testout*, *Marchioness of Londonderry*, *Mrs. John Laing*, *Mdme. J. Bonnaire*, *Cleopatra*, *Marie Baumann*, *Her Majesty*, and *Mdme. Hoste*. In the eighteen bloom class was among others a noteworthy example of *Lady H. Grosvenor*. Messrs. Croll, Dundee, were second in both the above classes. For twelve blooms Mr. Smith, Stranraer, was first with medium-sized but very fresh blooms; Messrs. Cocker and Sons second. The last named secured the first prize for twenty-four Teas; Messrs. Croll were a close second. For twelves respectively *Alfred Colomb*, *La France*, and *Mrs. J. Laing*, Messrs. Cocker & Sons were first. For twelve *Merveille de Lyon* Messrs. Croll were first, and also for twelve *Charles Lefebvre*. For twelve of any crimson variety Messrs. Cocker & Sons were first, and Mr. Smith second with splendid examples of *Ulrich Brunner*. For twelve any other pink Messrs. Cocker & Sons showed large blooms of *Viscountess Folkestone*, Messrs. Croll being second with charming buds of *Grace Darling*. For any other white Rose *The Bride* was staged by Messrs. Cocker & Sons, and for any other variety the same firm staged grand examples of *Caroline Testout*, Messrs. Croll with *Duchess of Bedford* being second.

In the gardeners' section Mr. W. Harper, Tulliebolton House, Perth, in the class for twenty-four distinct varieties was first with good, fresh, and clean blooms, the second prize going to Mr. Parlane, Roselea. For twelve varieties Mr. Hood was first with good blooms, and for twelve Teas Mr. Parlane secured the premier place. Of other flowers there was a grand lot of *Gladiolus*, Mr. Mair, Prestwick, securing first in the nurserymen's section for thirty spikes, and in the gardeners' section Mr. Smith, Prestwick, taking first both for twelve and six spikes. *Hollyhocks* were also noteworthy, Mr. Forbes, Hawick, taking the honours among the traders, and Mr. Oliver, Cresswell Park, Morpeth, among gardeners. *Dahlias* again were grand, Mr. Campbell, nurseryman, Blantyre, in both the Show and Fancy class staging and securing first prizes for large and perfect blooms. Among gardeners the best twelve Show *Dahlias* were from Mr. Craig, Swinton, Duns. There were also good displays of *Pansies*, *Sweet Peas*, *Asters*, *annuals*, *Phloxes*, *herbaceous* and stove and greenhouse plants.

Passing now to the fruit classes, the chief prizes for which were for a collection of twelve sorts, and for which there were three competitors. The first prize was taken by Mr. Smith, gardener to Earl of Hoptoun, Hoptoun House, who showed good *Alicante*, extra good *Muscats* and *Black Hamburgh Grapes*, very fine *Royal George* and *Princess of Wales Peaches*, a *Melon*, good *Pitmaston Duchess Pears*, and *Peasgood's Nonesuch Apples*. Mr. Hunter, gardener to Lord Durham, Lambton Castle, Fencehouses, was second with a collection that must have run the premier one very closely, and which furnished professionals no

little trouble in trying to discover the difference. Mr. Murray, gardener to the Marquis of Ailsa, was third. In the class for eight dishes of fruit, Mr. Hunter was first with good Gros Maroc, Gros Guillaume, and Golden Queen Grapes, a Melon, Ribston Pippin Apples, Alexandra Nohlesse Peach, a Pine Apple, and Magnum Bonum Plums. Mr. Smith was a very close second, and Mr. McIntyre, The Glen, Innerleithen, third. Mr. Hunter in the class for twelve dishes of orchard house fruit, was first with grand fruit; Mr. Williamson, Tarvit House, second. For twelve dishes hardy fruit Mr. S. T. Wright, Glewston Court, Hereford, was first with very superior highly coloured fruits, Apples being particularly fine; Mr. Day, Kirkcudbright, was second, and Mr. Williamson third.

For six bunches Grapes Mr. Leslie, Pitcullen, Perth, was first, having grand Gros Maroc, Muscat of Alexandria, and Madresfield Court; Messrs. Buchanan, Kippen, were second; and Mr. Murray, Parkhall House, Polmont, third. For four bunches Grapes Mr. Day was first, with medium sized but perfectly finished clusters of Madresfield Court, Alicante, Gros Maroc, and Muscat of Alexandria; Messrs. Buchanan were second; and Mr. D. Airdrie, Larbert, third. For two bunches of Muscat of Alexandria Mr. Kidd, gardener to Lord Elphinston, Carberry Towers, was first with large with large and fine samples. For two bunches of Black Hamburg Mr. Potter, Whitehall, with glossy black clusters, was first. For one bunch of Black Hamburg Mr. J. Menzies, Dumpace, was first with a small but finely finished bunch. Mr. Kidd was again first for one Muscat of Alexandria. For one bunch of Alicante Mr. Boyd, Callender Park, Falkirk, had first, and Mr. Day second. Messrs. Buchanan had the best Alnwick Seedling. Mr. Swale, Oswald Road, the best Gros Colman; and Mr. Boyd the finest Lady Downe's. The best any other black was Muscat Hamburg from Mr. Thomas, Bonnybridge, and the corresponding white was Bowood Muscat from Mr. Kidd.

Turning to other fruits, Mr. Morrison had first for Peaches, very fine, and also for Figs; and Mr. R. Cairns, Balruddery, Dundee, first for Nectarines. Of Plums a very large number of dishes was shown. Mr. Day had the best collection of dessert kinds, and Mr. Williamson, Tarvit, of culinary. Apples were represented in extraordinary numbers, and in many cases of very high quality. Mr. S. T. Wright carried off the chief prizes with large fruits of very high colour. Mr. Cook, Gosford, Haddington, had the best collection of Pears, and these, like the Apples, were well shown, also in single dishes. Mr. Boyd and Mr. McIntyre were the only exhibitors of Pine Apples.

Though the Veitch Memorial medal went to the winner of the chief vegetable prize, there were only three entrants. The first prize and medal was easily won by Mr. Gibson, gardener to E. H. Watts, Esq., Devonhurst, Chiswick. Leeks were specially fine, and the collection also included extra fine Parsnips, Carrots, Cauliflower, and Tomatoes. Mr. Rae, Sunlaws, was second, and Mr. McBean, Craigends, Paisley, third. In single dishes Onions, Leeks, Celery, and Tomatoes were well shown.

Miscellaneous exhibits contributed largely to the success of the exhibition. These included Onions from Mr. Deverill, Banbury; Sweet Peas from Mr. Eckford, Wem; Roses, Sweet Peas, Dahlias, Carnations, and herbaceous plants from many growers. Tables of Lilliums from Messrs. Methven & Son, Edinburgh; and of decorative plants from Messrs. Laird & Sons, Mr. Downie, and Messrs. Thynne, Glasgow; and of Grapes and Tomatoes from Messrs. Buchanan, Kippen.



FRUIT FORCING.

Peaches and Nectarines.—*Houses to be Started at the New Year.*—The trees will be shedding some of the leaves, but they must not be brushed off with a broom, or removed by hand, as sometimes occurs to save trouble in clearing up the leaves as they fall naturally, which they should be allowed to do. If the trees are weakly from continued forcing and full crops of fruit, they may have, the border being properly drained, a good supply of liquid manure, which will to some extent invigorate them by promoting root action and a good start at the proper time. Where the soil has become quite close and soapy (when wet) at the surface it should be removed down to the roots and carefully picked from amongst them with a fork, supplying fresh loam, and making it quite firm.

When the trees do not set and stone the fruit satisfactorily they should be lifted. This must be done carefully, preserving all the roots practicable, and keeping them as much as possible from the influences of the atmosphere. The drainage must be attended to, and if necessary rectified; putting in fresh drains, which, to be of use, must have proper fall and outlet, and providing clean rubble for drainage, with sweet soil for planting in. If a thorough renovation of the border has to be made the lifting must not be attempted until most of the leaves have fallen, as it will necessitate the trees being kept out of the soil some time; but they should have the roots damped and covered with moist mats, the trees must be shaded, and occasionally sprinkled with water from a syringe.

Cut away long bare roots, and shorten back or pare the ends smooth of those damaged in lifting to sound parts, laying them in the fresh compost evenly, with soil worked into the interstices, keeping them well up to the surface, and making the whole firm. It is no use attempting to grow Peaches and Nectarines in light loose soil; firm wood is the outcome of firm soil, and fruitfulness resultant of nourishment steadily furnished for elaborating and storing in the fruit, wood, and buds for future crops. Afford a good watering after lifting, and when settled mulch with about an inch thickness of short sweetened stable manure. The trees being sprinkled occasionally for a few days will keep the wood plump, and roots will be pushed more or less into the fresh soil, which usually is a great incitor of root action. The most unsatisfactory trees carefully lifted and replanted in properly drained borders of suitable material never fail to fruit satisfactorily under proper management in light and well ventilated structures.

Furnishing New Houses with Trees for Early Forcing.—Instead of planting one or two-years trained trees, such as are supplied from open nursery quarters, trees that have been trained to walls or trellises under glass for three or four years and are well furnished with wood for both extension and bearing, and have been lifted recently so as to transplant safely, afford excellent results in the season after planting. The trees should be carefully lifted when the leaves commence falling, not waiting until the foliage drops from the least matured parts or points of the shoots or laterals, and be placed in their positions with as little delay as possible, treating them in the manner above given for lifted trees. They will form some roots or calluses without delay, and be in condition for setting and swelling a crop of fruit, with sustentation of the extension growths, under gentle forcing régime from the new year, such varieties as Alexander and Early Louise Peaches, with Early Rivers Nectarine, ripening the fruit during the early part of May, while Hale's Early, Stirling Castle, Royal George, and Dymond Peaches, with Lord Napier and Stanwick Elruge Nectarines, will ripen at the close of that month or early in June.

The orchard system of planting trees in the borders is best carried out with quarter, half, or full standard trees, according to the loftiness of the house, it being desirable to allow for about 6 feet of head from the point of "working" to the glass, but good results may be had with an allowance of 4½ feet, whilst 7½ feet is, according to our experience, a maximum distance to originate the heads at from the glass. This system is certainly the most profitable, always providing the trees are not overcrowded and they are kept under control, as they readily may be by judicious lifting and root-pruning. Trees of bearing size may be procured in pots, and they can be turned out without prejudice, merely disentangling the roots at the sides of the halls of earth and planting them firmly whilst the leaves are on the trees. Thus they become established at once, and are capable of setting and perfecting a full crop of fruit in the first year. Alexander does well on this system—the short-pruning and spur-ripening crops that pay handsomely in May from starting at the new year. Similar remarks apply to the other varieties named, all being good setters, and producing fine high-coloured fruit, excepting Early Louise Peach.

Lifting in Succession Houses.—When the growth is too free, the crops not being satisfactory, the trees should be root-pruned or lifted as soon as the foliage shows indications of falling. If judiciously performed this will check their vigour and induce short-jointed, fruitful wood. Lifting or root-pruning may be done before the leaves fall from the younger growths, affording a good watering afterwards, mulching with an inch thickness of short manure, and syringing the trees each evening for a few days, then they will soon produce active roots and be in excellent condition for catering for the fruit and growth another season.

Late Houses.—The season has been very favourable for the late varieties of Peaches and Nectarines, even in cold localities. Admirable, Gladstone, Princess of Wales, Nectarine Peach, Sea Eagle, Lady Palmerston, Golden Eagle and Comet, with Walburton Admirable Peaches are unsurpassed in appearance by any of the early or midseason varieties, and Victoria Nectarine is all that could be desired, these properly fed and duly ventilated are juicy and well flavoured, bringing prices that remunerate the grower. The fruit is now ripening in houses that have been freely ventilated, well watered through a light mulching of short lumpy manure, and the foliage kept clean and healthy by forcible syringing. The trees should now have the benefit of a free circulation of air, utilising the sun heat where the fruit is late by keeping the ventilators closer than usual, as with ventilation in the early part of the day the temperature may be allowed to run up to 80° or 85°, which will do more to ripen the fruit and wood than firing in dull weather. A somewhat drier condition at the roots is desirable when the fruit is ripening, but they must not be allowed to suffer from want of water so as to affect the foliage, and though the trees are not to be syringed an occasional damping of the floor will greatly tend to keep the foliage in health. In dull weather a gentle heat in the pipes will be serviceable in securing a genial warmth and allowing of a circulation of air, but that will only be required in cold localities or other unfavourable circumstances or condition of the trees.

Unheated Houses.—The late varieties ripen perfectly in these structures in all but the coldest localities in this country from latitude or elevation. Means of affording warmth in spring to insure a good set, and in autumn to perfect the fruit and wood, are necessities in cold, damp, late situations to have the late Peaches in perfection; but in the majority of seasons and locations the late Peaches ripen well in unheated houses with a good aspect, the climate favourable, and

the situation not high and cold. The late Peaches are very ornamental for dessert, and their particular flavour in the early autumn insures appreciation, whilst they command prices that pay the grower far better than the early and midseason varieties, we realising 8s. to 12s. per dozen for good examples of Sea Eagle, which we have had first-rate up to the middle of October from an unheated house with a south-west aspect. Induce ripening by a somewhat dry atmosphere. Make the most of sun heat by allowing a considerable advance under its influence, closing early, but putting on a little top ventilation before night. Keep the wood thin, cutting away any gross growths, shorten any sappy shoots to 12 or 15 inches, and keep all laterals closely pinched to one joint.

Figs.—Early Forced Trees in Pots.—Examine the roots, and as it is not advisable to increase the pot room remove a few inches of soil from the base, cutting back the roots, and supply fresh fibrous loam and about a sixth of old mortar, with a pint of bonemeal to every bushel of loam, good drainage being provided. Remove the loose surface soil also, and reduce the sides of the ball about an inch, cutting off the straggling roots, and apply the above compost, adding a fourth of well-decomposed manure. Ram the soil firmly, afford a good watering, and place the trees where they can have air, with shelter from heavy rains, snow, and protection from frost. This is only available for trees in medium sized pots, as those in the largest that have been stood on brick pedestals to prevent their sinking with the fermenting materials, require different treatment.

In this case all the Oak, Beech, or other leaves and material used for bottom heat should be removed, and the surface dressing from amongst the roots with a fork. Shorten the strongest roots, and attend to the drainage; then place the trees in position on the loose brick pedestals, and surface-dress with the compost named firmly rammed into the pots. Supply water to settle the soil, and after this keep the house cool, dry, and well ventilated until the time of starting in November or December. This is a preferable plan to repotting annually, as the trees are less liable to cast their first crop of fruit, and it is not desirable to disturb trees in 18 or 20-inch pots at the roots more than can be helped. In the case of trees that are not in as large pots as desired, or when it is thought proper to increase the root space, a liberal shift may be given, the sides of the ball being loosened with a hand fork, and any straggling roots cut back, also the matted fibres in the drainage. Provide efficient drainage, using the same kind of compost for potting as previously advised, and ram it as hard as the ball, moistening this well before the potting is proceeded with.

Succession Houses.—Trees that have ripened second crops of fruit must be kept drier at the roots as the days become shorter. A little fire heat is necessary, with a free circulation of air, to prevent damp where late fruit is ripening or the wood not well matured. The wood must be fully exposed to the influence of sun and air. Thin all soft and useless growth, and allow the points of the shoots to stand well up to the glass and light. Supplies of water must be diminished or discontinued for borders that have been properly mulched and watered up to the middle of this month.

Lifting Over-luxuriant Fig Trees—Fig trees under all circumstances but in borders of limited area are liable to become too strong, and in that case lifting and root-pruning should be resorted to as soon as the leaves have begun to turn yellow. Carefully lift the trees and cut back all long roots, reserving those moderately strong and fibres only. Good drainage is necessary. A foot of brickbats, with a thin layer of old mortar rubbish over them, and then a couple of feet depth of soil, composed of good turfy loam, a sixth of road scrapings, and a similar proportion of old mortar rubbish, form a suitable compost for Figs. Place it together firmly so as to insure a sturdy growth. Spread out the roots evenly in the top foot of soil, working it in amongst them as they rise, keeping well up, not covering the topmost more than 2 or 3 inches. The soil may be moist when used, but it ought not to be wet. Give a moderate watering, and keep cool and dry. A border of 4 to 6 feet in width is very much better than a greater, for what is wanted is firm sweet calcareous soil that will admit of the free percolation of water and air, and retain the manurial elements essential to the production of fine fruit.

Melons.—Latest Plants.—While the fruits are swelling water must be given. Keep the roots active with tepid liquid manure occasionally, and supply moisture to the atmosphere by damping the paths and walls in the morning, afternoon, and evening. A light syringing of the foliage may be given at closing time if the weather be bright. Remove all superfluous growths as they appear, and admit air early or at 75°, keeping the bottom heat steady at about 80°. Provide a night temperature of 65° to 70°, 70° to 75° by day, and 85° to 90° with sun heat, closing so as to sustain that temperature for some time afterwards, or run up to 95° or more. A little fire heat is necessary to secure a circulation of air constantly, and prevent the deposition of moisture on the fruit, affording no more water at the roots than is necessary to prevent flagging. This will accelerate the ripening, and do much to improve the flavour.

In manure-heated pits and frames no, or very little, water will be required, but keep the sides well lined, and leave a little air on at the back at night. Keep the fruit well raised above the surface of the bed. Any fruit wished to be kept for a time should be cut with a portion of stem, and placed in a dry airy room, or if wanted ripe, in a warm house in the full sun, it ripens better than in cold frames. The fruit, however, must not be cut until full sized and complete in every respect but the ripening.

THE KITCHEN GARDEN.

Tomatoes.—On the whole this has been a good season for open-air Tomatoes, producing and ripening grand crops of fruits. Hot weather in the early part of September has been favourable to the ripening of the later fruit, but after this date progress will be slow, and in many instances it is advisable to cut the stem with fruit attached and hang in a warm dry house or kitchen to ripen. These late fruits are beginning to show signs of disease, and that is another good reason why they should be removed to a drier, sheltered place. Undersized or the latest clusters of fruit will not pay for the trouble of colouring, and these should be utilised for hot pickles, fairly good preserve also being made with them.

Lifting Tomatoes.—In some districts, and also where either late varieties were put out or the plants made but slow progress at first, the crops are still in a green state. The surest way of ripening these to nearer perfection is to lift and place in a house where a moderate amount of dry heat can be turned on. It would be useless to attempt moving them with a large ball of soil about the roots, but if the latter are surrounded with rather rich soil and kept well supplied with water, temporary shade being also afforded the plants, they will soon rally. They may be either bedded in a border or placed in pots and boxes.

Tomatoes Under Glass.—Training the plants thinly over the roof of light, well-heated houses, answers best in the case of winter and early spring crops. If the plants have been put out in succession to Melons or Cucumbers, the ridge of soil supporting the latter doing duty for both crops, it will be soon found necessary to apply a surfacing of special manure, or else to give liquid manure frequently. Starvation treatment does not pay, the plants failing to set good crops when they suffer for want of food at the roots. Especially is this the case with plants in pots and narrow ridges of soil. The other extreme must be avoided, and if rankness of growth prevails, give less water and no liquid manure to the roots till they give signs of needing one or both. If arranged 15 inches or rather less apart, confine the plants to a single stem, but if a yard or more apart lay in as many leaders as there is good room for. In either case keep all side shoots closely pinched out. A good circulation of warm, dry air ought to be constantly maintained, never wholly closing the top ventilators. Towards midday, or as soon as the flowers are dry, go over the plants and smartly tap the stems with a padded stick, this distributing the pollen grains and effecting a good set of fruit.

Tomato Diseases.—Any young plants affected by the "black stripe" should be burnt. They will sometimes partly grow out of it, but it pays better to train in young growths from adjoining healthy plants. Cladsporium soon shows itself if the plants are subjected to a close, stagnant atmosphere for a few days. Dusting with anti-blight powder or a 5 per cent. mixture of sulphate of copper with newly slaked lime is a good preventive. Painting the hot-water pipes with sulphur mixed with milk, and heating them to a temperature of 120°, will destroy the disease germs and also get rid of the white fly (*Aleyrodes*) if there are any on the plants.

Mushrooms.—During November and December there is usually a great demand for Mushrooms, and supposing the earlier supplies are to be had from beds formed in the open as well as in sheltered sheds and such like, the Mushroom house proper should now be utilised. An interval of about six weeks from the time the beds are spawned till cropping commences should be allowed. See that the manure is well sweetened by being placed in a heap to ferment, not allowing more than two days to elapse before turning the mass inside out. The manure when used ought neither to be very dry or very moist. Put together firmly, flat beds having a depth of about 15 inches at the back and 12 inches at the front. Spawn directly the trial sticks show a decline in the heat to about 80°, or say when they can be comfortably borne in the palm of the hand. Avoid watering and plastering over the soil, as this will inevitably be followed by shrinkage and cracking. A rather heavy mulching of strawy manure will conserve both the heat and moisture in a bed, and is most desirable directly it can safely be applied.

THE BEE-KEEPER.

APIARIAN NOTES.

EXPERIENCE WITH BEES AT THE HEATHER.

Now that I am home from the moors with some heavy hives, it may be interesting to some to have a brief account of what transpired there. It will be remembered I set my bees down on the 25th July, amidst the most profuse bloom on the Heather ever witnessed. For a week the rain was heavy, culminating with a flood on the 29th, the weather then became warm with drizzling rains, which continued nearly the whole month of August. For four days I kept within doors during the first week of August, but was told that the bees had been busy during the wettest days. By the 15th of the month some hives required additional room, but the weather in a few days became more unsettled, and the 22nd put an entire stop to honey for another year. The first week of

September being unfavourable encouraged hives not in the best condition to "draw" eggs and brood, which injured them greatly for ulterior work.

On the 24th of August the weather appeared on the eve of improving, and to some of the best hives I gave additional supers above those already sealed. On removing the coverings for ventilation previous to leaving for home I observed several hives had broken the seals and removed the honey. The lesson to be learned from that is—first, had the empty supers been interposed every particle of honey would have been carried down. Second, had I given additional room above the full supers in small sections the purpose would have been served. From the moment the bees were released they commenced to slaughter the drones, which continued during the greatest honey gathering, and until all were killed. About one-half of the hives commenced to raise drones at the same time they were killing them, but the latter were killed or drawn out of the cells three days before the honey gathering stopped, and during the greatest flow.—A LANARKSHIRE BEE KEEPER.

THE SEASON'S REVIEW.

A REVIEW of the past season's honey harvest from one whose chief supplies are obtained from field Beans, white Clover, and Limes may be of interest to others similarly situated in various parts of the country, as with the exception of those bee-keepers who are within reach of the Heather the honey flow has been over for some time. In this neighbourhood (South Yorkshire) it has been over for six weeks or more, consequently there has been time to have everything put in order. All honey has been put up in saleable form, and one is now in a position to compare notes with other seasons.

With the exception of the year 1888 this has been the worst year in my experience. The weather, as is well known to all bee-keepers, is a great factor in honey production, and unless we are favoured with warm, bright days during the honey flow, it is an impossibility to obtain good results from the best managed apiary. In this locality the weather was most disappointing during the whole of the honey flow, which extends from the middle of June to the middle of July. Only one real honey day was experienced, the weather on the whole being dull and showery, with a few hours of sunshine in between, which was of little use for honey production.

Bees, on the whole, wintered well, and came out strong in the spring. May was fine, days bright and warm, bees making great headway, but only a little honey could be obtained from the fruit trees and wild flowers. The weather being dry in the south of England and bee forage in a forward condition, honey was obtained in quantity and in grand condition, as will be seen by the result of the Royal Agricultural show, held at Darlington early in June. There were 109 honey exhibits, all the prizes for the 1895 crop going to the south country bee-keepers, Kent taking the lead, with five out of nine prizes. In honey of the 1894 crop, six of the nine prizes were awarded to bee-keepers north of the Humber. From other sources I learn there has been some great yields from the above-named county, and in many instances it has been quite a record year.

In Lincolnshire, where a great amount of honey is obtained from the Mustard, which was in bloom during the fine weather experienced in May, this proved a boon to the bee-keepers, and abundance of honey was obtained. Although not of first-class quality it is very white in colour, and granulates at once. From bee-keepers further north the complaint is general that the season has been very indifferent, although it is surprising the difference there is in bees that are kept only a few miles apart. Those on light sandy land, and on which the bee forage is ten days or a fortnight earlier than it is on cold heavy soils, have done much better than the latter, as they reaped the benefit of the fine weather at the end of May, consequently larger results have to be recorded.

One point in the favour of this season's honey is that all has been of good quality, it being well ripened owing to the bees being confined to their hives so long. Sections, too, were of good colour, and well finished off, which is not always the case when honey is coming in rapidly. Swarming was reduced to a minimum, as only one of my stocks that I was working for a surplus swarmed. Thus bees on the whole were worked with less trouble than usual. Since July there has been grand bee weather, and although too late for the honey flow it has enabled the bees to supply their daily wants. Breeding has been going on, which is a great advantage at this time of the year; and those who have taken time by the forelock, and have fed all stocks that required it, may safely leave their hives alone for the next six months, and look forward to a better season in 1896.—AN ENGLISH BEE-KEEPER.



* * All correspondence should be directed either to "THE EDITOR" or to "THE PUBLISHER." Letters addressed to Dr. Hogg or members of the staff often remain unopened unavoidably. We request that no one will write privately to any of our correspondents, as doing so subjects them to unjustifiable trouble and expense.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Bee subjects, and should never send more than two or three questions at once. All articles intended for insertion should be written on one side of the paper only. We cannot reply to questions through the post, and we do not undertake to return rejected communications.

Missing Packages.—We receive from time to time direction labels which have become separated from packages in the post, the packages themselves never reaching us. The stamp on the labels is almost invariably obliterated beyond recognition, but one before us is perceptible as "N. S. B."

Drawing (A Constant Reader).—Drawing such as you refer to is now taught in most schools, and in all probability if you consult a schoolmaster he will be able to show you samples of cheap and good educational books on the subject. If you live near a town you may have an opportunity of attending an evening drawing class, and might find it of great advantage to do so.

Peristeria elata (J. B.).—*Peristeria elata* does not flower freely in a young state, but when it has attained sufficient strength it will do so provided it is kept perfectly dry at the roots during the resting period. The flowers are produced from the side of its large pseudo-bulbs. If your plants are strong they ought to flower. Possibly the house is rather too cool for their maturation.

Printing (J. D.).—We do not know to what catalogues you allude, and which you "cannot read" because of their being "printed in small type in blue, red, and purple inks on white and yellow paper." We, however, in compliance with your wish, record your observation. We agree with you that "catalogues should be so printed as to be read with ease, as many of them are instructive." So should schedules of shows, the prizes of many being, as another correspondent complains, "buried in a mass of advertisements."

Drying Fruit (J. G.).—The process of drying Plums and Apples is described in one of the Journals of the Royal Horticultural Society, a copy of which may possibly be had on application to the Secretary at 117, Victoria Street, Westminster. The apparatus employed at Chiswick was P. Mayfarth & Co.'s, of which particulars may be had from Mr. A. Ludwig, 16, Mincing Lane, London, E.C. You must not expect to make a fortune by the proposed experiment. Mr. P. Crawley, as has been recorded in the *Journal of Horticulture*, dries Plums for use in his family in the kitchen oven in the same way that many persons do in France.

Forced Narcissus Bulbs (Silva).—1, It is immaterial whether the bulbs are allowed to rest above ground, after shaking them out of the pots, until autumn, or to place them at once in the ground after blooming, but it is important that the plants be kept under glass until the growths are perfected and hardened off gradually to insure maturation either under glass or outdoors. 2, The expensive varieties of *Narcissus* will produce fair bloom outdoors after forcing in the year following provided they are given sheltered situations and a well drained soil. These remarks apply to *Polyanthus Narcissi*, which we presume are the varieties to which you allude and employ for forcing in pots. The *Daffodils* are, of course, much hardier and give good results when planted out after forcing, all being well worth keeping for outdoor planting; they either bloom in the following season or gain strength in a year or two so as to do satisfactorily.

Lavender (S. H. W.).—The division of *Lavandula vulgaris* into the separate species *L. vera* and *L. spica* is a modern one. Linnæus and the earlier botanists held them to be one and the same, or mere varieties of *L. vulgaris* dependent upon culture and situation. It is probable that the *L. spica* of seed catalogues is merely the *L. vulgaris* of Linnæus or *L. vera* and *L. spica* mixed. The differences between them are very fine, and easy to overlook in the hurry of trade. The real test seems to be that *L. vera* is taller, less hoary, the leaves at the base of the branches less crowded, the spikes of flowers less dense and longer, and the bractæas sometimes absent from the inflorescence. That an essential difference does exist is shown by the fact that in the South of France *L. spica* is found to yield thrice as much oil as *L. vera*, and alone to yield what is known as oil of spike. We can only explain the difficulty you have experienced by the fact that for trade purposes in this country a careful separation of *Lavandula vulgaris* into *L. vera* and *L. spica* is unnecessary. If you ask for the narrow-leaved form of Lavender you may possibly obtain what you require.

Keeping Black Hamburgh Grapes (A. B. C).—The Grapes will keep best on the Vines until the foliage begins to fall, when they should be cut, bottled, and kept in a room with as equable a temperature as possible, between 40° and 45°, ventilating freely above the latter. Rain water should be used with a few pieces of charcoal in each bottle to keep the water sweet. The Grapes being ripe, the chief thing is to guard against damp. That is best done by free ventilation in the day-time, and a gentle warmth in the pipes, the heat being turned on in the morning, or the fire lighted, and it should be turned off about noon so as to allow the pipes to become cool before night. Fire heat will only be required to prevent the temperature falling below 40°. On fine nights a little ventilation may be left on, but in damp weather the house should be closed, with a slight warmth in the pipes.

Contents of Fruit Sieves (M. P.).—Market measures vary in different districts. We presume you desire to know the nature of those in Covent Garden. They are as follow:—A half sieve contains 3½ imperial gallons. It averages 12½ inches in diameter and 6 inches in depth. A sieve contains 7 imperial gallons. Diameter 15 inches, depth 8 inches. A sieve of Peas is equal to 1 bushel; a sieve of Currants 20 quarts. A bushel sieve contains 10½ imperial gallons. Diameter at top 17½ inches, at bottom 17 inches; depth 11¼ inches. A bushel basket ought, when heaped, to contain an imperial bushel. Diameter at bottom 10 inches, at top 14½ inches; depth 17 inches. Walnuts, Nuts, Apples, and Potatoes are sold by this measure. A bushel of the last-named cleansed weighs 56 lbs., but 4 lbs. additional are allowed if they are not washed. A junk contains two-thirds of a bushel.

Cordon Pears against a South-east Wall Spotted and Cracked (S. S.).—Your soil is a calcareous gravelly loam, ferruginous and aluminous, hence liable to become caked in the summer, which may be prevented by mulching lightly with short, partially decayed manure, previously giving the border a good watering, especially near the wall, which the soil sometimes leaves, and the roots suffer from drought, so that the cuticle of the fruit becomes "set"—losing its elasticity, and on a return to moister conditions cracks. Culturally the best means of avoiding the spotting of the leaves and cracking of the fruit is lifting in the autumn, and supplying a dressing of chalk, freshly burned, to the soil, it being of course slaked, about a tenth being mixed with the soil. This is better than stone lime for your soil; indeed the chalk itself exposed to the air by spreading on the land, as done by farmers on the land of your formation, has an excellent effect on the health and produce of the crop, and would no doubt be serviceable in your case. We advise the lifting of the trees, if it can be done without prejudice, adding some lime or chalk either air-slaked or weathered, and in the summer mulching lightly, and watering in dry weather, especially near the wall.

Tuberose Culture (C. D. S.).—The following simple method has been described by a very successful cultivator. Procure sound well-ripened bulbs as soon as you see them advertised. If in quantity divide them into two or three batches for succession. Pot the first at once, either three bulbs in a 32-sized pot, or one good bulb in a 48-pot. In either case use a rich loamy soil, or if the loam is poor add one-third of well-decayed manure that will pass through a quarter-inch sieve, and a little sand. Pot rather firmly, afterwards place them in a cold frame, or under the stage of a greenhouse where there is little or no drip from plants above, and cover them with cocoa-nut fibre refuse, fine coal ashes, or some other material that will run between the pots. This will keep the soil sufficiently moist for rooting to commence, which will begin in a fortnight. As they advance take them out, and for a few days place them in a position where they at first have but a moderate light, such as under the stage of a plant house. It will be seen that the young growth will gradually assume a natural colour, when the plants may have the full light and heat of an intermediate house. A stove heat is more than they need, and to have them in flower quickly a cool greenhouse is not sufficient. After making a little foliage the flower spikes begin to appear, and as they grow to from 2 to 4 feet in height and are very slender, a stake must be placed to each. Each spike if good will produce two dozen blooms in succession, pure white with a most delicious fragrance. When in bloom they are conspicuous if placed in the conservatory with the spike of flowers arising just above other plants, but they would be principally required for cutting. The perfume is strong, therefore for room or any part of house decoration too many must not be employed at one time. During growth the plants are subject to the attacks of green and black aphides, which infest the spikes of flowers. Liquid manure given twice a week will be found to benefit the plants, and by potting in succession they may be had in flower during the greater part of the year. They are among the most useful for cutting for bouquets, wreaths, and buttonholes, as they are sweet-scented, pretty, and last a long time.

Names of Fruits.—Notice.—We have pleasure in naming good typical fruits (when the names are discoverable) for the convenience of regular subscribers, who are the growers of such fruit, and not collectors of specimens from non-subscribers. This latter procedure is wholly irregular, and we trust that none of our readers will allow themselves to be made the mediums in infringing our rules. Special attention is directed to the following decision, the object of which is to discourage the growth of inferior and promote the culture of superior varieties. In consequence of the large number of worthless Apples and Pears sent to this office to be named, it has been decided to name only specimens and varieties of approved merit, and to reject the inferior, which are not worth sending or growing. The names and addresses of

senders of fruit to be named must in all cases be enclosed with the specimens, whether letters referring to the fruit are sent by post or not. The names are not necessarily required for publication, initials sufficing for that. Only six specimens can be named at once, and any beyond that number cannot be preserved. They should be sent on the first indication of change towards ripening. Dessert Pears cannot be named in a hard green state. (Cordon).—1, Cox's Orange Pippin; 2, Golden Reinette; 3, unknown; 4, Golden Spire; 5, Herefordshire Costard. (A. W. J.).—1, Minchull Crab; 2, Greenup's Pippin. (W. C.).—1, Cellini Pippin; 3, Beauty of Kent; 4, Lord Derby; 5, possibly a conical fruit of Cox's Pomona; 6, Stirling Castle. The numbers had become detached from 4 and 6, and we cannot, therefore, say positively that those names are correctly placed.

Names of Plants.—We only undertake to name species of plants, not varieties that have originated from seeds and termed florists' flowers. Flowering specimens are necessary of flowering plants, and Fern fronds should bear spores. Specimens should arrive in a fresh state in firm boxes. Slightly damp moss, soft green grass, or leaves form the best packing, dry wool the worst. Not more than six specimens can be named at once, and the numbers should be visible without untying the ligatures, it being often difficult to separate them when the paper is damp. (J. J.).—Polygonum Sieboldi. (H. F.).—Paulownia imperialis. It may be propagated by cuttings of the young shoots inserted under a hand-light. (Sunbeam).—Leycesteria formosa. (A. W. J.).—Euonymus europæus. (Inquirer).—1, Eccremocarpus scabra; 2, Oxalis corniculata ruber.

GARDENERS' CHARITABLE AND PROVIDENT INSTITUTIONS.

THE GARDENERS' ROYAL BENEVOLENT INSTITUTION.—Secretary, Mr. G. J. Ingram, 50, Parliament Street, London, W.C.

UNITED HORTICULTURAL BENEFIT AND PROVIDENT SOCIETY.—Secretary, Mr. W. Collins, 9, Martindale Road, Balham, London, S.W.

ROYAL GARDENERS' ORPHAN FUND.—Secretary, Mr. A. F. Barron, Royal Horticultural Society's Gardens, Chiswick, London, W.

COVENT GARDEN MARKET.—SEPTEMBER 19TH.

BUSINESS very dull.

FRUIT.

	s. d.	s. d.		s. d.	s. d.
Apples, per bushel	1 3	to 3 0	Filberts, per 100 lbs. ..	35 0	to 0 0
" Nova Scotia, per barrel	0 0	0 0	Grapes, per lb.	0 6	1 6
" Tasmanian, per case	0 0	0 0	Lemons, case	10 0	15 0
Cobs, per 100 lbs.	35 0	40 0	Peaches, per dozen ..	1 0	9 0
			Plums, per half sieve ..	1 6	4 6
			St. Michael Pines, each ..	2 0	6 0

VEGETABLES.

	s. d.	s. d.		s. d.	s. d.
Beans, per bushel	1 0	to 2 0	Mustard and Cress, punnet ..	0 2	to 0 0
Beet, Red, dozen	1 0	0 0	Onions, bushel	3 6	4 0
Carrots, bunch	0 3	0 4	Parsley, dozen bunches ..	2 0	3 0
Cauliflowers, dozen	3 0	6 0	Parsnips, dozen	1 0	0 6
Celery, bundle	1 0	1 3	Potatoes, per cwt.	2 0	4 0
Coleworts, dozen bunches ..	2 0	4 0	Salsafy, bundle	1 0	1 6
Cucumbers, dozen	0 9	1 6	Seakale, per basket	0 0	0 0
Endive, dozen	1 3	1 6	Scorzonera, bundle	1 6	0 0
Herbs, bunch	0 3	0 0	Shallots, per lb.	0 3	0 0
Leeks, bunch	0 2	0 0	Spinach, bushel	1 0	1 6
Lettuce, dozen	0 9	1 6	Tomatoes, per lb.	0 3	0 4
Mushrooms, punnet	0 9	1 0	Turnips, bunch	0 3	0 6

AVERAGE WHOLESALE PRICES.—OUT FLOWERS.—Orchid Blooms in variety.

	s. d.	s. d.		s. d.	s. d.
Arum Lilies, 12 blooms ..	3 0	to 4 0	Maidenhair Fern, dozen bunches	4 0	to 6 0
Asparagus Fern, per bunch ..	2 0	4 0	Orchids, various, dozen blooms	1 6	18 0
Asters (English) doz. bchs.	2 0	4 0	Pansies, various, dozen bunches	1 0	2 0
Asters (French), dozen bunches	8 0	12 0	Peas, Sweet, doz. bunches ..	1 6	3 0
Bouvardias, bunch	0 6	1 0	Pelargoniums, 12 bunches ..	4 0	9 0
Carnations, 12 blooms ..	1 0	3 0	Primula (double), doz. spys.	0 6	1 0
" dozen bunches	4 0	8 0	Roses (indoor), dozen ..	1 0	2 0
Chrysanthemum, dozen blooms ..	1 0	2 0	" Tea, white, dozen ..	1 0	2 0
" doz. bunches	3 0	6 0	" Yellow, dozen (Niels)	3 0	6 0
Dahlias, dozen bunches ..	2 0	4 0	" Safrano (English), dozen	1 0	2 0
Eucharis, dozen	1 6	2 6	" Yellow, dozen blooms ..	0 6	0 9
Gaillardias, doz. bunches ..	1 0	2 0	" Red, dozen blooms ..	1 0	1 6
Gardenias, dozen	2 0	3 0	" various, doz. bunches ..	3 0	6 0
Geranium, scarlet, doz. bunches	4 0	6 0	Smilax, per bunch	2 6	4 0
Lilium lancifolium, twelve blooms	1 6	2 6	Stephanotis, dozen sprays ..	2 0	3 0
" longiflorum, 12 blooms ..	3 6	4 0	Sunflowers (small) dozen bunches	2 0	3 0
Marguerites, 12 bunches ..	1 6	3 0	Tuberose, 12 blooms	0 2	0 4

PLANTS IN POTS.

	s. d.	s. d.		s. d.	s. d.
Arbor Vitæ (golden) dozen ..	6 0	to 12 0	Ficus elastica, each	1 0	to 7 0
Aspidistra, dozen	18 0	36 0	Foliage plants, var. each ..	2 0	10 0
Aspidistra, specimen plant ..	5 0	10 6	Heliotrope, per dozen ..	4 0	6 0
Chrysanthemums, per doz. ..	6 0	18 0	Lilium lancifolium, 12 pots ..	12 0	18 0
Coleus, per doz.	2 6	4 0	Lycopodiums, dozen	3 0	4 0
Dracæna, various, dozen ..	12 0	30 0	Marguerite Daisy, dozen ..	6 0	9 0
Dracæna viridis, dozen ..	9 0	18 0	" Yellow	9 0	18 0
Euonymus, var., dozen ..	6 0	18 0	Myrtles, dozen	6 0	9 0
Evergreens, in var., dozen ..	6 0	24 0	Palms, in var., each	1 0	15 0
Ferns in variety, dozen ..	4 0	18 0	" (specimens)	21 0	63 0
Ferns (small) per hundred ..	4 0	6 0	Pelargoniums, scarlets, doz. ..	3 0	6 0

TRADE CATALOGUES RECEIVED.

Dobbie & Co., Rothesay.—*Bulb and Plant Catalogue.*Ketten Frères, Luxembourg.—*Roses.*O'Leary Bros., Queen St., Auckland, New Zealand.—*Seeds and Plants.*C. Turner, Royal Nurseries, Slough.—*Roses and Fruit Trees.*A. Woodroffe, 4, Grafton Rd., Auckland, New Zealand.—*Fruit Trees.*

A NOTE OF WARNING.

Not only in Europe, but throughout Australia, America, and Canada every effort is being made to take advantage of the neglect of English agriculturists, who make no combined attempt to check the exodus of £36,000,000, which is going every year into the pockets of foreign farmers, said Mr. Wilson Fox, of the Royal Commission on Agriculture, in his report on the county of Cambridgeshire. Entirely do we agree with the Commissioner that it is precisely a want of mutual trust, of combination, co-operation, or united effort to meet the times that is ruining the British farmer.

Well, too, does the Commissioner say, "There is, as far as I have been able to ascertain, no peculiar advantages in favour of France or Denmark that have enabled them to eliminate the British farmers from their own butter markets. And the success of Danish and French farmers in English markets are encouraging nearly every other European Government to educate and train their agriculturists into the best methods of feeding stock, of making butter, and of packing it, in order that they too may enter into competition."

Such statements naturally enough cause the inquiry, "What has our Government done?" So far, it has made a liberal grant to County Councils for purposes of technical education, which in relation to agriculture has taken the form of lectures, dairy schools, trial farms, and agricultural colleges or institutes. For the results, this educational work points to the future rather than the present generation, and it only intensifies our conviction that any radical change, any real improvement in the agricultural situation now must come from co-operation by the farmers themselves.

Take butter, for example, here clearly individual effort has no chance in the contest. Hear the Commission on this:—"With reference to butter-making, Cambridgeshire, like other eastern counties, has not a high reputation, and a great deal of foreign butter is sold in towns in the county. Every witness I have interviewed has stated that the reason why English butter is not bought by our merchants is not because a good sample cannot be obtained but because a uniform quantity of good quality is not produced. No doubt in many districts the quality of butter has improved in recent years owing to technical education provided by the County Council, but I understand that there is but little hope of successful competition with foreign butter makers until there is uniformity in the quantity.

"As an example of this, the Secretary of the Akenham Dairy Company at Ipswich, Mr. J. A. Smith, informed me that some time ago he took up a sample of butter to a large London merchant, who purchased from abroad. The sample was pronounced excellent, and Mr. Smith was asked if he could supply 700 lbs. daily of similar quality. Mr. Smith replied that it was out of his power to supply anything like the quantity asked for. Hence he lost the contract, and the merchant continued to get his supply from abroad."

We ask once more, Does not the remedy rest with British farmers? What is there to prevent them from combining to establish co operative butter factories? Nothing but their

own lack of enterprise. We hear much of their efforts being crippled for want of capital. That argument does not apply here, or rather should be an incentive to action. Fully paid up shares in the flourishing farmers' co-operative creameries in the south of Ireland are £1 per share, per cow, not paid in full at once, but a few shillings at a time, at intervals in response to calls as money is required in the provision of buildings and working plant, nor can the cry of no market be a hindrance when the requirements of even a single merchant cannot be met with home produce.

If, as we have so frequently suggested, milk outside a given radius of each large centre of population were sent to local co-operative factories, it would be better for those who continued sending milk to the towns in the light rates for carriage by rail, and the higher price which must come from lesser competition, while those supplying the factories would not only receive prompt payment by quality as well as quantity, but they would also share in the profits. The thing is so self-evident that such factories are bound to come sooner or later; the pity of it is that those whose interests such a change would influence so beneficially are so slow to move, so difficult to convince.

WORK ON THE HOME FARM.

Hot showery weather has certainly been as beneficial as remarkable so far this September. Instead of the too familiar autumn drought and bare pasture we see positively rampant growth of herbage on pastures, which will keep stock off hayricks well into winter. Most favourable, too, has the weather been for autumn work on the land, for tillage and sowing alike. Seeds and corn must all germinate and show plant quickly, and the sowing of autumn crops is approaching completion.

There will be a sowing of Tares in the last week of September, and again in a fortnight to come in next May and June. With seed Tares at 8s. per bushel it is rather costly work when seed has to be purchased, and a stroke of luck where home-grown seed could be used, with a surplus for sale. The outlay may be avoided on farms where there are good clean layers of Sainfoin or Lucerne, or both by preference. Failing these excellent green crops we hold Tares to be indispensable as sound, wholesome, nutritious food, both for flock and herd.

We have heard much complaint of money wasted on chemical manure for the hay crop, which fell so short in many a district owing to drought. It is true it failed the hay in some instances. Why will farmers persist in applying it so late? The proverbial April showers may serve our purpose if they come freely enough, which they often fail to do, but by applying the manure about the last week in February we hardly ever fail in having sufficient rain to dissolve and wash it into the surface soil.

This is a word to the wise for another season. Soon will it be here, and it will be well to be ready for it in time, and avoid vexatious failures next year. But if the manure did not tell on the hay crop it undoubtedly has made its mark on the aftermath wherever mowing was done in season, and both the dairy herd and store cattle have thriven in the enjoyment of this timely abundance. Profit comes from it in the admirably sustained milk yield, and the fresh, fleshy condition of the beasts.

METEOROLOGICAL OBSERVATIONS.

CAMDEN SQUARE, LONDON.

Lat. 51° 32' 40" N.; Long. 0° 8' 0" W.; Altitude 111 feet.

DATE.		9 A.M.				IN THE DAY.				Rain.	
1895. September.		Barometer at 32°, and Sea Level.	Hygrometer.		Direc- tion of Wind.	Temp. of soil at 1 foot.	Shade Tem- perature.		Radiation Temperature		
			Dry.	Wet.			Max.	Min.	In Sun.		On Grass.
		Inchs.	deg.	deg.		deg.	deg.	deg.	deg.	Inchs.	
Sunday	.. 8	30.224	64.4	58.2	N.E.	63.0	73.4	54.3	105.7	48.4	—
Monday	.. 9	30.164	63.9	61.0	N.E.	62.0	78.7	52.9	107.1	47.0	—
Tuesday	.. 10	29.902	65.7	62.3	W.	62.1	73.9	58.1	108.7	53.3	0.042
Wednesday	.. 11	29.802	61.6	56.2	W.	61.9	68.9	53.2	113.1	48.0	—
Thursday	.. 12	30.056	57.6	53.3	W.	60.7	66.3	49.3	108.9	44.4	—
Friday	.. 13	30.223	57.4	51.7	N.	59.7	66.9	47.3	111.1	41.6	—
Saturday	.. 14	30.267	55.4	51.3	N.	58.9	68.3	44.3	99.4	38.0	—
		30.091	60.9	56.3		61.2	70.9	51.3	107.7	45.3	0.042

REMARKS.

8th.—Bright throughout, with pleasant breeze.
9th.—Misty early, and a little hazy all morning; bright afternoon.
10th.—Fair, but almost sunless day; showers in evening.
11th.—Generally overcast morning, with occasional spots of rain; sunny afternoon.
12th.—Generally overcast, but gleams of sun at midday.
13th.—Bright sunshine almost throughout, but cooler.
14th.—Sunny throughout.
A warm, sunny, and almost rainless week, but with a steady decrease of temperature after the beginning.—G. J. SYMONS.

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*Journal of Horticulture.*

THURSDAY, SEPTEMBER 26, 1895.

BRITISH FRUIT.

AT the time when a large number of persons open the present issue of the *Journal of Horticulture* we suspect one of the grandest displays of hardy fruit ever seen will be in the course of arrangement at the Crystal Palace. This is the autumn show of the Royal Horticultural Society, the entries for which, we are informed, far exceed those of last year. It is not suggested that in magnitude this exhibition will excel some others that occur to the mind—such, for instance, as the remarkable displays which have been seen at Chiswick in connection with the Conferences there in 1883 and 1888, and the historical spread in the London Guildhall, which overflowed into the buildings adjoining, in 1890. But those were not competitive shows, while the one now being held in the Crystal Palace is. Moreover, though some of the classes are large enough in scope, others are of necessity limited in the number of specimens that can be staged by the respective competitors, and therefore we anticipate the show in question will be grand more as regards the intrinsic excellence of the produce than by the extent of it; yet the aggregate display must, all the same, be considerable and imposing. It will, further, be suggestive and instructive in no ordinary degree.

We shall be both surprised and disappointed if British grown fruit will not be represented equal to any that can be grown in any part of the world. Slowly but surely a process of education has been going on in various ways during recent years on the subject of hardy fruit culture in this country, and the results are becoming apparent. These results are proving, and will prove, when the seasons are not absolutely unpropitious, that all the more useful kinds of what may be termed necessary food fruits can be grown by and for our own people in various parts of the kingdom. It is this that the Royal Horticultural Society, as befits it in the discharge of its important functions, obviously wishes to demonstrate; and not only will the fact, we fully believe, be demonstrated, but endeavour is also made, and wisely made, to obtain and disseminate information throughout the community for the benefit of persons who may have the means but not the skill to achieve

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the best possible results in hardy fruit production, and hence the valuable addenda to the show of meetings of instruction.

On the first day one of our up-to-date fruit men, Mr. G. Bunyard, will endeavour to bring others up to date too on the question of new varieties of fruit, and it is hoped he will be as free in his condemnation of any which he has found to be inferior, as we may expect him to be just in his references to those which promise to take leading positions in the future. The undue multiplication of varieties is a serious matter, at the same time it is important that all which afford evidence of being decided improvements on existing forms should be made widely known.

Then on the second day Mr. A. H. Pearson ought to have something very practical to say on the subject of pruning fruit trees that are grown for commercial purposes. It is sad to see so much thoughtlessness and recklessness in the use of the knife in different parts of the country; and beyond all doubt there are numbers of persons who regard themselves as smart pruners, whose proper description would be fruit butchers. It is delightfully simple is the process of pruning fruit trees with the object of spur formation and fruit production when the underlying principles are well understood, and it will be a feather in Mr. Pearson's cap if he can make them clear to all men.

The meeting on the third day of the show should be especially interesting by the reading of a prize essay, from which much will certainly be expected. Both of the essays, judging by the writers of them, must be good, though not, it may be anticipated, in the same way, and we shall not be surprised if one is found to be to a large extent a complement of the other.

Thus, in one way and another, the Crystal Palace will during the present week be a centre of interest to the fruit growing community. No doubt all who can do so will visit the famous building on the important occasion, and most of them may possibly return somewhat wiser than they came. The thirty to forty judges assemble at 10.45. The Lord Mayor, who is Master of the Fruiterers' Company, was to have opened the show, but cannot do so; the Sheriffs of the City, also the Master of the Gardeners' Company, will attend at 12.30 on the 26th inst., the date of the present issue of this Journal, and Sir Trevor Lawrence, Bart., President of the Royal Horticultural Society, will preside at a public luncheon at 1.30 in the grand saloon.

OUTDOOR TOMATOES.

CONSIDERING the extraordinary impetus that has been given to Tomato culture of late years, owing to the popular palate for them having become educated, it cannot be a matter for surprise that the varieties have increased a hundredfold. A few years ago they were, as everyone knows, lightly regarded, but now that they are what may safely be termed a food of the masses their growth has extended enormously. Despite this increase the supply does not equal the demand, more especially with reference to English-grown fruit. This may be largely accounted for by the climatal conditions of our country, and also by a lack of knowledge as to the best varieties for market purposes. The former no one can alter, but the latter is remediable. In some seasons the weather is such as to preclude the possibility of satisfactory results being achieved, whereas in others Tomatoes are very profitable indeed. It might be inferred from this that, given suitable varieties and weather, anyone can grow Tomatoes. Such, however, is not the case, nor will it ever be until points of primary importance are always kept to the fore. For example, some people put out spindly plants, destitute of even a suspicion of flowers. These cannot be satisfactory; on the contrary, they are much more likely to end in failure. Stout-stemmed little specimens, with one truss of fruit already set, are what are required, and with these it is not difficult to grow a good crop of Tomatoes in England, at least two or three seasons out of every five or six, and to insure fair results in the remainder.

The present year has been in every way favourable to this crop, and English grown Tomatoes of fine quality have been procurable at reasonable prices. Could we be sure of such weather every season the area under Tomato cultivation would become even more extended, the prices have a downward tendency, and the probabilities are that the foreigner would be practically ousted from our

markets so far as this crop is concerned. This is easily accounted for by the superiority of home-grown over imported fruits both in respect of flavour and appearance. The continental varieties, together with those from America, are very numerous, but as a rule under trial they prove inferior in one of the above points if not in both. It is true some of the Americans may lay claim to the very doubtful advantage of size, as from such sorts as Ponderosa and its synonyms fruits weighing over a pound may frequently be gathered, but of what use are they? The taste for Tomatoes is not for the coarse and ungainly, but rather for the refined shape and medium size of several of our English varieties, of which the fruits go from four to six to the pound. Besides good quality and appearance the Tomato of to-day that is going to make its way must be suitable alike for outdoor and indoor culture, be of strong constitution, very prolific, and not particularly liable to the inroads of any of the various pests by which Tomatoes are attacked. Even as the crop depends largely on the culture in the early stages so also does this liability to disease, more especially perhaps under glass, for it stands to reason that the strong plant, well and hardily prepared in its early youth, will be less susceptible of baneful visitations than one that has been indifferently grown in all its stages.

In these notes, however, it is not proposed to go into the details necessary for the good and successful cultivation of this popular esculent, but rather to find out the varieties well suited to either or both purposes. Obviously such a selection could not be made unless a large number of them could be examined that had been treated in precisely the same manner throughout their existence. Many readers of the *Journal of Horticulture* will know where such is to be found; but, on the other hand, several may not, and it cannot be otherwise than advantageous for these latter to be told that Messrs. Sutton & Sons, Reading, have precisely such a trial in their nurseries in the centre of that town. All the seeds were sown on the same date (March 13th), and all the plants, having in the meantime been subjected to similar treatment, were put out of doors on the same date, which was as soon as it was considered safe to do so towards the end of May. Practically, no risks were taken in this respect, as it might naturally have been expected that no serious frosts would occur after that date. The plants then had every chance from the first, and a visit made at the end of last week proved that these most praiseworthy efforts had been crowned with unqualified success. Those persons, and they will be many, who have visited these trials will bear out the statement that the effect is extraordinary, and such as would make the most cautious rush wildly into Tomato culture as an easy means of making money.

The value of such experimental work as that referred to cannot be over-estimated, and thanks are due to its promoters for their efforts towards the improvement of the Tomato, and for rendering it possible for a grower to see at a glance which variety is earliest to ripen its fruit, which is the heaviest cropper, and also to determine what forms are quite distinct from all others. When it is said that 170 varieties—at least twelve plants of each—all supposed to be distinct, are grown, some idea of the magnitude of the trial will be conveyed, though it must be seen to be thoroughly appreciated and understood. Each row is 3 feet from its nearest neighbours, and the plants in the rows have an average distance asunder of 12 inches. It does not require a very great amount of calculation to show that if there are twelve plants of 170 sorts the total number will be upwards of 2000. There are, however, considerably more than even this total, as from four to six dozens of some varieties, each representing different stocks, were planted. The differences of some of the varieties and the resemblances of others, teach a lesson such as cannot fail to be instructive to even the most educated in Tomatoes, as everything is placed before the examiner in the readiest form for comparing shapes and sizes, habit of growth, and in fact, every necessary detail for a complete scrutiny.

Let a stroll now be taken between the serried rows of plants and note be made of the best, the standards of productiveness, flavour, form and habit being always borne in mind. It comes natural in commencing to find Sutton's Earliest of All in the premier position, and that it deserves its name will be, with those who know it, an undisputed fact. Within 6 inches of the ground is the first cluster of fruits, following at intervals by two, and sometimes three other bunches, the plants being stopped at a height of about 3 feet, which is indeed the top of the stake to which each plant is grown. The fruits are slightly corrugated, of excellent flavour, very freely produced, and fit for use well in advance of every other variety in the trials. For gardeners, amateurs, and market growers this must be one of the best Tomatoes in commerce, provided a true stock is procured, for which purpose, of course, it is best to go direct to the fountain head. As an immediate successor none better than Magnum Bonum will be found. In form and quality

this greatly resembles the one previously referred to, but the fruits are somewhat larger, as also is the growth of the plant. Next in sequence comes one of the gems of the whole collection, which is well named Best of All. In this we have a variety bearing handsome smooth fruits in splendid numbers, such as could not fail to have ready appreciation. In flavour it is excellent, so that it cannot be wondered at that it is very extensively grown. The leafage is large, stout, and quite distinct from that of all others. Abundance, with its brilliantly hued crop, is a beauty, and one that is certain to find favour with many persons, though perhaps not more so than an unnamed variety resulting from a cross between Perfection and Chemin, for which it is safe to predict a great future, as it comprises all the necessary points in the making of a first-class Tomato.

An Apple-shaped variety next rivets the attention on account of its beautiful crop of smooth fruits borne on a plant having large leaves. A test of the flavour shows that if good in appearance it is equally as pleasing to the palate, a combination of qualities that renders it worthy of close consideration. It is well named Sutton's A1. Of the style of Ham Green Favourite is Brook's Freedom, but it is superior to the type in every respect. Main Crop, another variety for which Messrs. Sutton & Sons are responsible, has enormous foliage and strong shoots, carrying grand clusters of even, round fruits. This is one of which special note should be made. Of vastly different appearance is Sutton's Dessert, which bears its charming fruit in racemes of great length. It was noticed that this was one of the earliest in the collection. As a good variety was mentioned in opening the list it was obviously wise to reserve a good one for closing it, at least so far as red sorts are concerned; thus we now come to Perfection, further than which one cannot be expected to go. Everyone who grows Tomatoes, and does not know Sutton's type of Perfection, is recommended to seize the first opportunity of securing it, as satisfaction is sure to follow—that is, for indoor culture, for which it is especially adapted. In addition to those named there are several very interesting forms obtained by crossing the Peach Tomato with the variety just named. The characteristics of each are observable, and more will doubtless be heard of them in the future.

Turning now to the yellow fruited section, we see some very handsome varieties, of which an improvement on Golden Nugget is one of the best. The size is rather larger than that of the one named, the flavour being quite equal if not superior to it. There is a briskness in the taste of the yellow fruits that is not observable amongst the reds, and to this, combined with their charmingly distinct appearance, they doubtless owe their increasing popularity. Perhaps the best of the yellows, all things considered, is Sunbeam. Such a name should only be attached to a variety of the first merit, and so it is. The fruits are smooth, of medium size, with a clear yellow skin, and in the front rank as regards flavour. For an early yellow Golden Queen can be grown, while to complete the selection growers may be reminded that in Golden Perfection they will find the yellow counterpart of the red in every respect.

Though these splendid trials have now been carried on for some years only once previously have they been accompanied by greater success than in the present season. Next year, it is hoped, they will be continued, and that the results attained to will be even superior to those of the present. The neat condition of the plants and the cleanliness of the soil prove that all necessary care is bestowed to induce success. The labour and expense involved must be very great indeed, but they cannot be otherwise than met by the benefits that must accrue to the gardening community in general, while certainly the authors of the trials deserve a full share.—SCRUTATOR.

LESSONS BY THE WAY.

SULHAMSTEAD.

WHILE it would be very nearly correct to say I was moved by "A. D." in his article on "Fruit Farming" (page 219, September 5th), and his note on Potatoes at Sulhamstead (page 226), to go and see for myself what he had described, I was really moved by a cart. As a matter of fact, I had been suffering from "Fenn on the brain" for some time, and was anxious to see the old veteran and thus find a cure. I knew he was a veteran, because I used to devour his writings in the "old Cottage Gardener" some thirty years ago, and I wished to see this ancient wielder of the pen and the spade. In opening negotiations I found that he could wield the pen yet with firmness, clearness, and fluency, and a few days subsequently had ocular demonstration that he is equally master of the spade, as exemplified by his use of the Potato fork. He used it as though he loved it as much as a star cricketer loves his bat, and made more balls fly out of the ground at a stroke than ever did the champion wielder of the willow

propel through the air. But what about getting there to see the fork at work, or at play, or both?

There are, as all the world knows, differences in people—in their circumstances and their ways. Not long ago, in arranging a visit to a garden, I was informed the pony cart would meet the train; on another occasion I was to be met by the carriage. The pony cart proved to be a richly appointed carriage and pair; the other "carriage" a broad-wheeled, springless Potato cart, with wide shelvings all round and a board across to sit on, with lazy-looking Smiler in the shafts, as sleek and fat as a porpoise. Mr. Fenn will not in the least mind my saying the last-named vehicle was his. I was fortunate in having as a guide and introducer an old familiar friend of the veteran, but there was little ceremony at the meeting. "So this is Mr. Inspector, is it? Well, glad to see you; come along, no time to lose!" and up the hill he bounded from the railway platform. "Now, gentlemen," he continued, "this is my carriage. I rode here in it, and am going to ride back; but if you would like something different we can soon get it from the inn?" The personal emphasis was too significant for a change; it seemed to say—"This carriage is good enough for me, and if I ride in it, ought it not to be good enough for anybody?" and in we went, the driver springing up like a cat, the guests scrambling up and helping each other, the groom taking his seat on the shelvings. "Now which way, gents; Coach Road or Jack's Booth?" the "booth" having reference to a roadside hostelry bearing this curious sign, "Three Kings and Jack's Booth;" but there is another in a Sussex village almost more curious still to the stranger—the Run-tin-tun. However, we gave the "houses" a wide berth and took "Fenn's Coach Road," a treey avenue-looking route of a mile or two to the Cottage Farm.

As we jogged along, the coachee telling "Smiler" he ought to be proud of such great men behind him, the "familiar" asked a question of his friend that some persons might have thought a delicate one. It came out brusquely—"I want to know how old you are Fenn?" "Old, why I am seventy-eight, to be sure." Then the querist wanted to know something else (he is famous for "wanting to know," and that is perhaps why he does know so much), and went on—"Tell me this, then, is it true that when a man passes seventy every year counts two, and after seventy-five counts three?" The reply was such as few could have given, but it was as convincing as prompt. "I cannot answer that question, as I have never felt any different yet." It is said that gardening, with one exception, is the most healthy of all vocations or professions, and time has certainly dealt kindly with the grand old Potato man of Sulhamstead.

The "cottage" is such as a poet and the painter would rejoice in—an old-time farmhouse covered with Roses, Honeyuckles, Jasmines, Figs, Vines, Plums, and I know not what besides. In exterior picturesque; interior, well, cosy, yet roomy, hospitable, and flowery, for "Alice" fills every inch of table space with flowers that "mother" does not need for the viands she provides so abundantly and so well. Then there is the "workhouse," which is Fennian for kitchen, and it is there or thereabouts that the fitches hang; cider, perry, wines, jam, jellies, and other things are stored and prepared for daily needs, or the delectation of guests who are "patriots," and like everything made in England. This is what our host likes, and will have so far as his country can produce it. No foreign Wheat, meat, cheese, or butter for him, but an omission was made in not learning whether he extracts sugar from his Beet or Carrots, or whether he goes without.

But he is tolerant is our friend, and while he will have no "foreign stuff," he does not object to his guests enjoying themselves in their own way so far as they can, and as he can minister to their (to him) corrupted tastes. How far he is consistent in so doing is another matter, and he would very soon "hang consistency" if that aspect of the case were brought forward when he offers a glass of port, which is not English. It must be understood he is always offering something, and it is creditably reported that when one of his callers had spoken approvingly of his Eliza Fenn Potatoes and First-and-Follow-on Cabbages at dinner that a hamper was packed, and when the recipient reached home he found under the Cabbages a big chunk of "home-fed and home-cured," the same brand as that which had "gone" so well with the accompaniments at the repast alluded to; however, the port is now in question, and Mr. Fenn's "old familiar" reckons to be an adept at sampling.

It is something to see a connoisseur sample wine. He smells and sniffs, peeps and sips, looks up at the ceiling, then straight down his nose—seems, indeed, to do everything he can except drink it; at least, until he finds it right, and then the trying ordeal is over. It here ended with a sententious inquiry—not in the familiar style, the subject was too serious—"What age is this port, Mr. Fenn?" "Oh, I am sure I can't tell you. I only know I have had it fifty-eight years; if you like it you are welcome to the lot; Mother,

bring two more bottles, and then we must get to business!" It was then found that "business" is a term with two meanings. The sampler's idea of business was—well the matter explains itself, but the veteran's hands were itching for the Potato fork, and at last he was afforded the happy opportunity. It was a treat to see him run for that fork, and give it a scientific whirl preparatory to business. But talking about work and doing it are two things, and Robert Fenn can talk as well as dig, so we had first to listen to a lecture, the professor using the fork as a pointer.

"Now gents, I think I know a little about Potatoes—at least, I ought. I was the first to start crossing and raising new varieties. I took them up to London, and, of course, got laughed at; but I thought to myself, I will make the wise men look at them seriously, so crossed for colour, and sent tubers up spotted, and marbled, and streaked. It is easy to get them like zebras, you know; and then they gave me a medal, or something of that kind. But my beautiful high-bred high-quality seedlings they didn't understand; but I did, and I have them yet—the very cream of the Potato world for quality, and not a drop of American blood in them; it's all English, with the good old flavour, nearly lost now. You will find all about them in the 'old Cottage Gardener'; and just because the varieties were so good—so full of starch and flavour—they were disease favourites; and what a fight I had to save them. For forty years I fought in all the ways that I and others could think of to master the enemy, but it mastered me; and all I could do was to just save a few of the sorts to keep the stock. Yes, it was a forty years' fight: but I wouldn't give up, and I have mastered it at last. Mr. Barr found the powder and I found the shot, and now for four years right off I have kept the pest at bay. What more do you want? A demonstration! It's fashionable, I suppose, to finish with a 'demonstration' nowadays; very well, come along, and you shall have one."

Another start was made, but a greenhouse was in the way, leaning against the end of the house, and in the greenhouse a rambling Vine and Fig tree at the back, with Tomatoes growing in a trough along in the front. Another lecture. "This you must understand was a pest house, a museum of mildews, black and white, that ate Vines, Figs, and Tomatoes—everything. My 'familiar' here has seen it, and all unbeknown partaken of thousands of spores in breathing. Now look, search, scan every leaf and find me one speck of fungus if you can. You cannot. I tell you if you use powder enough fungus cannot live. It is as easy to puff with a bellows as to ply the syringe, and far better for Tomatoes and everything else in this house. Did you ever see finer, cleaner, darker leaves than these?" "No," said the familiar when he could get a word in, "but there are too many shading the fruit. Why don't you take some off?" It is true the original leaves on the main stems remained down to the ground, the colour of Portugal Laurels, but as to taking one off, no, the powder puffer was too proud of them. "Take off the fruit if you like," he said, "but let the leaves alone; they show I am master of the fungus. It can't grow on anything, Tomatoes, Potatoes, Roses, Chrysanthemums, where the powder is; only give it soon enough, and often enough, and mildew will never be seen." "But let us go to the root of these Tomatoes, Mr. Fenn. Do you change the soil every year?" "Change it? No! This is the third lot in the same soil. The lime and copper filters down, I suppose, and purifies it; at any rate they seem to like it, so do the 'taties' outside. Let us go and see."

At last! Here across a piece of dark free garden land were long rows of his precious productions, from Cricket Ball, the first Potato ever raised by cross fertilisation, to Rector of Woodstock, Woodstock Kidney, and all the rest downwards—"all the best for eating, and the first to be eaten by disease. Look at them; the tops dying yellow, as tops used to do before the foreign scourge came in '45 and turned them black. Now for the bottoms. I will dig just where you like, only say, any root you like; we have to try them all. I dig, you watch, and find a tainted tuber if you can." In dashed the fork, and out they rolled, a fine crop of clean-skinned Potatoes. We tried right across the piece, the seventy-eight skipping along and throwing them out here and there as though he would never tire. "Now, then," when the opposite side was reached, "have you found any bad ones—any diseased?" "No, not one." "Very well, are you satisfied?" "Yes, quite." "So am I; never thought I should live to conquer the enemy of my life. I am happy now. Let's go and see the fruit"—and we went.

There is an ancient orchard and modern fruit garden, the latter cultivated, and trees mulched with burnt refuse; the former on grass, and the trees treated to the wine they like—sewage and crew yard drainage. Here stands the old favourite, the unfailing Pay-the-Rent Apple, towering aloft, every branch wreathed with good sized russety fruit. "Not," it was explained, "an Apple for show, but for use—ready with the first, and keeping till the last."

Its fruit always wanted, and hence the increase of healthy, handsomely shaped and heavily bearing trees. Several of present-day favourites are grown, and grown well—Lane's Prince Albert, Wellingtons, and others; but Pay-the-Rent is after all the sheet anchor at Cottage Farm, Sulhamstead. Then the "farmer" shakes another old tree; "Not much to look at, but try them," he remarked, as he picked up the fruit. They were delicious, tender, with an aroma rarely met with. It was the Apple of the moment without any doubt. There was nothing to compare with it—an old world sort worth perpetuating. Let it be increased and called Fenn's Fancy. Whether it is increased or not, whoever planted the old orchard a century or two ago knew good Apples. Mr. Fenn has seedling Plums, too, which he prizes, one the result of a cross between Victoria and Coe's Golden Drop, partaking of the nature of both—a productive red Plum of excellent quality.

A glance across the undulating and charmingly situated farm—everything orderly and prosperous looking; a peep into the barn and at the pressing of the Apples; tubs and barrels full of "drink"—the juices of all kinds of fruit obtainable, even Brambles, for nothing is wasted in this happy home of industry; and then to dinner. All home-raised and home-grown. Rabbits and bacon, First-and-Follow-on Cabbage, Robert Fenn Peas, and Eliza Fenn Potatoes—all fit for greater men than Smiler drew from the Station; with home-made wine in abundance, and foreign port for the connoisseur. "Yes, we grow all we want, and get five times more produce than when the little farm was bought," remarked its cheery owner.

Here, then, is a lesson. A fivefold increase in a period when decrease and depression seem to have been going hand in hand. Why the increase in this case? It is the result of knowledge, sound judgment, thorough cultivation, making the most and the best of small things and all things within the capacity of the homestead to produce. And if here, why not elsewhere? Not in all, but in too many instances, because the same intelligent action is wanting, the same thrift and aptitude, indoors and out, lacking; but if even half the land could be made to yield anything like what has been wrested from this area of less than 20 acres, we should soon have a more prosperous country. A hundred thousand Fenns would do literally yeoman's work for rural England.

Mr. Webb's commencement in fruit growing—trial plantations in various fields—is all that "A. D." described on the page quoted. Mr. Webb is neither going to stop nor fail in the enterprise. Among the discoveries there was the beautiful German Apple, Borsdörffer, of which the Editor is requested to say something about. It pleased Mr. Fenn, his "familiar," Mr. Webb, and—INSPECTOR.

SUMMER MEMORIES AND AUTUMN GLORIES.

THE clock of Time never stands still, and as we grow older the hands seem to move with greater rapidity. Years ago summer days seemed endless. Now how brief, how fleeting with all the lovely show of bud and blossom! Unlike many parts of England, we have this summer of 1895 suffered no extremes of weather—no parching suns, no drowning floods, sunshine and shower alternating. Once or twice, indeed, we had begun to tremble, but the welcome rain came just in time, and stopped in time, too, which is perhaps more to the point. It is such a well-known fact that after a spell of dry weather a "break" seems never to be able to "mend" up again. Fruit and flowers have been abundant and good; Plums enough, were they carefully distributed, to give a whole county cholera, and Apple trees fairly weighed down with sound, well-developed fruit. Pears are not a feature of this part generally, but this year at least we shall know the flavour of several sorts. As for Strawberries—well, I wish my enemy no worse task than the packing of our crop—berries to eat, to preserve, to give away—and now I see actually there is a second crop coming on—some berries as large as horse beans—President and Garibaldi. Gooseberries and Currants in great profusion, and the only falling off was in the last bed. Is it possible that the canes after the good pruning of last "back end" could not stand the second pruning Jack Frost gave them? Someone made a note of "Tender and True" Beans. Two rows here could be shown against any other two rows, taking the whole of England, and be a credit to the producer and grower alike. No grub in Onions this year, save in a small bed of Paris Silverskins.

Thanks to the severity of the winter, the Roses have been magnificent. There are two reasons for this—i.e., the survival of the fittest, and the tremendous cutting down they got. For this I ever hold is the great weak point of most amateurs—they won't use enough Sheffield steel, and that is the grandest incentive to fine blooms I know. Egypt's Queen, Cleopatra, would have dazzled the eye of the most sober-minded, and the names of the

other beauties are too numerous to enumerate. Ulrich Brunner has not been up to the mark, neither as a summer bloomer nor yet as an autumn one—weak in petal, poor in colour, so unlike himself. A superb Madame Lambard is before me as I write. Someone was quite right the other day. For a good handsome yellow let me have a bowl of real old-fashioned Marigolds with their sharp aromatic smell.

To go afield now. Hay and Clover were good crops; Wheat, of which there is but small acreage this year, is short in the straw on some of the drier lands; Barley good, pretty colour, and with that wrinkle that maltsters so affect. Now that the autumn days are upon us, and the harvest safely gathered, we shall soon know what the respective yields will be. There is such a rich glow over everything—a garden ablaze with “Geraniums,” Dahlias, and Sunflowers; one or two trees just on the turn; grass as green and fresh as in spring, and the bronzy stubbles in the distance. Turnips are a good average, and these sunny days are all in favour of the small Mangold patches.

It is perhaps a mistake to say harvest is over; the grain crop is garnered, but the crop that pays us best is only just being lifted. Armies of boys and girls are busily engaged in removing the withered tops before the forked rotatory wheel of the Potato digger. “The liberal shall be made fat.” In no case is this more exemplified than in Potato growing. “Nowt has nowt,” and you need not be surprised at a scanty crop when you remember how niggard you were with your supplies of tillage, both farmyard and chemical. One crop near at hand was spoilt by being earthed-up too wet. Potatoes must have air; they cannot stand being plastered down and made practically “air-tight.” Some crops, again, have suffered by too late planting; other fields again cry out sorely for “new seed.” About here there is promise of an abundant yield, and many dealers have been seen hovering round. Like wise men they combine pleasure and business. Early in September they appear, and, curious to say, they all wend their way to Doncaster Town Moor. Do good “taters” grow there, or do they want to see the ex-Premier score another victory? One farmer has sold all his crop, but the price is a dead secret. From this parish a truck goes up to Covent Garden this week as “sample.” To be guilty of a trade expression, “They are good users,” and from personal observation this morning they are good croppers. Three cheers for Her Majesty, and may she be worth her weight in gold.—THE MISSUS, *North Lincoln*.

HELENIUM AUTUMNALE STRIATUM.

WRITING over the initials “J. J. B.” a correspondent sends us examples of this handsome perennial, with a request that we should furnish him with the name of it. This we are glad to do, and also to give a woodcut (fig. 48) of the flowers for the benefit of other readers. The number of yellow Composites flowering in late summer and autumn is so great that there is danger of some gardens being overdone with them. Yellow is a colour that requires to be used with much greater care and judgment than are generally exercised if garishness and vulgarity are to be avoided. For this reason *Helenium autumnale striatum* should be much grown, as it imparts a very desirable break in colour while retaining the hardiness and floriferous character of its relatives. The flowers are about 2 inches in diameter. The disc is maroon and gold, the florets rich red striped with yellow.

Referring to this plant on page 267 of our last issue Mr. Arnott says, “The fault it has is that if strongly grown it becomes too tall, and makes too much growth at the expense of its flowers. When established in good soil it will grow 5 or 6 feet in height, and then presents rather a coarse appearance. This can be easily remedied by planting in poorer soil, or by lifting and replanting annually.”

ORCHARD TREES.

WHOLE bundles of fruit trees can be bought very cheaply every spring at public auctions in most market towns, but when one half of them either die or are several years before they recover from the severe check which trees badly prepared for moving inevitably experience, and the other half prove to be shy bearing, and the fruit of little value when it is produced, they are far from being cheap. Such trees are dear at any price. It is true economy to give a good price for a good article, and those who would succeed with their trees and bushes should go to a reliable nurseryman and pay a fair price. At the same time I do not advise purchasing the dearest trees in all cases. On the contrary, it is the young trees that are the cheapest, and it is these that, as a rule, give the greatest satisfaction in the end. Trees and bushes four years and upward in age do not transplant so readily as do those two

years younger. Doubtless this assertion will not be allowed to pass uncontradicted by some of my readers; but generally speaking the larger trees require the most skilful treatment during the first two seasons after planting, or otherwise they are liable to become stunted in growth. They may be the first to become productive, but the strain is often too much, and a stunted growth results.

Private gardeners are, in many instances, in a position to well prepare sites for young trees, and if carefully planted, properly pruned, and not overcropped at the outset or during the first two years, progress may be satisfactory enough. With market growers the case is somewhat different. Very frequently they do not



FIG. 48.—HELENIUM AUTUMNALE STRIATUM.

spend enough over the preparation of the ground, and in addition to the soil being poorer than that in which the trees were growing previously, colder winds than formerly have to be contended with. According to my experience it is the younger trees that become the most quickly re-established, and are not long before they surpass those moved when much larger and older.

Not only do I believe in young trees for planting, but I would also have many of them, or say all that are intended to be grown either as low or full sized standards, with feathered stems. Trees that have had two clear seasons' growth from the bud, or graft near to the ground, are what are wanted. These would have been topped at or slightly beyond the required height, two or three stronger breaks resulting than are produced below. All the lower side shoots should be, and in some nurseries are, lightly summer pinched, and “feathered” trees are the result of this treatment. These feathered trees should, at the winter pruning, have their heads freely shortened, say to the third leaf, while all the side branches ought to be spurred back to the second joint, the aim

being to clothe the stems with fruiting spurs. These side growths serve to swell and strengthen the stems, and also produce good fruit until overshadowed by the heads. I first saw the plan adopted on a large scale at Toddington, and quite recently noted how well Apples, Plums, and Damsons were behaving, under similar treatment, at Orsett in Essex. Trees that had been planted four years were carrying heavy crops up the stems, and the heads were well furnished with fruit. It was also satisfactory to see the stems stout and straight, not one in a hundred ever having required a stake to support it. When standards have their stems denuded of side shoots before these have had time to perform their proper functions they are weakened, and must be well staked or they become crooked. Trees are supplied by one or more of our go-a-head nurserymen with heads already formed and side growths well set with fruit buds, but why they should be termed "amateurs' trees" is to me a mystery. They ought to be everybody's trees.

When extra fine Apples only fetch 1s. 6d. per bushel there is little encouragement for planting trees on dwarfing stocks, and I am strongly of the opinion that it is the naturally grown low standards in cultivated orchards that both now and at all times give the best results. These extra large fruit are plentiful enough, and do not fetch more than half the price obtained for showy and comparatively small samples. We never hear anyone recommending planting small trees of Yellow Ingestre, Fletcher's Seedling (what I believe to be Nonpareil), or Duchess' Favourite Apples, or Hesse Pear with a view to keeping them restricted in growth, for the simple reason they would not pay for the trouble. Yet these are the varieties that are "rent" payers. Cox's Orange Pippin succeeds well on the Paradise stock; but where these produce a peck or less, the freely grown trees on the Crab stock are this season producing bushels of fine handsome growth.

Trees of dwarfing stocks are excellent for small gardens and where variety is desirable; but those who would make fruit growing pay should plant low standards, prune rather freely till good heads are formed, and then rest content with occasional foreshortening of straggling branches and thinning out where crowded. Cordons and miniature trees generally, if properly managed, produce fine fruit; but in these days of low prices quantity as well as quality is essential.

Grass orchards are mostly met with in the provinces, that is to say, well away from London. The trees in these are more remarkable for their stunted appearance and the heavy crops of inferior fruit they produce than for anything else. Doubtless they would do better if manured more freely, and pay better accordingly. Vigorous young trees are few and far between, and are likely to be so long as the owners of orchards adopt the foolish plan of planting afresh in the old sites. A few barrowfuls of fresh compost will not long support growing trees, and what is there for the roots to find once they reach the outsides of the holes first dug for them? It is much better to prepare a wholly fresh site for an orchard; it is also a mistake to turf or allow the soil about newly planted trees to become grassed over.

A covering of grass effectually excludes warmth and air from the roots, and also prevents much moisture from reaching them. The least that can be done is to keep a circle 6 feet in diameter free of grass or weeds for the first four years, though an annual winter mulching of strawy manure might be given with advantage. Some of the grandest young trees of Apples, Potts' Seedling, Warner's King, Stirling Castle, and Frogmore Prolific I have yet seen are in a cultivated orchard—that is to say, in rows with spaces between occupied with bush fruit, vegetables, and root crops. One large break was grassed down to provide packing material and green food for horses, and here the rows of trees were decidedly inferior. All were treated similarly at the outset, and their intelligent experienced owner attributes the great difference in their appearance to the state of the surface soil. This winter they will be experimented on.—W. IGGULDEN.

GREENHOUSE RHODODENDRONS.

FOR some time this useful class of plants was much neglected in private gardens, but during late years their cultivation has extended. These plants are amongst the most useful we possess either for cutting or other kinds of decoration, and should be largely grown in every garden. If no better accommodation can be given a cold frame will suit them well. Some kinds do well when grafted, others succeed best on their own roots.

When propagation is effected by means of grafting, clean stocks should be selected and established in 2 or 3-inch pots ready for attaching in the spring, say about the month of February. The tops of the previous year's wood should be used for the scions.

The system of grafting should either be saddle or side grafting, similar to that employed for Roses or fruit trees. The former I consider the most successful mode. Little art is required in saddle-grafting. The cut of the stock or scion must be clean and done with a sharp knife, so that the two fit exactly together, being made secure by means of worsted. Some employ clay or grafting wax round the union after the scion and stock are placed together, but this is optional, and by no means indispensable. After the operation of grafting is performed the plants should be placed in a close frame where a slight bottom heat can be given, and the top heat maintained at 45° to 50° until the stock and scion are thoroughly united. The plants must be shaded from bright sun, kept well watered, and dewed with the syringe twice daily.

When the stock is increased by means of cuttings they can be inserted at once, selecting short growths of nearly ripened wood. Pots 8 inches in diameter should be prepared by half filling them with crocks, and the remainder with sandy peat pressed in firmly. About half an inch depth of silver sand must be placed over the surface. Place the tallest cuttings in the centre and the dwarf ones round the sides, leaving sufficient room for the bell-glasses, which should be placed over them after a good soaking of water has been given. The pots containing the cuttings should be plunged in any moisture-holding material in a cold frame until cold weather sets in, when the temperature if possible should be maintained at from 40° to 45°. The bell-glasses will not require to be removed for a long time, as but little water will be needed, and sufficient can be given by syringing over the glasses occasionally. As soon as the cuttings are rooted they must be potted singly in small pots, and kept close in a frame until they have commenced to root afresh, and must then be exposed to more air to gradually harden them to be grown under cool treatment. The grafted plants when the scion and stock are thoroughly united may be treated similarly.

The hardening process must be gradual or a severe check is sure to follow. The operation must be done with much care, then the young plants will continue growing. When severely checked in their early stages they often fail to grow satisfactorily. When they have been hardened to cool treatment and have filled the small pots with roots the plants should be transferred to 5-inch. This size will be large enough for the first season after grafting. The plants should be wintered in a greenhouse or frame, where free ventilation can be ensured.

The second season the object should be to obtain two growths, which can be accomplished by starting them early in the season by means of a little heat, giving at the same time sufficient air to cause a sturdy growth. The first growth should be completed by the beginning of July, and must have for a short time abundance of air until the flower buds are visible, which is sure to be the case with free-flowering kinds such as Princess Alice. The flower buds must be removed and the plants kept close again until they commence growth, which must be pushed on until completed. Flower buds may by chance be formed on this second growth, and can be allowed to develop if deemed necessary. This is not altogether advisable when the plants are small; in fact, they will make greater progress the following year if not allowed to flower. The freedom with which many kinds flower render them in a small state very attractive for vases and decoration generally. Where plants for such purposes are in request, and good-sized specimens are needed, they can be allowed to flower and only make one growth a season. Moderate-sized plants are best for greenhouse or conservatory decoration, and should, until they attain a fair size, make two growths a season. This is an advantage and saves valuable time.

Potting must be done carefully from time to time as the plants require it. To grow greenhouse Rhododendrons successfully every attention must be paid to this matter, as if allowed to become root-bound the wood hardens, and in consequence growth is weak and slow. They must not, however, be overpotted, or the evil will be as great as if the plants are in too small pots. The pots must be well and carefully drained and the soil pressed firmly in. The soil most suitable is good fibry peat with plenty of coarse sand to keep it porous. They also do well in a mixture of loam and peat, but the former is preferable.

Watering must be carefully done, especially after the plants are first potted, but they must not suffer from the want of water during any season of growth. If allowed to become dust-dry they soon fail to do satisfactorily; they also refuse to grow luxuriantly if water stagnates about their roots. During the growing season the plants should be liberally syringed, which will keep down thrips, the only insect I know that attacks them. Cultivators of these plants will not grow them satisfactorily on dry shelves, where I have seen them placed in more than one garden. They should stand upon some cool moisture-holding material, such as ashes or gravel. During the summer or growing season plenty of water

should be thrown amongst the pots and the atmosphere kept moderately moist. Under such treatment the plants advance rapidly and luxuriantly.—GROWER.

FRUIT CULTURE.

To a gardener who is strongly attached to his calling, especially if he happens to be what is generally termed "an all-round man," there is probably no work connected with his duties that is more interesting, or for which he has a greater fondness, than planting fruit trees. The falling of leaves and the ingathering of fruit announce to us that the season will soon be here for such work to commence. Where it has not already been done no time should be lost in making a close examination of every tree in the garden, at the same time noting all such as are in an unsatisfactory state, and deciding what remedial measures are to be applied in each case. It is seldom indeed that we find every tree in such a satisfactory condition as we desire. Where there is a tendency to over-luxuriance and the production of wood instead of fruit, root-pruning must be resorted to.

When it so happens that the trees which are in this condition have been undisturbed for a number of years, it will in some cases take three or four seasons to accomplish the desired result, and the work must be proceeded with gradually—the first season operating on one side of the tree only; this being done by digging out a trench at a reasonable distance from the trunk, and cutting through all roots which come in the way. Work out all the soil from amongst the roots with a four-pronged fork, at the same time severing all the large ones taking a downward course. Afterwards cut off with a sharp knife all jagged ends and those roots which have been bruised during operations. Fill in with soil, and tread it down as the work proceeds, finishing off with a mulching of half-decayed stable manure, and in the event of the soil being of a porous nature give a good soaking of water. The following year adopt the same plan with the other half of the tree.

When trees are comparatively young and unproductive they may with safety be entirely lifted and replanted the first season of their being root-pruned; but with old-established trees, especially if they are growing in what are termed strong soils, the treatment recommended above will be found much the best. Although we say this by way of an inducement to keep on the safe side, we have successfully lifted and transplanted old trees in one season; but of course more care and caution is required, otherwise the result might have been the reverse of satisfactory. With Apricots, Apples, Pears, and Plums there are probably more failures due to over-luxuriance than to any other cause. It should therefore at all times be regarded as a matter of the highest importance to adjust where necessary the balance of power between root and branch.

There is another source of disappointment besides the one we have alluded to, and by no means an uncommon one, and with which fruit-growers are well acquainted—viz., "the yellows," as it is termed in gardening phraseology. Peaches and Nectarines, owing, it may be, to their more tender constitutions, are more liable to this disease than any other kind of fruit grown in our climate. The causes of its appearance are various, but may be attributed chiefly to badly drained soils and to those of a hungry poverty-stricken nature.

In very bad cases the best plan to adopt is to destroy the trees and plant young ones; but if it is a mild form, or, say, of two or three years' standing, then undoubtedly the best and safest course to take is to lift the roots entirely, bring them nearer to the surface, and plant in fresh soil, which may consist of good turfy loam mixed with charred rubbish and a little well-decomposed stable manure. On Peach walls where the disease we are now dealing with has made its appearance measures should be taken as soon as the leaves fall to prevent its recurrence for some years to come.

Presuming that the border which it is contemplated to take in hand is well drained, the work should be begun at one end by taking out a trench 2 feet wide and 18 inches deep, taking a distance from the wall of about 5 feet. The top spit and the loose soil should be worked to the bottom of the trench, mixing along with it and filling up to about 6 inches above the surface with such compost as that recommended above; and in the event of the natural soil of the garden being of a highly calcareous nature a little peat, if it can be obtained, will be found good to add thereto. As the trenching proceeds tread down the soil moderately firm, lifting and replanting the trees at the distance of about 15 feet from each other, not forgetting to finish off with a mulching of stable manure. The branches may be tied up and slung to the wall, securing them in their positions early in the new year.

Concerning young trees received from the nursery we would strongly urge the importance of having the ground for their reception prepared beforehand, so that when they arrive they may be

planted with the least possible delay. It is equally important to dispatch orders early; then the trees may be expected to come to hand early, and be planted before winter weather arrives. Neglect on this point not unfrequently ends in trees arriving with roots very much frozen, and the ground in which they are to be planted frozen also, and altogether in an unworkable state.

Coming now to small fruits the Strawberry is perhaps the most important. The ground where these are to be planted should be trenched and heavily manured to a depth of fully 18 inches if the best results are desired, and such should always be the object in view, for, as the old adage says, "What is worth doing is worth doing well." July and August we have found to be a very good time for making new beds, making use of plants which have been forced. These get well established before winter, and yield a full crop the following season. Of course, beds may be planted now, but they will not bear such a good crop next year as those planted earlier. Give them plenty of space, say 3 feet between the rows and 18 inches in them.

Raspberries next demand attention. They often fail and yield the least satisfactory results from occupying the same quarters for too long a time. They like liberal treatment and rather a moist situation. With us the canes grow from 9 to 10 feet high, and are as thick as one's thumb, producing fruit of a presentable appearance and of good quality. Our *modus operandi* consist of trenching the ground 2 feet deep and giving plenty of strong manure, planting stools with two or three canes to each 6 feet apart each way as soon as the leaves have fallen.

Gooseberries and Currants are all the better for not occupying the same ground for too long a time. Young bushes always produce the finest fruit, and planting should be done in anticipation of the old ones failing. In conclusion, we would strongly impress upon the minds of those who contemplate planting fruit trees the importance of paying close attention to the following points—viz., avoid deep planting, stake and tie securely all such trees as require it as soon as they are planted, and give a mulching to the surface of 3 or 4 inches of half-decayed manure.—J. H.

THE MANCHESTER BOTANIC SOCIETY AND ALLOTMENTS.

PERMIT me to bring under the notice of your readers the initiation of a forward movement in relation to this most important subject. Its object may be described as to assist rural effort in connection with the cultivation of the soil. It is well known that during the last few years a very large number of persons have become tenants of small allotments in the neighbourhood of large towns. On the 5th of last month Mr. Gladstone, speaking upon this subject, said: "There never was a period in the history of this country when rural effort in relation to the soil deserved greater support, and those who render help in this direction are public benefactors."

The Council of this Society proposes to hold an annual exhibition in the Old Trafford Gardens on a very large scale of the productions grown by the tenants of small holdings, at which prizes will be awarded for the fruits, flowers, vegetables, poultry, cheese, and butter brought forward. Prizes will also be given to the growers of window plants in our large towns. The counties embraced within the sphere of this effort will be Lancashire, Cheshire, and Derbyshire. We are all familiar with the old saying that "the hope of reward sweetens labour," and there can, I think, be no doubt whatever that this special effort will be the means of stimulating the poorer classes of society in their endeavours to excel in producing flowers, fruits, and vegetables. The Council is of opinion that it is the proper and legitimate work of the Society it represents to introduce and carry out this project.

In order hopefully to inaugurate this important scheme in a comprehensive way an annual outlay of £200 will be necessary. To meet this expenditure a special fund is being established, and it is hoped that £5000 will be raised for this beneficent purpose. It may be added that a donor of £25 to this fund will become a life member, or be entitled to nominate one. Knowing that the late lamented Prince Consort forty years ago took a lively interest in this subject, I took the liberty of bringing the matter under the notice of Her Most Gracious Majesty the Queen, and had the honour of receiving the following reply.

Balmoral, September 2nd, 1895.

Dear Sir,—I am commanded by the Queen to enclose a cheque for £25 as a donation towards the purpose referred to in your letter of the 21st August.

I am, dear Sir, yours faithfully,

FLEETWOOD J. EDWARDS.

Since the receipt of this letter, and as the result of several letters I have written to ladies and gentlemen interested in the subject, I am pleased to state that nearly £1000 has been promised. A general appeal will shortly be made to the inhabitants of the districts concerned, together with the list of the donors, and it is hoped that the result will be commensurate with the beneficence of the undertaking.—BRUCE FINDLAY, *Royal Botanic Gardens, Manchester, 19th September, 1895.*

[An admirable undertaking, and Mr. Findlay is to be congratulated on the excellent beginning he has made in carrying it out on a solid basis.]



WEATHER IN LONDON.—Hot sunny days have prevailed in the metropolis during the past week, with every appearance of continuation. The atmosphere has been thick and hazy in the early morning, but has soon cleared, the bright sunshine being most acceptable for the ripening crops.

— GARDENING APPOINTMENTS. — Mr. Geo. Burrows, head gardener at the King's School, Warwick (and formerly foreman in Canford Manor Gardens), has been appointed gardener to Mrs. Watson, Berwick House, Shrewsbury. Mr. William E. Close, for the past three years manager to Messrs. Frewer Bros., Stowmarket, and formerly gardener at Thorington Hall, Suffolk, has been appointed gardener to J. D. Cobbold, Esq., Holy Wells, Ipswich, Suffolk.

— AUTUMN FLOWERS.—Very enjoyable are these bright September days, with just a smell of frost in the early morning air. Beds of Henry Jacoby Pelargonium are superb in their glowing colour. A fine autumn possesses much of compensation for an indifferent season. Similar effects I recollect some sixteen years ago, when some large beds of Pelargonium Stella, which were green the whole of summer, blazed out into such beauty as we seldom see nor easily forget. Have we, for general effect, anything that surpasses those old nosegay varieties, Stella and Cybister?—K.

— THE ROYAL HORTICULTURAL SOCIETY AND CHISWICK.—We have received a communication on this subject from Mr. H. Cannell, which to secure insertion should have arrived at least one post sooner, instead of on the day of publication last week. Mr. Cannell regrets that Mr. Barron's name should have been used so freely, praises the Council for its good work, and suggests that Chiswick should be made a seat of learning for young gardeners, as well as a centre of employment for head gardeners seeking situations.

— HOLLYHOCK COUNTESS OF RAVENSWORTH. — I am sending you the first bloom of a seedling Hollyhock for your opinion of its merits. I have thirty seedling plants, and from that lot I have nine varieties equal in merit to the one sent. The seeds were sown in the summer of 1894, and in the autumn the seedling plants were completely smothered with fungus, so much so that the plants at a little distance were more like golden-leaved Pelargoniums than anything else. You will see from the leaf sent how clean they are now; not one speck or spot of fungus has been seen on them this season.—NORTH NORTHUMBRIAN. [The bloom reminds us of the prize specimens of bygone days.]

— AN OBJECT LESSON IN ONION GROWING.—Readers who have grown Onions for exhibition know the great advantage gained by sowing a week or two earlier under glass, and planting out when large enough. I was so struck with a single row so treated growing beside those sown in the open, that we had them weighed for comparison. The seeds were sown in a box on a slight hotbed on the 8th March, planted out when fit in a row 24 yards long. This row produced 58 lbs. of fine large Onions, all ripe and fit for storing at the time of lifting (16th September) except 8 lbs., which were green in the tops, but not what could be called "thick necks." The main crop was put in on the 14th March in the ordinary way. An average row of the same sort was weighed, and it produced 24 lbs. of ripe bulbs fit for storing, and 19 lbs. of "thick necks," 43 lbs. in all. This shows a gain of 26 lbs. per row of ripe bulbs in favour of sowing and planting out. This bed of Onions consisted of fourteen rows, and calculating on the above figures, had the whole bed been treated in the same way as the single row referred to, the result would have been 700 lbs. of ripened bulbs, 112 lbs. of unripe, 812 lbs. in all. As it is, the thirteen rows sown in the ordinary way produced only 312 lbs. ripe bulbs, and 247 lbs. "thick necks," 559 lbs. in all. It may be stated there was no other difference in the treatment. The row that was planted out was watered at the time of planting, and in June the whole bed had a good soaking of sewage water. Those sown in the open suffered considerably from the drought, while those planted out did not seem to feel it.—R. I.

— TOMATOES IN AMERICA.—The continued drought in South Jersey is reported to have caused widespread disaster to the Tomato crop in Cape May, Cumberland, and Salem counties, and the canners' factories have given up hope of any work.

— GYPSOPHILA ELEGANS.—This annual variety is a very pretty thing, quite distinct in appearance from *G. paniculata*, and very useful for mixing among cut flowers instead of the latter variety when a change is required. A good bed of it was recently seen at Sandbeck Park, coming into flower where it was sown in the open border.—W. H. D.

— CLEMATIS DAVIDIANA.—What a charming plant is this Japanese Clematis just now, where its deep lavender flowers are borne in such profusion and so deliciously fragrant. No herbaceous border should be without a root or two of it. Under good cultivation it will grow 4 feet high. All through the months of August and September its flowers are freely produced.—E. M.

— *Re* LAVANDULA VERA SYN. L. SPICA.—The Kew authorities give these as synonymous, and my experience proves that the narrow-leaved (*L. vera*) develops into the broad-leaved (*L. spica*) under certain conditions of soil, situation, and culture, and this reverts to the narrow-leaved when subjected to starveling circumstances, yielding little or no oil, whilst the broad-leaved—the better cultivated or circumstanced—affords abundance.—G. A.

— FIGS IN SUSSEX.—The climate and soil of Sussex seem most favourably adapted for Fig growing. In the gardens at the Bishop's Palace at Chichester is a grand tree over 40 feet high, and as much in diameter, a noble specimen loaded with fruit, which I think is White Ischia. Passing through West Tarring the other day my attention was drawn to a notice to the Fig garden, admission 2d. I at once paid the same, and was astonished to find a large garden planted with Figs and Quince, fine trees well laden with fruit—a complete avenue of Fig trees over 20 feet high. In the centre of this avenue is a very old tree devoid almost of life, a board bearing the following—"Relic.—This Fig tree is the oldest in England. It was planted 800 years ago by Thomas à Becket." A great curiosity. Should any gardening friends be rambling in the district it is well worth their visiting the Fig garden.—A. O.

— DAHLIAS AT SOUTHWICK, N.B.—Dahlias are at the present time a prominent feature in the garden of Sir Mark J. Stewart, Bart, M.P., at Southwick, in Kirkcudbrightshire. The Cactus and decorative Dahlias are largely and well grown. Cannell's Gem, a Pompon Cactus, was very fine and flowering freely, the flowers of a soft red and orange. Countess of Gosford was very pleasing, and of a colour difficult to describe, cinnamon and gold, the vendor's description, being as near as may be. Mrs. A. Peart was well grown, but nearly every flower imperfect, the great failing of this Dahlia, which is so charming when it comes well. Maid of Kent, cherry red and crimson with pure white tips, was noticeable among the decorative kinds, as also was Millie Scupham, of a pretty golden bronze. A number of others of recognised merit is grown, but the above were among the best when seen. Pompons and the new Tom Thumb singles are also grown in quantity.—S. ARNOTT.

— REMARKABLE SEPTEMBER WEATHER.—September is said to have so far been the hottest month on record in America. The heat has been abnormal in France, and seems to have extended over the greater part of England. In the latest report up to going to press it is stated Tuesday in London was the hottest day this year. In the shade the thermometer rose to a maximum of 86°, being 20° above the average for the month of September, and 4° in excess of anything recorded during the months of June, July, and August. For so advanced a period in the season the temperature was the highest on record, as shown by observation extending back as far as the year 1841. Within the past quarter of a century the only September readings which at all compare with it were on the 1st of the month in 1886 and the 18th in 1875, when the maximum was 85°, and the 4th in 1880, when the thermometer rose to 87°. These readings all occurred earlier in the month, though in the case of 1875 the hot weather was only six days in advance of yesterday. The highest September reading on record in the neighbourhood of London was on the 7th of the month in 1868, when the thermometer at Greenwich rose to 92°. A temperature of 80° or more was recorded on Tuesday in many other parts of England. At York the thermometer rose to 81°, and at St. Aubin's, Jersey, to 82°, the reading being in each case the highest reached at any time in any September of the past twenty-five years. Yesterday (Wednesday) was oppressively hot. Minimum night temperatures in London have been about 65° of late—sufficient for Melons and Muscat Grapes.

— **THE DAMSON CROP.**—Damsons have suffered considerably in many parts of the country this year through the action of the Damson mite. This is a pity, as the Damson is considered one of the best fruits we produce.

— **ARISTOLOCHIA GIGAS STURTEVANTI.**—In your issue of September 12th, "W. G." gives us credit of introducing *Aristolochia gigas* var. *Sturtevanti* and presenting cuttings to the Royal Gardens, Kew. That is not correct. We were indebted to the Director of the Royal Gardens for our plant, which was presented by him to this Society about three years ago.—W. B. LATHAM, *Botanical Gardens, Birmingham.*

— **USES OF BIRCH.**—White Birch, now so valuable for shoe pegs and bobbins, usually springs up and grows where forest fires have run many years previously, but where the growth has been protected from a second burning. No hard wood brings better returns in our New England forests than first-quality White Birch.

— **A NOBLE EVERGREEN OAK.**—Standing most conspicuously in the lawn of Church House, West Tarring, is a grand specimen of the above, fully 70 feet high, and nearly as much through. The tree is of splendid shape and is one of the finest I have seen. This noble tree, with the ancient church, close by, are interesting to the many visitors. West Tarring is a suburb of Worthing.—A. O.

— **AGAVE KERCHOVEI IN BLOOM.**—The Massachusetts Horticultural Society held a show on the 20th August, at which one of the most interesting features was a specimen of the rare *Agave Kerchovei* in bloom. It had a flower stem $19\frac{1}{2}$ feet high, and which developed in the course of three weeks. Mr. Robert Cameron, an old Kewite, and now superintendent of the Harvard University Botanic Garden, was the exhibitor.

— **FRUIT IN CHESHIRE.**—The extraordinary price of 3s. the hamper of 126 lbs. (about a farthing per lb.) which is being given for Damsons is almost altogether unprecedented, and considerable disappointment is experienced by the growers, particularly the cottagers, who principally depend upon the fruit crops for their rent. Hundreds of hampers are being despatched daily from the Kelsall districts, where they are extensively grown, to the various markets. Apples at present are entirely unsaleable, being as a rule tremendously heavy crops, but 1s. a hamper appears about the price. Pears, which are generally anything but in abundance, command good prices according to the quality of the various sorts.

— **CANADIAN FRUIT.**—The fruit exported from Ontario to England has hitherto been almost entirely autumn and winter Apples, but now this Canadian province proposes to send us softer fruits, such as Peaches, Pears, Plums, and Tomatoes. It is expected that in consequence of the cold storage that can be provided, both by rail and steamship, these fruits can be delivered at Liverpool in fine condition. The Hon. J. Dryden, Minister of Agriculture for Ontario, is taking the matter in hand, and trial consignments will shortly be sent to the Ontario agent at Liverpool, and if these prove successful more and larger shipments will follow.

— **SWEET PEAS.**—Some of Eckford's new varieties of these were noted in fine condition at Sandbeck Park recently. Mr. Summers sows them in pots and plants them in the borders after they are sufficiently hardened. A few sticks are then placed around each potful, which, by-and-by, forms a fine column of flowers. Those which I saw were 8 feet high and covered with flowers two-thirds of their height, forming the finest examples of Sweet Pea culture I ever saw. Some of the new shades of colour, such as Venus and Dorothy Tennant, are well worthy of a little attention in this way, and are extremely useful where cut flowers are required.—W. H. DIVERS, *Belvoir Castle Gardens, Grantham.*

— **LEUCOPHYTON BROWNI.**—This silvery leaved plant has once more proved its usefulness in the flower garden. For lines amongst *Alternantheras* it cannot be excelled. Now is a good time to insert cuttings for next year's display. These taken off the points of the growing shoots, 2 inches long, and inserted thickly in boxes of sandy soil, in a close cold frame, where they will form roots by the spring, and if then planted out in prepared compost in a temporary frame will make stocky plants by the middle of May. If the cuttings are not taken during September they do not form sufficient roots to enable them to withstand the winter in a cold frame, which is really all the protection required. I prefer to grow new plants every year, as the old ones become too "leggy" to be utilised.—E.

— **BIG POTATOES.**—A man at Ashford last week dug up six Potatoes weighing in all $10\frac{1}{4}$ lbs. Their respective weights were:—1 lb. 6 ozs., 1 lb. 8 ozs., 1 lb. 10 ozs., $1\frac{3}{4}$ lb., $1\frac{3}{4}$ lb., $2\frac{1}{4}$ lbs.

— **CAMPANULA ISOPHYLLA AND ISOPHYLLA ALBA.**—This seems a favourite plant with the cottagers in many parts of Sussex, and a grand plant for window decoration it is. Many well-grown and profusely flowered specimens are to be seen in the cottage windows—grand examples of cultivation, well adapted for suspending in the window.—A. O.

— **LUDLOW CHRYSANTHEMUM AND FRUIT SOCIETY.**—We have before us a schedule of the first annual exhibition of the above Society, which will be held in the Town Hall, Ludlow, on Thursday, November 14th. Prizes will be offered for Chrysanthemums in pots, cut blooms, fruits, and vegetables in classes provided for subscribers, amateurs, and cottagers.

— **THE MYSTERIES OF FLOWERS.**—One of the most mysterious elements of flowers is the perfume, the essential action of which in plant life cannot be demonstrated by the wisest of our scientific men. Gas can be weighed, but not scent. The smallest known insect that lives in the heart of a Rose can be caught by a microscope lens and made to give up the secret of its organisation, but what it is that the warm summer brings us from the wild flowers of the hillsides or wafts to us from the choice plants of the hothouse no man has been able to determine. So fine, so subtle, so imponderable, it eludes weights and measures.

— **TOMATOES AT OSBERTON, WORKSOP.**—On a recent visit to these well-kept gardens I was much struck by the enormous crop of Tomatoes growing in the open in 9-inch pots, trained up the side of a plant house. The plants were about 5 feet high and covered from top to bottom with handsome fruit. I counted as many as fifty fruits hanging on a plant, some of them 1 lb. in weight. The variety, I believe, is a seedling raised by that famous fruit grower the late Mr. S. Woods, and called "Osberton," and justice has been done to it by the present gardener, Mr. T. H. Crasp.—W. INNES, *Derby.*

— **GROWING FUCHSIAS.**—The admirably written article on this subject (page 270) contains much sound advice. I had recently the pleasure of listening to a lecture on Fuchsias by Mr. Wilcox in the Parish Room, Shirley. He brought a specimen plant with him to exhibit the defects in culture, as well as approved points in detail. Mr. Wilcox approves of inserting the cuttings about the middle of September, so as to have stout plants in January. Mr. Wilcox is a staunch believer in generous fare for these plants, and supplies them with weak liquid manure while they are in 3-inch pots should he not be able to transfer them to larger pots for a few days. He does not make a practice of syringing the plants, provided they are quite clean, but strongly advocates pinching all the shoots at the same time to obtain evenness of growth and symmetry, even when some of them are only an inch or so long.—E. M.

— **ROYALTY AT READING.**—The Bechuanaland Chiefs, Khama, Batwoen, and Sebele, with Mr. Willoughby, arrived at Reading on Wednesday, 18th inst., and were received at the G.W.R. station by Mr. Martin Hope Sutton (the venerable founder of the great seed firm), Mr. Martin John Sutton, and Mr. Arthur W. Sutton (members of the firm), Mr. M. H. Foquett Sutton, Master Philip Sutton, and Mrs. A. W. Sutton, and were driven to the business premises in the Market Place. The distinguished visitors were conducted by Messrs. M. J. and A. W. Sutton over the various departments. In the export offices their attention was called to a large order which had been received that morning, and was being made up for South Africa. The immense agricultural seed room (in which the Prince of Wales was Masonically entertained four years ago) justly excited their admiration, as did the elaborate machinery for cleaning the various kinds of seeds, and the exhibition of two varieties of Potatoes indigenous to Africa in the Potato sorting room. Unmistakeable delight was evinced at the magnificent museum of models of agricultural roots and vegetables. Khama has for many years conducted, every morning, Divine service in the Royal Kraal, and it afforded him the keenest gratification to find that Messrs. Sutton have for more than half a century followed the same good custom, all the employes of the firm who wish to do so meeting together for a short service of prayer and the reading of Scripture every morning at 10.30. The service on Wednesday was attended by several hundred of the men and boys in the firm's employ, and Khama and his brother chiefs were much impressed with the short, hearty ceremony, which was conducted by the Rev. S. H. Spole, Vicar of Greyfriars, and chaplain of the establishment.

— **POLYGONUM CUSPIDATUM.**—Whilst thanking "E. M." for his hints on the culture of *Polygonum cuspidatum* as a border plant (page 274), which I am glad to have, not having previously given it the attention he points out, and which I am sure it deserves, he will allow that for a border 4 feet wide, backed by an espalier fence 4 feet high, it is just a wee bit big for the place, whilst I will readily endorse his opinion that, with more ample room, "it is a grand addition to the border;" still, I would like to see some clumps growing *au naturel*—neither pinched nor pulled—and judging from its habit it is a plant that should be well able to hold its own under semi-wild conditions.
—THE GARDENER.

— **AMERICAN APPLES.**—The Early Baldwin, says a transatlantic writer, deserves a high rank among summer Apples. This is a much finer Apple than the Red Astrachan and superior to the Early Harvest, which it closely resembles. It is about ten days later than the Early Harvest and was at its best this year about August 7th. Colour greenish white, flesh white but acid, equally good for dessert or cooking. I am confident the Early Baldwin is almost an annual, there being some Apples every year. This Apple originated on the farm of Joseph Baldwin in Connecticut.

— **THE SPIDER PLANT.**—Travellers who visited or passed the Cape Negro country of Africa, says the "Morning," often heard from the natives of a plant that was part spider, and threw its legs about in continual struggles to escape. It was the good fortune of Dr. Welwitsch to discover the origin of the legend. Strolling along through a wind-swept tableland country, he came across a plant that rested low on the ground, but had two enormous leaves that blew and twisted about in the wind like serpents; in fact it looked, as the natives had said, like a gigantic spider. Its stem was 4 feet across, and but 1 foot high. It had but two leaves in reality, they were 6 feet or 8 feet long, and split up by the wind so that they resembled ribbons. This is probably the most extraordinary tree known. It grows for nearly if not quite a century, but never upwards beyond about a foot, simply slowly expanding until it reaches the diameter given, looking in its adult state like a singular stool on the plain from 10 feet to 18 feet in circumference. When the wind came rushing in from the sea, lifting the curious ribbon-like leaves and tossing them about, it almost seemed to the discoverer that the strange plant had suddenly become imbued with life and was struggling to escape.

— **VINE-GROWING IN CEYLON.**—An interesting experiment has just been commenced in the neighbourhood of the Agricultural School in Viticulture. M. Zanetti, an Italian, with some previous experience of this Colony, has brought a consignment of young Vine plants and cuttings from Australia. These have been put out on a piece of land allotted by the Principal of the School to the following extent:—Eight hundred plants, two years old and younger, down and growing, and nearly 1000 cuttings. M. Zanetti wanted land and help at once, as the plants had been over a month out of the soil and could not have been kept much longer, so Mr. Driberg came to his rescue. He says that his experience is that there is no objection to any amount of moisture provided the soil is open and naturally well drained. He, however, means to give trials in other places as well. This is all very interesting; but we have always regarded the Jaffna Peninsula, Puttalam, Chilaw, and Hambantota as peculiarly the districts in Ceylon suited to the Vine. Bennett, in his "Ceylon and its Capabilities," reported that his garden in the Magampattu (Hambantota district) produced very fine Grapes from Vines introduced by him from Teneriffe in 1821. He used bones as manure, and got bunches double the size of those got from unmanured Vines. In writing to a contemporary M. Zanetti says:—"Though not altogether so easily as in other tropics and soils, I am of the firm opinion that Vine growing in Ceylon could be effected as a paying enterprise. The difficulties presented by the rainfall and the want of certain chemical properties in the soil could be surmounted. The first by selecting only such soil as would be most permeable and most likely to keep its surface free from collected water and easily dried, such as sandy or very light gravel soil; the second by using those fertilisers only whose chemical qualities, added to those of the soil, would furnish the plant the necessary nourishment wanted to produce the delicious fruit and bring it to its full maturity, which, I believe, has not yet been done neither in Jaffna nor by the amateur growers in the island." "It is well," says the "Ceylon Observer," "to remember that experiments with imported Vines have not been unknown in the present generation. Captain Bayley some years ago did much in this way at Galle, in the Morowa Korale, and other localities; but without such success as would warrant perseverance."

— **VICTORIA REGIA.**—There is now to be seen in the Botanic Gardens, Regent's Park, one of the finest plants of the *Victoria regia* ever grown in this country. It covers a space of over 400 square feet, each of the eleven leaves measuring more than 7 feet across, apart from the turned-up rims, which stand up 6 inches or 7 inches above the water, the deep pink of the undersides contrasting strongly with the vivid green of the upper surfaces of the leaves. The flowers, pink, and rising just over the centre of the plant, follow one another in quick succession.

— **PROGRESS IN THE NORTH.**—Sixty experimental stations have been provided by the Durham College of Science in Cumberland, Durham, and Northumberland. At these stations practical instruction is given by means of experiment and demonstration in the science of agriculture. Manures are supplied to the stations from the College, where they are analysed and prepared as may be required for the particular experiment, and the resultant crops are afterwards tested under the direction of a professor. These experiments give valuable opportunities to students to observe the varying results obtained under the different conditions of soil and climate in the various districts of the northern counties.

— **NEPENTHES AT CHELSEA.**—Rarely have the Pitcher plants grown by Mr. Tivey for Messrs. J. Veitch & Sons at their Chelsea nurseries presented a better or more healthy appearance than is the case at the present time. The plants with their handsome green leaves are now producing pitchers in extraordinary numbers, besides which the richness of the colours is decidedly above the average. That they are of easy culture, providing a stove is at command, is proved by the way they succeed at Chelsea, and considering their undoubted beauty, it is a matter for surprise that they are not very much more extensively grown than is at present the case. The row of *N. Mastersiana* is well known to every visitor to this nursery, while other splendid sorts are *mixta*, *Chelsoni*, *Hookeri*, *Amesiana*, *mixta sanguinea*, and *Dicksoniana*, some of the pitchers of the latter holding upwards of a pint of water.—H.

— **THE EFFECT OF NICOTINE ON GRAPES.**—With the view of testing nicotine for the destruction of red spider and mealy bug on Vines I used "Murray's vapourising" nicotine several times in one vinery in which is growing Black Hamburgh, Madresfield Court, and Buckland Sweetwater Grapes. Although I employed the nicotine beyond the advised strength, it failed to kill either the bug or the spider. In no case in this house did it injure the Vines in any way. Not even the next day did the berries exhibit the slightest trace of nicotine to the taste. From experience, then, I am not a believer in the scare noted on page 273. I also used the nicotine in a house of Muscat of Alexandria Vines, and nearly every old leaf in the house was burnt, not a single young leaf on the laterals being injured in the slightest. Fortunately the Grapes were ripe and did not suffer, but the Vines cannot be other than injured by the premature loss of the principal leaves. The berries even of this Grape did not show the slightest taint of nicotine.—EXPERIENCE.

— **FRUIT CULTURE IN NEW ZEALAND.**—New Zealand, in respect of soil, climate, and general conditions, is capable, equally with California, of producing the finest Apples of almost all descriptions, and without the artificial aid, in the shape of the expensive service of irrigation, required in the last-named country. But the fruit growers in New Zealand have not, in the opinion of Mr. Palmer, the Pomologist of the North Island, the necessary knowledge of any proper system of cultivation and of the means to be taken for the destruction of insects and other pests. It appears that the planting of fruit trees has been carried on without any system whatever, and unsuitable situations and varieties unfitted for conditions of soil and climate have been selected. The Pomologist of the South Island, Mr. Blackmore, remarks that he found fruit culture much neglected in the various orchards he visited. The trees were overrun with insects and various forms of fungi. Mr. Blackmore adds that he has endeavoured to encourage orchardists to make shipments of Apples and Pears to the London market, but that owing to the high rate of freight and other charges, and the want of unity amongst growers, his efforts to promote shipments of fruit have in part failed. It seems that there is not really sufficient good fruit to compete in the various markets of the south with the superior produce of Tasmania, and Mr. Blackmore is of opinion that before the export of fruit from New Zealand can become permanent and profitable, the area of the orchards must be considerably extended by planting the varieties most suitable for export and the home markets.—("Farming World.")

— THE AMERICAN PEAR CROP.—The Pear crop of Georgia this year is the largest on record. It is estimated by those who are in a position to know and to judge correctly that it will exceed 300,000 barrels. The bulk of the Pears are Le Conte. A small proportion are of the Kleffer and Bartlett varieties. If 300,000 barrels were placed end to end they would form a line 150 miles long, reaching through the whole length of the territory where the Pear is cultivated on the Savannah, Florida, and Western Railway. This number of 300,000 barrels is equal to 800,000 bushels, and would weigh upwards of 30,000 tons.—("Rural World.")

— THE EXISTENCE OF EDIBLE FUNGI.—Edible fungi are found in such large quantities in some of the Russian forests as to constitute a considerable part of the diet of the peasants at certain seasons of the year, and to form an important article of commerce. At some places, such as Vilkovishki, the inhabitants derive their means of subsistence chiefly from the sale of Mushrooms; Kargopol sends annually to St. Petersburg about 180,000 lbs. The utilisation of the supplies of fungi is receiving increased attention in Russia, and a short time since M. Nadson gave in the St. Petersburg Botanical Gardens a very interesting lecture on fungi, with special reference to the differences between the edible and poisonous kinds, and of the latter he described the species popularly known as the Pale Pogonk as the most injurious. In Siberia the Samoyeds, Ostiaks, and Kamtchadales have long been familiar with the intoxicating properties of the species known as Mukhomer, from which they make an infusion that has much the same effect upon the system as opium.

— HARTON CEMETERY.—South Shields during the last few years has come rapidly to the front as a seaside resort. It has a splendid pier and a fine stretch of seashore and two beautiful marine parks, which draw forth expressions of admiration from its visitors; but the prettiest spot in the neighbourhood, and one that receives perhaps the least attention, is the cemetery at Harton. It is more like a private park than a public burial ground. The cemetery is approached by a handsome avenue of trees, which terminates with a stone archway, on the right of which stands a neat little villa, the residence of the Superintendent, Mr. Bernard Cowan, F.R.H.S., who has laid out the grounds with such skill and taste, and who spares no time or trouble in adding to the beauty of the place. The carpet bedding in front of the house is a picture; and the main avenue south is laid with very fine beds of crimson Pelargoniums and blue Lobelia; while the pretty borders of Carnations and Chrysanthemums cannot but be admired. In front there are also splendid beds of East Lothian Stocks of this year's growth, which emit a pleasing aroma; and the various plots are artistically laid out with a choice collection of alpine plants. Mr. Cowan, who has had charge of the cemetery during the five years of its existence, has proved himself a master in the art of horticulture, and Harton must be seen to be appreciated.—("Newcastle Chronicle.")

— AMERICAN PROGRESS.—The tract selected for the new Botanic Garden in New York comprises 250 acres of the most desirable section of Bronx Park, near the old Lorillard mansion. Included within the tract is a beautiful grove of Hemlock Spruce, which was not only the pride of the original owners, but remains to-day one of the chief attractions of the park. Provision for its preservation is therefore made. The first advance towards this object was made when the Torrey Botanical Society of Columbia College was formed. In 1891 an Act was passed authorising the project, but it was inoperative owing to the violation of some constitutional provision—the failure, it was said yesterday, to include in the bill an authorisation of the city to issue bonds while appropriating the needed money. This defect was overcome by the enactment of chapter 3 of the laws of 1894. The success of the project was assured on June 18th last, when, at a meeting held in the office of President Seth Low, of Columbia College, the assurance was given that the necessary 250,000 dols. to be secured from private sources had been subscribed. The site of the new home of botany is beautifully adapted to the growth and cultivation of flowers. In addition to the grove of Hemlock, which includes the entire west bank of the river within the tract, there is much protective wood. The Bronx furnishes abundant water, the soil is fertile, and there is both low and high-lying land. The plot of 250 acres includes one-half of the entire length of the gorge of the river, which has been so often admired and sketched by artists. The natural scenery is delightful, and the garden will be worthy of its magnificent scenic setting. The citizens of New York will before long be able to point with gratification to a superb exhibition, not only of our own flora, but also of the variegated and fragrant plants of other climes.

— AN ENORMOUS TREE.—A Karri tree, blown down recently in Western Australia, measured 174 feet from the roots to the first branch, where it was 14 feet in circumference. Mr. J. E. Brown, a forestry expert, once cut down a Karri tree 160 feet high, which he estimated to be only thirty-five years old.

— THE BEECH LAWN COLLECTION OF ORCHIDS.—Mr. W. R. Lee having decided to relinquish their cultivation, the celebrated Beech Lawn collection of established Orchids is being dispersed by auction, and Messrs. Protheroe & Morris commenced the sale on Tuesday at Beech Lawn, Audenshaw, near Manchester, when some good prices were realised. *Cattleya labiata alba*, two pseudo-bulbs, went for £68 5s.; *Cattleya speciosissima Sanderæ*, six pseudo-bulbs, sold for £78 15s.; and *Cypripedium Winifred Hollington*, three growths, fetched £73 10s. Altogether the first day's sale realised £1280.

— HORTICULTURE IN AMERICA.—The Western New York Horticultural Society won the 200-dol. premium offered by the State Agricultural Society for the best exhibition of fruits. This premium is offered to associations and does not interfere with other premiums offered for private and professional competition. Without doubt the Western New York Society can win this premium every year so long as it is offered, as its membership includes the leading fruit growers of the section where fruit thrives best.—("American Cultivator.")

— AUSTRALIAN TIMBER.—During recent years attempts have been made to popularise the use of Australian wood in this country, whether for paving or upholstering purposes. Gradually the Eucalyptus and other large timber trees have become popularly known, if not as popularly used. To-day our vehicular traffic is carried on over roads constructed of wood from the Antipodes, and promise is not wanting that New Zealand and Australian timbers will soon obtain higher rank. The Manchester Ship Canal Company are endeavouring to make a market here for the wood noticed; they have brought, and continue to bring, to Manchester what may be looked upon as pioneer cargoes for that section of the industrial world. The venture, it is stated, has so far been successful, and there is no doubt that, when the capacity of the Eucalyptus is better known, it will enter in successful competition with most kinds of timber now on the market.

— PENTSTEMON CAMPANULATUS.—This beautiful Mexican species is rarely seen in our gardens, perhaps because it is not quite hardy. The plant is as easily raised from seed as any of our common garden annuals. If the seeds are sown in March the plants will begin to bloom in July. Mr. Cameron, of the Harvard Botanic Garden, notes, in an American journal, the fact that many of our tender native species of *Pentstemon* make a better display in late summer and fall by raising them annually from seed. The flowers of *P. campanulatus* vary in colour; some of the plants have flowers of a pink shade, while others have dark purple and violet flowers. The specimen before us has a tubular or campanulate corolla of a red maroon colour, and the petals are whitish on the inside. The flowers are produced in long showy raceme-like panicles, which are 9 to 15 inches long. The plants are 3 feet high, and the stems are thickly covered with dark green, ovate, lanceolate, serrated leaves. It grows best in a light rich soil and in a position where it is not shaded.

— IPOMEEA LEARI.—Among the tropical Morning Glories, this is, perhaps, the best and most floriferous. The flowers are fully 4 inches across, produced in great profusion throughout the summer and autumn months. They are intensely blue, slightly purple in the throat; the colour is a most pleasing one, and the lasting quality of the flowers is considerable. The inflorescence, a compound fascicle, produces from twelve to thirty almost stalkless flowers in succession, and the axillary peduncles are 8 to 10 inches long. The cordate leaves are occasionally imperfectly three lobed, but mostly entire, 6 inches long on slender, equally long petioles. The twining stem is very slender and somewhat hairy. This species can be propagated by means of cuttings very easily in this country, says the "Garden and Forest." Rich fibrous soil is most satisfactory, but comparatively small pots are sufficient even for large and floriferous specimens. A northern or western position, in diffused sunlight, is preferable to any other, as the flowers in such a position will last till late in the afternoon. Ordinary summer temperature is quite sufficient, and the plant is well adapted to outdoor use on trellises, on walls or verandahs, where its hundreds of flowers will make a gorgeous and effective display. Plants used during the summer for such purposes may be cut back before the fall frosts commence, and should be stored in a somewhat dry state until the following season in a cool greenhouse or a light and frost-free cellar.

MODERN GRAPE GROWING—THINNING.

(Continued from page 222.)

IN the *Journal of Horticulture* for December 27th, 1883, the following appears from my pen, which is an abstract from my diary, and relates to a house of Black Hamburg closed on the previous New Year's Day. Under date of March 28th we read, "This is the tenth day since the first flower opened, and thinning is commenced. Some berries on the most forward bunches already measure three-sixteenths of an inch in diameter;" and on the 31st, "A few of the most forward bunches are thinned each day. Some berries on two or three of them measure a quarter inch through, and this is only the thirteenth day since the first flower opened. Think of this, you who allow a fortnight or three weeks to pass before commencing thinning, and judge how much you lose in size of berry. One point lost now means many lost by the time the fruit is fully grown." On April 4th it is stated, "The berries now measure three-eighths of an inch," and on April 6th "The berries continue to swell at the rate of one-thirty-second part of an inch in twenty-four hours, and now measure seven-sixteenths in diameter. . . . The measurements of the berries till the stones hardened were taken by cutting through the centre, and placing a thin steel rule across. When the stones hardened the measurements were taken with callipers." Many other measurements were taken during the season, but they were not published, and unfortunately I cannot now lay my hands on them, but sufficient has been said to show the absolute necessity of thinning as early as possible.

The *modus operandi* is thus described in my former treatise published in the *Journal of Horticulture* during 1882. "All the small berries and unfertilised flowers are removed first from a bunch; next the remaining berries, if they are so close that the thick end of a pencil cannot be pushed in between them, are thinned out sufficient for that, and the whole crop is examined in this way, by which time it can be seen which are likely to be the best berries, and the regular thinning is commenced in earnest. Preference is always given to the upper berries on a branchlet, and of those on the top of a bunch nearly all are left; others are thinned so that they average about half an inch from berry to berry.

"It is not a good plan, however, to insist on their being all at regular distances apart. The best berries should be chosen, and if sometimes there should be an inch of space and then two or three berries closer together, they will as they grow generally push one another into their proper places. I find that with young hands there is a great anxiety to have the berries regularly placed on every bunch, and to secure this many berries are left which are not likely to swell to the largest size. The bunches I thin myself often look very imperfect at first, but they alter before the season is over. The thinning of the late Grapes comes next to the Hamburgs, that of the Muscats being left to the last, and I do not think there is any advantage in thinning them till they reach the size of a Pea. Large bunches of all varieties are tied out in preference to cutting them down to half their size.

"After all have been thinned once they will require looking over again, and nothing but practice will teach exactly how much to thin them, as some Vines will make much longer berry-stalks or larger shoulders than others, and of course the longer the footstalks the less need of thinning. Late Grapes which have to be kept till the following spring are thinned considerably more than those which are to be used in the autumn, but no bunch should ever be so much thinned that when it is cut and laid on one side the berries will roll out of their places."

This was written thirteen years ago, and as I cannot now improve on it I have copied it *verbatim*. I had not then had any practice with those large-berried varieties now so popular, Gros Colman and Gros Maroc, the former of which especially needs a great deal of experience and a considerable amount of nerve to thin properly in its early stages, and as the berries are expected to reach an inch and a half in diameter and the stems are not so accommodating as some other varieties, it is plain that all parts of the bunch, including the tops of the shoulders, must be thinned severely. But still the thinning, when one has learned to be an adept at it, is an easy matter. The berries generally all set nearly about the same time, and there is no dirt or dead flowers hanging about them. You need not be afraid to cut two-thirds of them out at the first operation, and instead of being tedious work, as many people say it is, thinning of this variety ought to be a real pleasure.

For my own part, I know of no greater happiness, and I wish for none greater, than is experienced after a good night's rest and a hearty breakfast sitting on a pair of steps in one of our roomy vineries at four o'clock on a May morning thinning Colmans, enjoying the music of the songsters who are never out of tune, and dreaming of the monster berries that are to put so many handsome faces out of shape when the owners of those faces are squeezing the huge morsels into their pretty mouths.

The year's troubles in the Grape-growing line have hardly yet commenced in earnest. It is true we have had the annual scare about the non-setting of Muscats; but that, though it never misses altogether, and is sometimes rather severe, is generally short-lived. We have not yet caught a glimpse of that which is at once one of the least, and yet the very greatest of all our mortal enemies—the red spider—and we fondly hope the detestable little insect is for ever banished.

In our love for the Colmans we must not forget the Alicantes and the Lady Downe's, for these, though troublesome to thin even at the proper time, are ten times more so if they are left to become crowded. Where Alicante is uncertain as to its stoning it is better not to thin too much at first, but the little that has to be done should be commenced on the tenth day after the first flower has opened, then by the time the berries have attained the size of Peas, the faulty ones can be picked out

by their round shape, or the learner may cut some of them through with a sharp knife, when it will be easily seen which sort of berries are going to form seeds.

Muscats are generally thinned more than is necessary. It is astonishing how the stems of these will accommodate the berries by lengthening and shifting. This is a great advantage, as the Muscat is liable to some mishaps unknown to other varieties, one of which I have never heard a name for, and I know no cure. A berry here and there, sometimes several together, when about the size of Peas, will turn dark green, become soft, and if left will dry off black. I have seldom seen a house without a few berries turning in this mysterious way.—WM. TAYLOR.



VANDA SANDERIANA.

MR. BEDFORD of Straffan Gardens, Kildare, writes:—"I wish you could see the king of Vandas (*V. Sanderiana*). It is now in flower here for the first time, and I think it is the first time in Ireland, but am not quite certain. It is a beauty. The past few warm dry days have made the garden look quite bright. The long continued rain did much harm to our farm crops, with serious damage to the hay."—K., *Dublin*.

ODONTOGLOSSUM (MILTONIA) VEXILLARIUM.

THE beauty of this charming Orchid and its general utility are now so well known as to need no special remarks here, but it is seldom that it is seen so well grown as at Sunningdale Park, the Berkshire seat of Major W. J. Joicey. As a result of the admirable cultivation adopted, we give an illustration (fig. 49), engraved from a photograph of one of the best plants in the collection, and readers will agree with us in calling it a magnificent example. The plant under notice produced thirty-nine spikes of flowers, each averaging seven blooms, thus producing a total number of 273. This noble specimen was grown in an 8-inch pot, and Mr. F. J. Thorne, the gardener, has kindly favoured us with his system of culture, which is as follows:—

"The essential points in the growing of this useful and showy Orchid are careful attention to compost, heat, air, and water. As soon as our plants have done flowering we repot them in a mixture of fibrous peat with live sphagnum moss chopped rather fine, a good portion of small potsherds or pieces of charcoal, and a slight sprinkling of coarse sand. If necessary the plants will at this period bear dividing without injury, and we remove nearly all the old compost. The roots are fresh and ready to start at once in the new material, but care must be exercised not to overwater, giving just enough to keep the moss alive until the pots are again full of roots. The house must be kept moist and at a temperature about 5° lower than the *Cattleya* house all the year round. When in flower, however, we afford less moisture and cover the spikes at night with tissue paper to prevent damping, and by this little extra trouble we keep the flowers fresh and clean for four or five weeks. We are seldom troubled with thrips, but as a preventive we fumigate about once a month with XL All vapourising fumigator. Stimulants I do not believe in, placing reliance on fresh sweet compost, which is renewed every year. Other kinds, such as *candida*, *Clowesi* and its hybrid *Joiceyana*, are perfectly at home under the above treatment, as also are *Warszewiczii* and *cuneata*."

CYPRIPEDIUM SEDENI.

Amongst all the genera of Orchids to which hybridists have turned their attention, none have given such splendid results as *Cypripediums*. The rapidity with which the plants can be propagated and the simple character of their cultural needs has also made the earlier raised kinds very cheaply obtainable. *C. Sedeni* is a case in point, for though of hybrid origin it is quite a popular Orchid and cheap enough to be in everyone's collection.

As a garden plant it compares favourably with any in the genus, being pretty and bright in colour, and an almost continuous bloomer. It has long green leaves with pointed ends; it grows in tufts, and from the centre of each growth proceeds a tall erect scape, producing in succession a number of flowers, thus keeping up a show over a very long period, as the individual blossoms last well in good condition. These are about 4 inches across, the petals deep rose margined with white, the dorsal and lower sepals being white suffused with pink. The pouch is large and rounded, rosy white and crimson, with many spots about the throat.

C. Sedeni does not require so much heat as some species, and

may be accommodated either in the Cattleya or East Indian house, a moist atmosphere always and a shady position being afforded it. Few Orchids require more water at the root, daily applications being necessary in hot weather if the plants are in good health and growing freely. A suitable compost will be three parts of loam fibre, one of sphagnum moss, and one of peat, adding a few pieces of crocks to ensure a well divided and aerated condition.

The pots may be filled three parts full of drainage, and over this a little rough moss, placing the roots thereon and working the compost carefully among them. There will be no need to elevate the plants above the rims, in fact it is detrimental to healthy plants, as they are too apt to get dry, but for small or semi-established plants it may be done. All the water needed for a few days after potting may be given through the syringe, but as soon as the roots are seen to be on the move they may have a good supply.

C. Sedeni was raised in the nurseries of Messrs. Veitch by Mr. Seden, who obtained it by crossing C. Schlimi with C. longi-

must be neatly trimmed off with the shears, as the ragged ends of moss or peat look untidy, and make it difficult to determine whether or not the plants are dry at the roots. If the pseudo-bulbs are plump and the foliage healthy very little water will be needed until the new roots are emitted, but it will be necessary to sprinkle the surface occasionally to keep the moss green and maintain a moist atmosphere about the plants. When growth is well on the move it will require abundance of water, as the shallow compost runs dry very quickly, but during the winter only enough must be given to keep the pseudo-bulbs from shrivelling.

The flowers are produced on long branching scapes at various times during the summer and autumn, and as these last a long time in good condition they ought not to be left on even the strongest plants until they fade, while on weak or small unhealthy plants they should be removed soon after they are open. Each flower is about 2 inches across, with almost equal sepals and petals and an irregularly rounded lip. The ground colour is a glossy brown with yellow and red disk markings. A light and airy posi-



FIG. 49.—ODONTOGLOSSUM (MILTONIA) VEXILLARIUM.

folium. Several varieties are described, notably, C. S. candidulum, a variety with white sepals and petals, this being raised from the white form of C. Schlimi; C. S. albiflorum, C. S. porphyreum, and C. S. albanense. The former has darker, the latter lighter blossoms than those of the type.

ONCIDIUM CRISPUM.

This fine old Brazilian species ranks among the most ornamental in the genus, and is a very free-flowering and useful plant. If judiciously treated it may be cultivated with comparative ease; indeed, it is much more amenable to culture than some of the stronger growing kinds. The best mode of treatment is on a raft or in a shallow basket with only a small amount of compost, and this of the best. Good peat fibre and sphagnum moss in equal proportions will grow it well, and the plants require to be carefully fixed in position, the roots not being very strong or always plentiful. If a newly imported plant, the rhizomes may be kept on the surface of the compost and held in position by passing a wire over them and through the bottom rods, protecting the point of contact with a thin strip of cork.

Established plants may usually be fixed in the ordinary way with the dibber, using a few pegs or stakes if necessary. The surface

tion not far from the glass in the Cattleya house suits it best while growing. A large, richly coloured form of this Oncidium is known as O. c. grandiflorum.—H. R. R.

VEGETABLE JUDGING AT SHREWSBURY.

I WAS pleased to read "An Old Hand's" fair and highly practical letter in last week's *Journal of Horticulture*, re judging vegetables at the great Shrewsbury show; and if I may venture to express an opinion on the editorial note appended thereto, I should say that the remarks went a little farther than the occasion required in referring to the reporter as having "judged at more vegetable shows this year than 'An Old Hand' has, or any of the judges he ('An Old Hand') is desirous of defending." Now, this statement can only be conjecture on your part. But assuming it to be correct, does this fact alone qualify him as being better qualified to judge vegetables than actual growers are? Moreover, is he to be allowed to criticise the awards made by the four judges in question, and to make inuendoes as to what had been done at previous Shrewsbury shows with impunity, apparently for no better reason than that the judges happened to be gardeners to "great noblemen," and that he (the reporter) had not been invited to assist in making the awards? In the interests of horticulture and the horticultural press, fair play

in its dealings with controversialists should obtain in all its transactions. How is it that no mention has been made in previous reports in the *Journal of Horticulture* of the vegetable section of the Shrewsbury show of the "faulty judging" to which your reporter, unmindful of the fact that he had not been present at any previous Salopian show, referred, notwithstanding that a very competent judge and able critic from the office of that esteemed paper was present at the show indicated during the last four or five years?

Your Shrewsbury vegetable reporter's remarks printed below the editorial note at page 272 speaks for itself. A more egotistical effusion it would be difficult to find. He mentions the grand display of vegetables which had been arranged the following week at Reading, remarking with self-gratification that the "exhibitors knew the requirements of the 'Reading judges,' and that the exhibits were 20 per cent. before those at Shrewsbury, and that a more perfect lot of vegetables was never seen on one table before," adding, "I helped in the judging, and had as a colleague a gardener, who always favours quality and makes no mistakes." The job was the toughest "I" ever had, remarks the Shrewsbury vegetable reporter, but when it was done "the result defied criticism," and accordingly the exhibits and judging have been referred to in very complimentary terms in the report of the Reading show. Comment is needless, further than to remark that your Shrewsbury vegetable reporter, judging by his printed words, considers himself the only properly qualified man in England to make just awards at vegetable shows, and that, therefore, the awards made by men—even by gardeners to "great noblemen"—brought up to gardening, and who have over and over again demonstrated at leading shows their ability to grow and show garden produce of the best description, are necessarily wrong. Bearing all your reporter's remarks in mind the above is only a fair and reasonable conclusion to arrive at.

In conclusion, I should like to be allowed to ask why your Shrewsbury vegetable reporter has thought proper to introduce the words "noblemen's gardeners" and gardeners to "great noblemen" into the discussion? these remarks being foreign to the question at issue, as it mattered little whether the said judges were gardeners to "great noblemen" or ex-railway officials, so long as they possessed the necessary qualification and capacity to enable them to make just awards.—ONE OF THE JUDGES.

[We fully agree that noblemen's gardeners can be neither better nor worse as judges because of the position they happen to hold. Evidently "One of the Judges" feels himself more competent to sustain the "interests of horticulture and the horticultural Press" than some of the conductors of the latter are. This is a very ancient complaint, but we can assure our friend that it is not of a fatal character.

A judge, whoever he may be, is as open to have his decisions criticised as is a writer to have his published views controverted. But all discussions should be concentrated on the merits of the case in each instance, and not degenerate into personal inuendo. That was the weak feature of the communication of "An Old Hand" last week, and it is the weak feature of the above contribution. The repetition of the suggestion that our reporter was prompted to direct attention to a principle in judging of size *versus* quality (and in suggesting that the former predominated at Shrewsbury), because he had "not been invited to assist in the awards," is, to say the least an unfortunate insinuation, in this case certainly unmerited, and has a very obvious antithesis.

As "One of the Judges" is evidently under the impression that we were without sufficient grounds for the statement he quotes, and to which he courteously refers, we have now to say it was not made at random. We had when writing a list of our reporter's engagements as a judge this year, and now if the most valorous of the Shrewsbury judges will send us his list, also those of his colleagues, we will publish the respective numbers, and so remove the "conjecture" that seems to weigh on the mind of an excellent man.]

LARGE CHESTNUT TREES.

IN the early months of the present year I spent several weeks in the fertile and interesting island of Madeira, where my elder brother has resided for nearly sixty years. I cannot help smiling as I read the account of these American large Chestnut trees! 25 feet!! Now in the garden of my brother's house there is the dead trunk of a Chestnut tree; Macartney, Rêve d'Or, Reine Marie Henriette Roses mingled with Asparagus Fern clothe the giant corpse with verdure in one of its most graceful forms. Over the rugged barked trunk, cracked in many directions, quantities of sand lizards disport themselves basking in the sun, darting rapidly away as you move along. Several years ago this was blown down; fortunately it only grazed the corner of the house. Well, I am running away from the size; my brother told me it measured 33 feet round. So festooned was the trunk with the growth over it that I could not verify the measurement, but it had every appearance of being at the least 12 feet in diameter. But this was not the largest in the island. My brother said there was the shell of another, and within its walls a whist party had been known to enjoy their game. Its measurement I do not recollect.

To my thinking, however, these monsters of growth are as nothing compared to the size of some other things in that wonderfully fertile soil, which, wherever you turn your eye, is redolent of luxuriance. Every crack and crevice in the rock appears to contain sufficient of this wonderful soil, aided by the genial climate, to give birth to huge masses of scarlet Geranium, white Ageratum, and monster Cacti. A few things in this garden I did measure. A single red

Camellia, apparently 18 to 20 feet in height, and nearly the same in width of branches; the stem of this is 1 foot in diameter. The Bougainvillea goes up to the very top of the house, and one on the terrace measured 3 feet 4 inches round the trunk. The Cloth of Gold Rose spreads over the trellisworks for yards and yards, nor did I wonder that my good friend, Mr. A. Hill Gray, should go into raptures over it when he saw it.

But I shall perhaps be thought drawing the long bow with a vengeance when this is read. The back of the house is a comparative wilderness, where Camellias, Cannas, Passion Flowers, and other forms of garden beauty are allowed to follow their own sweet will unchecked and undisturbed. About 30 yards away from the house is a hard, apparently stony, road leading to the Vines and Coffee plants; it is supported by a stone wall as it rises up the hill. In this stony road by some chance a plant of the large single White Macartney Rose has found its habitation. Who planted it I cannot say, but my youngest niece, who is a long way out of her teens, says that as children they used to swing on its branches. The trunk of this tree, which is gnarled and knotted, soon divides into dozens of branches, varying in thickness from 2 to 7 inches. They run at about 7 feet from the ground parallel with it for 8 or 10 yards, supported by one or two rough poles, but at the end of these yards stands an Oak 60 feet high. The highest 6 or 7 yards of this tree are plainly seen over the roof of the three-storey house. When standing on the other side of the house in the flower garden, amongst these topmost branches numerous blooms of the Rose were plainly visible at the time of my visit in May. I was so struck with the extraordinary growth of this tree, and the marvellous contortions of the labyrinth of branches, that I made a sketch of the same, which is still in my possession. The trunk of this Rose about a foot from the ground I measured, and made it to be 8 feet in circumference.—Y. B. A. Z.

P.S.—Since sending you my notes on large trees I have received a letter from Madeira, in which my brother writes:—"Our Chestnut tree is of slow growth, and it must be older than the discovery of the island, I should say over 700 years old. It is at present, as you know, merely a shell, but 3 feet from the ground, when I measured it, it gave me 32 feet of circumference. The one at Campanano is 3 feet larger, and I can assure you that although the tree was alive and giving Chestnuts there was quite a small room in the interior, to say nothing of a door and window, and I have played whist inside it with table and four chairs, and two or three people looking on most comfortably. Some years ago a Dr. D— took the house adjoining the tree for a summer residence, and as he was fond of doctoring the poor he had a couple of beds inside it for one or two patients."—Y. B. A. Z.

RIPENED WOOD.

I DULY note "The Sceptic's" gentle reminder on page 282 *re* a subject fought out, but apparently not settled last year. There are, and doubtless always will be, exceptional cases where, favoured by local influences or cultural skill, the eye is arrested, and derives such satisfaction in the contemplation as to deprive it of that comprehensive view necessary to include so broad a subject. I have had to do with Pear trees similar to the one with which "Sceptic" points a moral, and such Pear trees—the pride of past generations—make, practically, little or no annual growth, being in fact a mass of fruit spurs.

I would not avoid the cracking of "Sceptic's" hard nuts, but the hardest nuts when cracked are often minus a kernel. In viewing the past season I, as one of the ripe wood men (may I say the ripe wood man?) will admit that it has given results similar to a dog dancing on its hind legs—it has not done well, but we are surprised to see it done at all. To "The Sceptic" it may be of little moment to adopt such simple precautions as were laid down in the original article on the subject; to me, if not a matter of life and death, it is at least a matter of living, hence the fruit trees, Vines, pot Strawberries, and a hundred things must still have all the benefits of light, air, and sunshine, which forethought is able to bestow, and, moreover, I venture to say that those who have obtained the best results this season may attribute their success to the attention paid last year to these details.

Prudence may take the place of Faith, and be means to the end. It is not necessary for me to repeat the tenets of that creed which was expounded in these pages twelve months since, and apparently a prolongation of the controversy will not, at present, do ought towards the conversion of a "Sceptic," nor will it tend to the perversion of—E. K., Dublin.

HAVING read the various letters on the ripened wood controversy, it seems to me that the statement "that the year 1894 was wet, and that therefore the wood of trees was not ripened," ought not to be allowed to pass uncontradicted, as throughout Ireland, at least, the month of September, 1894, was very warm and fine, the rainfall here, I think, being about half an inch for the whole month. October was also fine, and I think that most fruit growers will agree with me that these two fine months would be quite sufficient to ripen wood, and, as a matter of fact, it was ripe, and to this, as well as to the late spring uninterrupted by frosts, we owe the large crop of fruits this year.—E. D'O.

[The weather was very much the same in the South of England, the rainfall during September and October last year having been far below the average. We think, if reference is made to Mr. Symons' tables, it

will be found that from August 26th to November 26th the total rainfall did not exceed 2½ inches. There could be no finer weather for completing the growth of fruit and other trees.]

RIPENED WOOD: "SCEPTIC'S" NUTSHELLS.

YOUR sceptical correspondent seems to think that because the gardeners of Britain do not argue with him that he stands the proud victor over his theories. Does it not occur to him that the most experienced men, practical and scientific, do not consider his fanciful notions worth arguing about? If he thinks matured growth of no consequence he will let his fruit trees and Stephanotis grow into dense thickets, impervious to the sun. Does he?

I am stronger in my convictions by another year's experience that the best flowers of the Stephanotis are obtained from the strongest and best matured wood, to which the softer, weaker, unripened portions have been shortened. Does "Sceptic" never prune his Stephanotis? If not, I venture to say he will never make its flowers pay for marketing, if he should try them by that test. All the best growers know quite well that the thin soft growth of this year must be cut away in order that the stouter matured parts may break strongly, and afford wreaths of fine trusses of bloom next season. Will the thin unmatured shoots at the extreme end of the plant throw the same trusses as those that are produced from matured parts to which the shoots are pruned? There is not a successful grower in England can say they will. The soft wood of last year's growth is thrown away, being unable to perform its duties through lack of strength and maturity. The nutshell of the theorist are scattered by the practice of all the best cultivators in the kingdom.

As to Apples, again, the question arises, When has wood ceased ripening? A recent dictionary by me says, "The end of growth combined with complete rest." Summer gives the essential materials for storing; winter gives the "rest." Let us recognise the value of both, not get hold of just one idea, flog it to death, then raise a shout of triumph. What kind of a winter did the Jargonelle Pear pass through that gave its bountiful crop of fruit? The wood was ripened and the buds rested. The same question applies to the Cardiff Castle Vines. Our splendid crops of Strawberries are accounted for the same way—first good summer leafage, then "rest" for the crowns. Had we not a hard winter last year? When were flowering shrubs more beautiful than this year, and when had we finer Roses? When was the growth of trees more free and the foliage more beautiful? The fruit crops of this year are the combined result of matured growth, complete rest, retardation in starting, and the absence of frost during the blossoming period. Let "Sceptic" not forget that summer and winter go hand in hand in the production of flowers and fruit.

Then there is the seed question. To obtain good seed you must have good matured growth and good flowers, even of Asters, and to aid in this the blooms are thinned. Ripe seeds from ripened growth, not dead ones from unmatured stems, is the object of all raisers who best know their business. If others ignore your views and onslaughts on established facts I shall stick to you, my dear "Sceptic," as long as the Editor will give me space.—J. G. PETTINGER, *Strawberry Dale Nursery, Harrogate.*

RIPENED WOOD AND SEEDS.

ON page 248 Mr. J. G. Pettinger asks me "What I mean by a good crop of Grapes on sub-laterals?" I am unable to satisfy him on this point because I have never made such an assertion. What I said (page 207) was "After the laterals are stopped they send out sub-laterals, which in some cases have one or two embryonic bunches of Grapes on them. If these be left to grow they will be equally as good as those bunches left in the first instance. Those who know anything about Grape growing would never expect to get a good crop of Grapes on sub-laterals. That bunches, when they appear early, can be grown on sub-laterals equal in size, colour and flavour to those on the laterals is beyond a doubt, for I have seen many of them on the Vines I have had under my charge. This fact is worthy of the attention of your correspondent, for they are produced on the young wood of the current season and not on ripened wood."

Your correspondent says (page 248), "Does not the success of the bunch of Grapes largely depend on the stored up nutriment in the dormant bud?" Certainly not; the young growth, to a certain extent, is influenced by the amount of nutriment stored up in the Vine, the bud being nothing more than an embryonic shoot. If Mr. Pettinger will read my notes again he will see (page 207) that I say "we do not want our wood baked like it was in 1893 . . . but rather plenty of sun, with a good supply of rain, and then the leaves of the trees can do their work with greater advantage to themselves and their future crop."

Is this not a proof that I believe in matured wood? The branches of fruit trees must be filled with nutriment for the use of the future crop if it is to succeed. It is not much use having plenty of sun if the plants or trees cannot obtain sufficient moisture at the same time to form this nutriment, which is so essential for successful growth. I think the wood of all trees growing in a dry soil was more matured at the end of 1894 than it was in the previous year, although there was more sun during 1893. In referring to ripe seeds, did your correspondent overlook my remark (page 207) about Tomato plants being grown from seeds from green Tomatoes? I should be pleased to deal with the analogy he has introduced, but time will not allow me to do so at present, and I do not think very much practical benefit would be derived from it if I did.—W. D., *Turnford, Herts.*



CHRYSANTHEMUMS AT TEDWORTH.

AN article recently appeared in the Journal on the fine gardens of Sir J. Kelk, Bart. Mr. G. Inglefield, the gardener, is well known in horticultural circles as a fruit and vegetable exhibitor, but on our visit we found him busily engaged amongst his favourite Chrysanthemums. His 400 plants are exceedingly well grown, and are now fast developing fine blooms, especially the Japanese section. Noticeable amongst many others were Sunflower, Eva Knowles, M. Carnot, Mons. Panckoucke, M. Thérèse Rey, Col. W. B. Smith, Duchess of York, Mrs. W. H. Lees, Miss Dulcie Schroeter, and Miss Bronna Foster (good). The incurved are also showing good buds. They are well timed, and at the forthcoming exhibitions many grand flowers ought to be seen. The most promising are J. Agate, C. H. Curtis, Globe d'Or, W. Tunnington, J. Fallford, Baron Hirsch, Brookleigh Gem, George Cockburn, Lady Dorothy, Lord Alcester, Lucy Kendall, J. Doughty, John Lambert, and Madame Darrier. The average height of the whole is from 4 to 6 feet, and the collection as a whole reflects great credit on the grower.—VISITOR.

THE TOKIO NURSERIES.

JAPANESE nurserymen just now seem to be pushing their trade in new directions, and I notice several of their catalogues are got up and printed in thoroughly English style, although maintaining a little of the quaintness that characterises most of their literary productions. Having just received the catalogue of the above establishment, which is not quite so pretentious as the one issued by the Yokohama Gardeners' Association, I notice that Chrysanthemums form an important part of it. The prices asked are 40 to 50 cents each for catalogued kinds, although ordinary Chrysanthemums, whatever they may be, can be supplied at cheaper rates.

The choicest are named in Japanese with an English translation accompanying it, and are divided into sections according to colour. Thus:—Section I.—White. Section II.—Rose and pink. Section III.—Scarlet and crimson. Section IV.—Orange. Section V.—Yellow. Section VI.—Other best kinds. Section VII.—Green. Section VIII.—Black or deep crimson. In the Tokio Nurseries' catalogue no illustrations of new Chrysanthemums are given, although one or two plates of other flowers appear. There are 102 pages altogether, and many other plants, such as Lilies, Azaleas, Camellias, Palms, and Ferns, find a place.

The proprietors, speaking of the Chrysanthemums, say, "Although many new ones have been obtained by seedlings and slippings in different nurseries outside of Japan, still for most of the rare, new and interesting types Japan enjoys, as before, the prestige of being the home of this celebrated Imperial flower." Let us hope it may long continue to do so, and have in store for us many surprises by which, in a great measure, its popularity has hitherto been sustained.—P.

CHRYSANTHEMUMS IN THE COLONIES.

REFERRING to the reports of the Cambridge (N.Z.) Chrysanthemum Society, which were given in the *Journal of Horticulture* for 19th September, it would seem that the popularity of the flower is by no means confined to New Zealand, but that in Australia the interest in its cultivation is widely spreading. Mr. S. B. Levick, of Sydney, for several seasons has supplied the "Australian Agriculturist" with a useful review of the season, in which an analysis of the best varieties is given. The Colonial growers are, of course, a little behind us with the novelties, but they seem to secure them as rapidly as possible, and grow them with just as much enthusiasm as the home growers and exhibitors.

On the subject of novelties, which Mr. Levick seems specially capable of dealing with, a short extract from a recent article by him may be interesting to readers of the Journal. He says:—"The number of new varieties exhibited this season for the first time is rather large. Those noted were Mrs. James Allard, Vera May Fraser, Mdlle. Thérèse Rey, Souvenir de Madame C. Bullier, Princess May, Regularity, Duke of York, Beauty of Exmouth, Waban, Charles Blick, Comte F. Lurani, Lawrence Xavier, E. L. Jamieson, Edith Rowbottom, Thomas Wilkins, Mrs. F. L. Ames, Potter Palmer, Madame Calvat, Silver King, President Borel, Primrose League, Robert Williams, Achilles, Vice-President Calvat, W. K. Woodcock, Wilfred Marshall, Yellow Queen, Pearl Beauty, Judge Hoitt (Anem), Brookleigh Gem, Eda Prass, L'Ami Etienne, Madame Edouard Rey, Mrs. Bruce Findlay, Baron Hirsch, Mrs. Jerome Jones, and Lady Gormanston."

"As a warning to growers purchasing novelties, there is a variety which may be catalogued this season by nurserymen in some of the other colonies, under the name of 'Golden Gate,' which has been certificated in England and elsewhere. This is evidently the true name of 'The President,' which has been distributed here for the past three seasons, and which is already included in most collections. Last season I imported 'Golden Gate' myself, and I understand it has been also found in Victoria to be synonymous with 'The President.' The same variety is by some growers often misnamed 'Danae.'"—P.

OLLA PODRIDA.

SINCE the partial collapse of the bedding-out system, and the introduction of mixed borders, annuals both hardy and half-hardy have been more extensively used, and there can be no doubt that they not only tend to brighten the border, but also afford beautiful flowers for cutting for house decoration, their, in many instances, light and graceful forms and diversified colouring make them most suitable for this purpose. As I have frequently said, I do not think double flowers are nearly so valuable as the single ones, and those who have a good supply of herbaceous plants and annuals need never be at a loss. Amongst those flowers which have suddenly found themselves much sought after is

THE SALPICLOSSIS,

a half-hardy annual, having singularly beautiful flowers, many of which look almost like enamel. They are varied in colour and free in growth, but of slender habit, so that it is always advisable to put a few stakes to them to prevent the wind bending them about. Some of the flowers are of a rich ruby shade, others dark red striped with gold, and, again, lighter red also striped with gold. Then there are blue with gold stripes, and yellows of various shades from primrose to orange. The stems are sticky and the flowers emit a disagreeable smell, which is particularly strong after rain or heavy dew. It is somewhat less objectionable when the flowers are cut, and this should therefore be done after the dew is off.

MARVEL OF PERU.

This is one of those plants which seems to me to have been unaccountably neglected; it is so remarkable in its character and withal so beautiful and so deliciously sweet that I very much wonder it is not more used. I suppose no one, except for his own satisfaction, has explained the striking peculiarity of this half-hardy annual. Although a native of South America it shuns the garish light of day, and it is not until the sun begins to sink that it opens its small but pretty flowers, and then as night comes on it fills the whole part of the garden where it is growing with the most delicate and pleasant perfume. I have a bed of it at the present moment beneath my dining room window, and the whole house is filled with its fragrance, which passes off as the sun gains power. It is a great favourite with the wild bee, which taps its long slender tubes at the base to get at the nectar which it encloses; it is a favourite, too, with the hummingbird sphinx, though I have not seen it of late years. This plant requires only the ordinary treatment of a half-hardy annual, and makes large fleshy roots somewhat like a Dahlia, and these of course can be preserved over the winter; indeed, I once did so, but it is not worth the trouble, as good seeds can always be procured, and I found the seedling plants twice as vigorous as those grown from the old roots.

CANNAS.

The great development which has taken place in this class of sub-tropical plants during the past ten years is very remarkable; we were formerly in the habit of admiring them only for their foliage. The flowers were inconspicuous; indeed, one hardly looked for them at all, but some of the French hybridisers thought they saw their opportunity. I do not know what were the flowers used, but one sees that the objects at which they evidently aimed have been successfully attained. These were two, the enlargement and beautifying of the flowers and the dwarfing of the plant, and we have to-day plants from 1 to 2½ feet high with a brilliant spathe of flowers of beautiful colours. There is one great recommendation Cannas have, and that is the ease with which they are cultivated, in fact they are quite as easy to grow as the Dahlia. They form large fleshy roots, which should be taken up as soon as the first symptom of frost touches the foliage, storing in a dry place free from frost. In the spring they must be potted or placed in boxes in a close frame, with some bottom heat. As soon as they begin to show signs of growth they should be divided, or if much increase is required the shoots may be taken off with a heel, just in the same way as Dahlias are treated. They should be planted out when all fear of frost is over in small groups, which I think is the preferable way. They are very much used, by those who have large places, for the conservatory in late autumn and early winter. Numerous varieties are being added to our list, both from English and foreign raisers, and doubtless in a short time the difficulty will be what to choose and what to avoid; but on this subject I may have more to say by-and-by.

OSTROWSKIA MAGNIFICA.

I had an opportunity in June last of seeing this magnificent Campanuloid in a flourishing condition in the garden of Mr. Fremlin, of Watlington, Kent. It was not in bloom, but showing strongly for it; both the old and seedling plants had withstood the severe ordeals of frost and drought without apparent injury. It seeds freely, and the seedlings vary very much in colour, and it is just possible that we may obtain some considerable variations, and in the hands of the hybridisers some new forms. There must be some time to wait before the seedlings flower, but it may be said of them with truth that they are worth waiting for. The plant is vigorous, the stripe well furnished, and the blooms large. As far as I know, it is the king of Campanulas.

CENOTHERA MARGINATA.

This is, I think, the most beautiful of the dwarf Evening Primroses. Its long white flowers are deliciously fragrant, and from their size are conspicuous objects in the border. It has a curious habit of spreading;

thus a plant that I have of it has gone underneath the walk and appeared in the opposite border, and it seems now inclined to take up its berth in one of my Rose beds. I stopped its progress last year by cutting some of it off for a friend, but it is now apparently recovering this treatment. It is one of those short-lived beauties, which we are obliged to look on with some degree of regret, for we know that its beauty is evanescent.

ROSE BEAUTÉ INCONSTANTE.

This is one of those charming high-coloured small Teas, which are so useful for the buttonhole or other similar purposes. It has a good pointed bud, the colour is a combination of yellow, apricot, and cream, with occasional tints, which gives such a charm to other Roses of this section. Its habit is vigorous, and those who are seeking for something more than exhibition Roses will do well to add it to their collection; and I think it very likely it will be useful for the pillar, as many of the same section undoubtedly are.—D., Deal.

DICKSONS', CHESTER.

A CITY replete with historic interest is the ancient stronghold of Chester. In medieval times its beleaguered inhabitants not unfrequently had cause to be thankful for the security afforded by its mighty walls, which to-day, grim and crumbling, instinctively turn the current of our thoughts to the ages gone before. Though these walls have ceased to be needed for defensive purposes, let it not, however, be supposed that they serve no useful purpose now except as relics of the past, for their summit forms a delightful promenade from which the beauty of the surrounding country may be seen to perfection, especially at those points from whence a fine view of the valley of the Dee is obtained, where the bold outlines of distant hills—mapped out in many tints of green—rise in steep undulations from their watery base. To the archaeologist this picturesque old city teems with interest at every step, and affords a continuous succession of surprises. The infinite variety of gable-fronted houses with their elaborately timbered walls form quite a study in themselves.

To horticulturists in every land Chester is inseparably connected with the name of Dicksons, under which distinctive title one of the greatest nursery and seed businesses throughout the world has been built up. The nurseries "extend over 450 acres," and everything required for the garden or farm can be supplied in any quantity. To do this, as a matter of course, everything is conducted on a large scale. To begin with, we find a little town of glass, fields of herbaceous plants and flowering trees, miles of drives through plantations of shrubs, Coniferae, and fruit trees. To attend to this great business 500 hands are constantly employed, and all who are acquainted with the complicated nature of the nursery trade must fully understand that to carry on the work successfully the directorate must be men of great enterprise and business capacity, who are also thoroughly supported by a departmental staff, each proficient in its particular speciality. It is only when these conditions are found in combination that such splendid examples of British enterprise can be conducted in a satisfactory way. To describe the sights met with during a long day's tour through these nurseries would require an amount of space which could scarcely be connected with the word reasonable; it would also need a memory far better than mine, unless supported by copious notes taken on the spot, but, alas! those jumbled notes do not always unravel themselves when home is reached. I still, however, retain a vivid impression of a few salient features which will perhaps serve my present purpose.

One of the first things to attract attention on reaching a series of light span-roofed houses was a remarkably fine collection of pyramidal-shaped Peach trees in pots, having clean healthy foliage, and showing well-ripened wood, just such specimens as the owner of many an orchard house might well envy. Pot Vines are also extensively grown—that, too, in such a way that highly satisfactory results from them may be confidently anticipated; moderately strong hard canes, unusually short in the joints, were their characteristics. Many very long span-roofed houses were devoted to Vines of this type, and they had an especial interest to me. The space underneath the Vines was in many instances filled with small Ferns in pots, looking the picture of health, both these and the canopy of leaves above being singularly free from insects.

We pass on through houses filled with Crotons, Dracænas, Dipladenias, Eucharis, Ixoras, Ardisias, Gardenias, Maples, and various other plants, till we come to the pot Roses. Ah! what Roses; how fine were the "Maréchals," the Niphetos, the William Allan Richardsons, the Reine Marie Henriette, in fact all. In the houses devoted to climbing Roses thousands of Teas of the most approved varieties were looking healthy, vigorous, and contented in light houses or pits, every plant bearing striking testimony to two things—viz., that the soil at Chester and the attention given are just what they require. Several houses are devoted entirely to Palms, which may be seen in every stage of development, from the young seedling just emerging from the soil to fine healthy vigorous specimens, 8 or 9 feet high. As might be supposed, Kentias are the most largely grown, their fine lasting qualities making them favourites everywhere. The demand for Cocos Weddelliana is still good, on account of the singular gracefulness of its habit, and I noticed a promising group of young plants in one of the smaller houses. Thousands of seedling Tuberous Begonias, both single and double, showing great variety of colour, looked the picture of health, and a couple of houses filled with large well-grown plants must be passed over

without minute description, as I have yet many things to treat of. I must, however, not forget to mention a new variety of *Asparagus* which struck me as being a very promising one, entirely distinct from the older introductions; it is named *arborea refracta*. Those showy old plants, *Imantophyllums*, are largely and well grown; though not in flower their vigorous healthy leaves were quite attractive. Finely grown plants of *Show* and *Fancy Pelargoniums* were thinly arranged in long, light structures, where they will doubtless make a grand display next spring.

Growing in the open air near the houses I noticed a form of *Cupressus* quite new to me. The inquiry was soon made, "Oh! what have you here? something good I presume?" "Yes," was the reply, "that is *Cupressus macrocarpa lutea*, which we are sending out this year, and consider it a splendid plant for conservatory and house decoration, but here we find it requires a little protection in winter if planted in the open air." The colour of this fine shrub is good, its habit light and graceful, but to my mind the chief feature about it is that the stem is wonderfully clean and straight, and the outline of the plant even from top to bottom. The geometrical flower garden near by was quite shorn of its beauty, as the *Pelargonium* shoots had just been cut to the ground and inserted as cuttings for next year's supply. A long drive from the entrance to the nursery was, however, gay on both sides with lines of *Tuberous Begonias* of distinct shades of colour, producing a novel and beautiful effect.

In the quarters devoted to herbaceous and other hardy flowering plants there was abundant material to provide a feast of beauty to the eye and interest to the mind. How showy and unique in appearance the *Montbretias* were—gems indeed for any garden. Then the *Liliums* of the *speciosum* type were in full beauty. *Helianthus*es were there in all their glory, a noteworthy variety being *H. rigidus*, Miss Mellish's variety, this was fully 7 feet high, the flowers being large and of fine colour. The *Achilleas*, *Alliums*, *Auhrietias*, *Anemones*, *Michaelmas Daisies*, *Eryngiums*, *Gaillardias*, and hosts of other popular garden flowers I must leave and pass on to hardy shrubs both flowering and otherwise. In wending our way to some choice kinds of these we come upon a fine example of the *Weeping Copper Beech*, so graceful the spread and droop of its branches that no garden of pretension should be without a specimen. Numbers of the hardy *Hibiscus* were noted just opening their flowers, and the sight of them reminded us how little they are grown; we might also add how little known.

Among the *Berberis* I singled out *Thunbergi* as being an exceeding good variety, producing in autumn leaves of most brilliant colour. How showy, too, large masses of *Hippophaë rhamnoides* (the *Sea Buckthorn*) appeared, the bright orange coloured berries contrasting well with the silvery grey leaves. The numerous family of *Spiræas* were represented by large breadths of fine healthy plants. *Reevesiana flore-pleno* are spoken well of, and I might go on enumerating by the score the names of shrubs noted, but I have rather endeavoured to pick out a few species and varieties which, among the many good things, do not seem to receive the attention they deserve. One other that comes under this head is *Acacia rosea*, an uncommon and beautiful variety, of which I noticed clean, shapely standards. Fine, healthy looking *Rhododendrons*, grown in loam, may be seen by the thousands, and *Azaleas* of the *Mollis* and *Ghent* types seem to thrive equally well in the same soil. Forest trees by the million, and *Coniferæ* in infinite variety, covering many acres, all help to supply an ever-growing trade.

These things strike the visitor with wonder, but the climax is reached when we come to the fruit trees. Here we find *Apples* and *Pears* trained in every conceivable form, and grown by thousands; pyramids in great variety and sizes, grafted on both *Pear* and *Quince* stocks, cordons literally wreathed with fruit; fan and horizontal-trained trees, and palmette verriers in splendid condition, the wood being short jointed, well ripened, and bristling with fruit buds. It is an interesting sight to see how much ingenuity is displayed in facing these trained trees in various directions, so as to make the most of every inch of space, and secure thorough exposure to each branch.

A very conspicuous variety among *Apples* is *The Queen*, which is coming rapidly to the front, and deservedly so, as quite small bushes were carrying grand fruit of a streaked rosy colour. An early variety, bright red in colour, which struck me as being a particularly good one, is known as *Christie's Pippin*. *Hornead Pearmain*, *Melon Apple*, *Fearn's Pippin*, *Irish Peach*, *Scarlet Nonpareil*, and *Cox's Orange Pippin*, all represent varieties of good quality for which there is great demand, and the *Bismarcks*, *Suffields*, *Codlins*, and *Nonesuch* are making the fruit quarters look imposing with their weighty fruits. *Magnate* is a most promising *Pear*. The fruits as seen here were of exceptional size. *Clapp's Favourite* was in extra good condition, and *Swan's Egg* was, wherever seen, loaded with fruit. There is, I am sure, no occasion for me to encumber these notes with mere lists of varieties, nor to enlarge on the fine condition of the trees, whether they be *Peaches*, *Plums*, *Apples*, *Pears*, or small fruits. All are transplanted frequently, and noted for their sturdy wood and network of fibrous roots, such trees as will carry the hall mark of excellence wherever they are sent throughout the land, and the work of doing this will soon be commenced in earnest, as the demand for *Chester* fruit trees seems to be ever on the increase, and I opine there will be no falling off for some time to come. The fruit growing industry of Britain is a great one, annually becoming greater still, for the multitudes who inhabit these isles have now commenced to look on fruit as a wholesome health-giving food. When they have learned to utilise it to its full extent in their daily dietary, then the *Apple* will become almost as universally eaten as bread.—ROVER.

CUPHEA LLAVÆ.

MOST of the *Cupheas* are singularly attractive owing to the peculiar form of their flowers and the distinct colouring. Some also are useful plants for pots and borders, notably *C. platycentra*, which is still a favourite with many. The species, of which a flowering spray is depicted in the engraving (fig. 50), has been brought into notice more recently, but is well worthy of a place amongst interesting plants of this character. As occasionally seen the plants grow 9 or 10 inches high, with elliptical acute leaves; the flowers have long green and reddish-ribbed tubular calyxes, covered with dark hairs; the petals



FIG. 50.—CUPHEA LLAVÆ.

relatively small, brilliant scarlet, each with a black spot at the base; and the stamens are covered with long purple hairs. The plant seems well adapted for culture in pots in a cool house.

ANTHURIUM SCHERZERIANUM.

UNLESS potted in much too close and heavy soil this popular stove plant thrives fairly well; but we think even the orthodox mixture of fibry peat and charcoal too close for first-class results. To be sure, if the peat be fibry enough, and abundance of charcoal or crocks be added, the plant not overpotted, is carefully watered, very satisfactory success will attend the cultivator if the other necessary conditions—heat and cleanliness—he insured. But we would recommend a mixture of sphagnum and charcoal alone.

It is perfectly evident that in its native home this plant does not bury its roots in soil, but is a true epiphyte, which delights in moist air such as exists among growing mosses. It is, in fact, very much of the nature of an epiphytal *Orchid*, the roots of which will thrive and find sustenance enough in air alone if moist. Such conditions may not be very easily imitated, but a porous potful of clean fresh sphagnum and charcoal alone offers a medium in which *Anthuriums* thrive surprisingly.

Half filling the pots with crocks we consider a mistake. Ample drainage is decidedly necessary, for stagnant water is sure to cause the roots to decay, and then sickly plants must result. At the same time we recommend filling the pot with moss and charcoal from the bottom, with the exception of a concave crock over the drainage hole. When the pots are half, or even one-fourth, filled with crocks the best roots are starved, for to the bottoms of the pots they go, and when there they should find something to live on. I can fancy someone exclaiming

that there cannot be much in sphagnum, and perhaps there is not; but quite as much as in peat, so long as it remains fibry, and when it ceases to be so it is worse than useless.

A more generous diet assists them, however, as we have proved. This should not be in a substantial form, such as loam or other soil, but should be conveyed to the roots of the plants by means of water. We are learning now that a soil for plants in pots if mechanically right is very easily made chemically, and that soil in pots, however generous to begin with, speedily has its good qualities exhausted by the plants or washed out by repeated waterings, and needs continual replacement by means of support. We like pots well filled with roots, for then we can keep the compost always moist with water tainted, and no more, with manure. We are never sure of not doing mischief with watering when small plants are in large pots, but it is quite different with this order reversed.

When our Anthuriums fill their pots with roots we do not shift the plants, as some do, unless that be an absolute necessity; but we taint the water with sewage, which is as good and cheaper than guano, and we find the result to be a magnificent growth such as the plants never attained under the orthodox treatment.—H. G.

SUNNINGDALE PARK.

SOME months ago there appeared in the *Journal of Horticulture* a reference to the Orchids cultivated by Mr. F. J. Thorne for Major W. J. Joicey in the gardens of this charming estate, but no reference was made to the other crops that are grown so well. This was an omission that should be rectified, and endeavour will now be made to do so. Not that the Orchids, which are the especial favourites of Mr. J. J. Joicey, who indeed collected many of them when travelling some few years ago, will be left out altogether, but now the impressions will be of a more general character instead of being confined to any one particular class of plants.

Though not comprising such a large number of acres as many estates in the county of Berkshire, this is one of the most beautiful both in respect of natural surroundings and in the condition of the grounds as managed by the excellent gardener who has now been there for several years. The mansion stands on a somewhat commanding eminence, whence views of the country may be had for miles in nearly all directions. One end is approached by lawns of considerable extent, and in such good order as to prove the attention that is devoted to them. In places, however, traces may be seen of the long drought that prevailed some time ago, though these are rapidly disappearing under the influences of the more suitable weather that has prevailed of late. On this lawn are many handsome trees, one in the middle—a Beech—being especially noticeable by reason of its noble dimensions. At the sides are Laurels, Laurustinuses, and Rhododendrons, the latter being a most beautiful feature during their flowering period.

The main drive, which is flanked by a large number of Rhododendrons, comes from the entrance in a bold sweep, culminating in a circle before the door of the mansion. Immediately facing this entrance is a handsome bed of those shrubs encircled by the finely gravelled roadway. Many of the best varieties in cultivation have been planted at various times, and that they are perfectly at home is seen by the strong growths of healthy, green leafage that are made annually. In the flowering time—it was once the writer's pleasure to see them—they present a mass of vivid colouration, rich in all the tints found in this family. On the right, as one faces the house, is a view across the estate that is bounded by trees standing on the hillsides beyond a valley. The idea of planting a clump or two of Rhododendrons on these slopes was a capital one, as the general effect is greatly enhanced thereby.

In the valley is a small lake, made some two or three years ago, which is bordered on one side in a charming manner with various plants. Small beds have been formed, and in them are planted several of the most showy of our hardy perennials and Roses. Of the latter the collection is a good one, comprising as it does some of the best varieties. By this is meant not sorts that produce one or two good blooms only on a plant, but those that afford the opportunity of cutting several flowers and still not present a destitute appearance. Great clumps of *Polygonum Sieboldi* produce a good effect, and when the other side of the water is laid out, as it doubtless will be ere long, in an artistic manner, this vale with its numberless points of interest will be worth a journey to see.

Walking now away from the house and chatting on matters horticultural the while with Mr. Thorne, we pass borders of perennials here and there all adding their share to the floral feast and finishing at the entrance to the vegetable and fruit gardens, with a long wire arch over which Crimson Rambler Roses have been trained. The utility of this Rose could not possibly be better illustrated than in this manner, as, when at the zenith of its beauty, it was the recipient of unbounded admiration from everyone who beheld it. In the gardens, surrounded by walls, we again find numbers of flowers. These we learn are grown for the benefit of Mrs. Joicey, who is a great lover of flowers of almost all kinds, and requires unlimited supplies for decoration. Certainly they are forthcoming, for one might cut hushels and still find plenty more. Annuals, biennials, and perennials are grown; in fact, everything that will afford cut bloom besides looking well on the plants.

"This is the chicken yard," says our guide. We look round for the poultry, but can see nothing but long rows of *Chrysanthemums*; "at

least, it used to be," supplements Mr. Thorne, noticing the look of amazement. Whether good fowls were grown there or not we are unable to say, but can answer for the Mums, for they are such as would gladden the heart of a Molyneux. The plants are clothed with stout, leathery leafage, borne by hard, thoroughly ripened stems, such as cannot produce other than good flowers. Of course, they were in their flowering pots, but had not yet had any stimulants, this clever grower not considering high feeding advisable until the pots are about full of roots. Some are grown for large blooms, and others again as hushes to afford flowers for cutting, but over all is an air of strength and health that proves the treatment adopted to be correct in all ways.

Inside the garden proper things presented a very animated appearance. Plants were standing everywhere—not confusedly by any means—in good order and condition. There were Zonal Pelargoniums for flowering at Christmas, and the brilliant Mrs. Joicey Carnations for blooming at all times. Though not widely known, this is a grand variety, with faultlessly formed flowers of a rich scarlet colour. In the frames are various plants, such as *Streptocarpus*, of both young and old plants, and throwing an abundance of flowers; *Cyclamens*, that promise innumerable blooms by-and-by, if solid corms and clean healthy foliage may be taken as a criterion; *Amaryllis* in goodly numbers, almost all of Mr. Thorne's own raising; and—but it is impossible that all can be named, so we must leave the remainder and adjourn to the houses, to see whether there are not many plants grown equally as well indoors as others are out.

Orchids here, Orchids there, Orchids everywhere. Not many were in bloom, however, but those that were proved the quality that is to be found at Sunningdale. Mr. Thorne has a *penchant* for hybridising, and several of the results of his labours are highly creditable. Look where one may, on all sides are flowers or seed pods, with labels covered with hieroglyphics denoting the parentage attached. What will be the results? Patience, the Orchid fraternity will know at the proper time; but all may be assured that nothing lacking one single point essential to the making of the perfect flower will ever see the outside of Sunningdale Park. There are several *Cypripediums* in flower, a few *Cattleyas*, *Odontoglossums*, and others, but as we cannot do justice to the collection here we will leave it now and see to other things. The cleanliness of the houses and their occupants, it must be added, reflect the highest credit on all concerned in their management.

If health reigns supreme in the Orchid department, so also does it in the other houses, where most kinds of plants are grown. Young *Pandanus* in 3-inch pots were pictures, while *Crotons* of various sizes and shape were, for decorative purposes, little short of perfect. The colours were exceedingly rich, and the plants splendidly clothed with leaves. Then there were *Arum Lilies*, just lifted from the open ground; *Cyclamens* in bloom; *Dracenas*, *Acalyphas*, *Gardenias*, *Allamandas*, *Stephanotis*, *Ferns*, *Palms*, and others, all apparently perfectly at home in their surroundings. If they were not so they undoubtedly ought to be, for they receive the best attention that skill and a thorough knowledge of their requirements can devise. In addition to all these there were some superb specimens of *Celosia pyramidalis* in 8-inch pots. They were dwarf, symmetrical, and splendidly flowered, proving the culture, as well as the strain, to be of the best.

If flowers are a good feature, so also are fruits, for these are grown not only in large numbers, but in splendid style. Under glass Grapes are the principal crop, and very pleasing they were to look on. A couple of houses of Black Hamburgh, with medium-sized bunches of well-finished berries, were first noticed, being quickly followed by another structure containing Lady Downe's and Muscat of Alexandria. Both these varieties were good, the former especially so, the bunches being of splendid shape, and the berries of good size and appearance. Some of the Muscat bunches were rather loose, but the colour left little to be desired. Peaches and Nectarines receive all due attention, and repay it by producing enormous crops of good-sized luscious fruits. Though nearly all cleared at the time of this visit, the trees, by the healthy leafage and clean straight growths, proved the management to be of the best in every respect.

From Peaches and Nectarines under glass it was but natural for us to adjourn next to see those out of doors. Here they were carrying fruits—at least, the majority of them—and very well they looked. The training of the trees is very praiseworthy, every branch and shoot having ample room for perfect development, without which they could not afford such satisfactory results as is the case at present. All the Morello Cherries had been removed from the trees, which were, equally with the Peaches and Nectarines, in admirable condition. Very well indeed looked the bush Apple and Pear trees in this garden, some carrying fruits whilst others had been cleared. These are all vigorous trees that will continue to bear for many years to come. Besides the trees in the kitchen garden there is a large orchard containing Apples, Pears, Plums, Damsons, and Nuts, most of which have borne well, though not in the case of the two former so heavily as last year.

Good order, combined with excellent culture, is the prevailing feature amongst the vegetables, of which all kinds at present in season were seen at their best. This is what may be termed a natural consequence of the thorough working that the soil is accorded, and the rational dressings that it receives as experience orders and opportunity permits. But the allotted time had flown, and we had just time to adjourn to Mr. Thorne's house to pay, under Mrs. Thorne's able auspices, the needful attention to the inner man, ere we were compelled to make our way to the station and home.—NOMAD.

FRUIT-GROWING IN CALIFORNIA.

IN a report to the Foreign Office on the trade of the consular district of San Francisco for the year 1894, Mr. Wellesley Moore, Her Majesty's Acting Consul, states that owing to a number of causes, such as glutting of the market, hard times, unsatisfactory service, and the railroad strike, the prices realised for Californian green fruits in the Eastern States ruled very low in 1894. On account of the almost total failure of the crop there the season should have been a prosperous one for the Californian fruit grower, who, so to speak, had the great market of the east largely to himself. This market was, however, kept constantly glutted, and the prices to the grower thereby made ruinously low.

Such having been the case in 1894 with the eastern crop almost a total failure, it is stated that when the eastern crop is a normal one, or unusually large, the result will be one of disaster to the army of fruit growers in California and a serious crippling of the entire green fruit industry of that State.

In the earlier years of the auction plan of selling fruits (a system first introduced in connection with the sale of Californian fruits in 1887), it was comparatively easy to regulate the distribution in the east from the fact that over 90 per cent. of the shipments were made through two mediums, which rendered it possible to regulate its distribution. Within the past year or two new conditions have arisen. In place of the great bulk of the fruit passing chiefly through two hands, a large number of co-operative companies, brokers, commission men, and others have entered the field, and have been making indiscriminate shipments to the various eastern markets, resulting in disaster all round. Each shipper has naturally endeavoured to hide his movements from the others, and the result has been that all have worked in the dark, and the forwarding of fruit has been almost entirely a matter of guesswork. With a view of distributing the fruits more intelligently, and thus preventing a glutting of the eastern markets, a Bureau of Information has been established, which will be supported by all persons engaged in the fruit business. This bureau will issue daily bulletins to all subscribers, keeping them fully posted as to the conditions of the eastern markets, so that they can intelligently determine where their fruit is required, and can be disposed of to the best advantage. It has been decided to have only one auction room in each city.

The shipment of fresh fruit direct to London, which was tried as an experiment two years since and suspended in 1893, was again resumed in 1894. On August 5th a train, consisting of eleven refrigerator cars, was despatched to New York, and the fruit was there transferred to fast steamers. The time occupied on the journey was twelve and a half days, and the fruit is said to have arrived in good condition. This shipment was followed by others, but the expenses were very heavy, and it is felt that unless the fruit can be laid down at a smaller cost for transportation, and with a smaller per-centage of loss, the English market will not prove a profitable field to work.

The unsatisfactory prices which growers have received from the commission men and jobbers have encouraged the growth of co-operation in the marketing of orchard products. The success of the Southern California fruit exchanges in the handling of Citrus fruit and the Campbell Fruit Union of Santa Clara County, for the manipulation of preserved fruits, are said to have largely brought about this result. Various local exchanges sprang up throughout the State, and they have now effected a central organisation, known as the Californian Fruit Exchange, situated in San Francisco.

These exchanges handle all the produce of their members, which is sent to them direct from the orchards. It is then graded by machinery, and the grower obtains a receipt specifying the variety and weight of each grade. From this time its identity is lost, all being put or dried together, as the case may be, sold by the Association, and the proceeds distributed after deducting the necessary charges. The results attained are stated to be far more satisfactory than when each grower marketed his own fruit. The association is able to make better terms with the purchasers, handle the product with less expense, and prevent too much fruit being thrown on the market at one time, thus realising better prices than were obtainable under the old method.

Experiments in shipping fruit to the Eastern States by the Perkin system have been tried and have proved very successful. The principle is very simple. Attached to the locomotive is an air-compressor, in which the pressure of air reaches over 80 lbs. to the square inch. Air compressed to this extent becomes heated to such a degree that the germinal life it contains is destroyed. The sterilised air is passed into a receiver, where it is cooled and then forced into an air-tight car into which the fruit is placed. The germ-laden air is in turn forced out of the car, and the fruit is carried to its destination in perfectly pure air. With but little loss of power to the engine, this process is kept up during the entire journey. Where only pure air reaches the fruit, the process of decomposition is arrested for a long time. There is also a great saving effected by dispensing with the ice in the car, thus saving its cost and allowing more room for fruit.

The importation of beneficial insects from Australia to destroy pests that affected the fruit trees of California is said to have proved very successful; some of the pests, such as the cottony cushion scale and the black scale, having disappeared in many orchards.

Mr. Moore reiterates the advice given to intending settlers not to invest in land until they have been in California for one or two years and acquired some knowledge of the country and of the methods of doing business there. Under the present condition of things, many people consider it impossible to make a fruit orchard or farm pay. At

all events, a man must be favourably situated to do so; and if he buys land without a full knowledge of what he is about, he is very apt to regret his bargain before he has been long in the country. Many new settlers fail through buying too much land and not keeping enough working capital in hand. Others buy orchards stocked with poor varieties of fruit trees, or badly arranged, and can never arrive at satisfactory results, no matter what capital and labour he expended on them. There is no difficulty in renting or leasing land in any part of the State and thus ascertaining if they have an aptitude for the business of fruit growing or farming before sinking their capital in an undertaking from which they will find it almost impossible to withdraw; certainly not without heavy loss.—("Journal of the Board of Agriculture.")

A BLACK COUNTRY SHOW—WEDNESBURY.

THE Wednesbury New Town Horticultural Society recently held its sixth annual show in the Red Home Grounds, New Town, Wednesbury, thrown open for the occasion by permission of Councillor J. Oldbury. It was by far the best show yet held by the Society, and was considered to be one of the finest ever held in the heart of the "Black Country." The vegetables were exceptionally good, and considerably exercised the judges in the adjudication of the awards, the Leeks, Onions, Potatoes, and Parsnips being remarkably fine, and amongst the flowers most praiseworthy were the Asters and Dahlias.

In the nurserymen and gentlemen gardeners' classes Dahlias were most prominent, and in the class for twenty-four Show varieties Mr. W. Pemberton, Coal Pool, near Walsall, gained the premier position. He had very fine blooms of such as Duke of Connaught, Colonist, Mrs. Langtry, Arthur Rawlings, John Walker, R. T. Rawlings, Harry Keith, J. T. West, and Mr. Gladstone. Messrs. Townsend & Son, Worcester, obtained second prize for a very good lot, containing Robinia, Harry Keith, William Rawlings, Gaiety, Sunray, John Walker, and Colonist. Messrs. Shaw, Kidderminster, and G. Forty were placed equal third with very good blooms. The Cactus varieties were well represented, and Mr. G. Forty took first prize with a capital stand of twelve blooms, including very fine examples of Gloriosa, Matchless, Robert Cannell, Ernest Cheal, Kynerith, Lady Penzance, and a beautiful new seedling of the Lady Penzance type, soft salmon in colour, and was considered to be the finest flower in the show. A certificate of merit was accorded it. It was raised by the exhibitor, and named W. B. Child. Messrs. Townsend & Son came in second with meritorious blooms, including several of the varieties just named, and Mr. W. Shaw third with a clean assortment. For twelve Pompons Messrs. Forty, W. Pemberton, and Shaw were respectively first, second, and third with very pretty and well arranged blooms. Asters were also well shown, and fine examples of the "Comet" section were amongst a stand of eighteen varieties exhibited by Mr. Forty, and who deservedly secured the premier award. The Pansies were so good that hardly a faulty bloom could be found in boards of twenty-four varieties, the prizetakers being Messrs. W. Pemberton, W. K. Deeley, and W. Shaw in their respective order. No less than ten exhibits in the class for six kinds of vegetables were put up for competition, and the prizes were awarded to Messrs. Pemberton, Forty, and Lowe respectively for some very fine examples.

The exhibits in the amateurs' classes were very good, and showed a marked improvement on previous occasions. Dahlias, which are largely grown in the "Black Country," are evidently very popular. For a tray of six blooms Mr. J. Griffiths proved an excellent first prizeman, also maintaining the same position for six African and twelve French Marigolds; whilst Mr. J. Gough obtained first prize for twelve Pompon Dahlias, and Mr. Griffiths second for twelve Asters. Mr. D. Morgan was deservedly accorded first honours for very fine stocks, notwithstanding the lateness of the season, and first prize was given to Mr. J. Griffiths for twelve Fancy Pansies. The prizes for vegetables were well contested by Messrs. E. Hood, J. Gough, D. Morgan, and J. Griffiths in their respective order. In the Potato classes Mr. J. Griffiths exhibited excellent examples of Prizetaker, a coloured kidney, and of Vicar of Laleham.

In the cottagers' classes the competition was very strong and close. The first prize for six kinds of vegetables was won by Mr. Hood for most creditable examples; Mr. R. Whitehouse obtaining first prizes for six Parsnips and six Leeks; Mr. R. Ingram first prizes for six Carrots and six plants of Parsley.

Among the exhibits not for competition Messrs. Townsend & Son may be mentioned as having a fine collection of Roses, both of Teas and of Hybrid Perpetuals, and a beautiful stand of twenty-four blooms of Mrs. John Laing. Mr. T. B. Dobbs, Wolverhampton, contributed a fine collection of Onions, and for which a special certificate was awarded.

Altogether the show was very meritorious, and was well attended by visitors from the surrounding district.

TRADE CATALOGUES RECEIVED.

W. & J. Birkenhead, Sale, Manchester.—*Ferns and Selaginellas*.
J. Carter & Co., High Holborn, London.—*Special Daffodil List*.
Dammann & Co., San Giovanni a Teduccio, Italy.—*Wholesale Lists of Seeds*.
William Paul & Son, Waltham Cross.—*Rose Catalogue*.
L. Späth, Berlin.—*General Catalogue*.
R. Wallace & Co., Colchester.—*Autumn Catalogue of Bulbous Plants*.



HARDY FRUIT GARDEN.

Lifting Young Apricot, Peach, and Nectarine Trees.—After a few years' vigorous growth young trees invariably require checking in their extension so that they may become fruitful. The roots grow strongly, and have a tendency to descend, which adds to rank growths and the production of sappy, hence fruitless wood. Lifting checks excessive development, causing the sap to concentrate its energy on a reasonable extension of growth, and a limited number of buds. Judicious lifting incites the production and multiplication of fibrous roots near the surface, bringing them within the influence of warmth, and the application of food and moisture. In the case of trees that have not recently been lifted care is requisite that the operation is not too severe. Partial lifting and shortening some of the strong roots will prove sufficient for one season. Trees that have previously been raised and lightly root-pruned bear entire removal without danger, because they are better furnished with fibrous roots, these quickly taking hold of fresh material, whereas thick fibreless roots have to emit new ones before any benefit accrues to the trees. Therefore, according as the growth of wood indicates the strength and condition of the roots, decide on the treatment to apply.

Details of Lifting.—In commencing open a trench 20 inches wide and two spits deep all round the trees 3 feet from the stems. Throw the soil from the trench well back, removing all the loose material. Fork away the soil from among the roots into the trench, afterwards removing it. Leave, however, a space of 18 inches round the stems undisturbed.

Treatment of Roots.—Undermine the latter to find the tap or other directly descending strong roots. These should be carefully severed, leaving the ends smooth. Likewise all the roots bruised and broken in cutting the trench must be trimmed smoothly to firm parts, and if any intermediate sized roots exhibit a downward tendency raise them to a more horizontal position.

Compost.—Add to the old soil, excluding poor subsoil, good loam, fresh and turfy, also some wood ashes, bonemeal, and a little pulverised mortar rubbish free from wood. Mix thoroughly.

Relaying.—Place some prepared material at the bottom of the trench and work it in the undermined portion firmly, or if the tree has been completely lifted raise a mound of firm soil in the centre of the hole, so that the roots when in position will be elevated closer to the surface. Distribute the loose roots through the soil evenly, making the whole compact. It is advisable to use the soil just moist, but should the weather be dry a good watering must be given, afterwards mulching with littery manure. Syringing the foliage will be necessary, and during extra warm sunshine shading may also be requisite in order to keep the leaves fresh longer, thus accelerating the production of new rootlets.

Renovating Older Trees.—Where old-established trees are showing signs of exhaustion and giving inferior crops the roots require some attention. In order to examine them it is not advisable to cut a trench so near the stem as with vigorous young growers, because the object is not so much the reduction of roots as it is to bring them within the reach of good material for encouraging new fibres. Usually in such cases it is found necessary to raise the roots. Open a trench at a distance of 5 feet from the stem on one side only; work the soil gradually away until a number of roots are found, tracing them to their extremities, and at once lay them out of the way, preventing their drying by covering with damp mats or straw. If a few strong roots are found descending deeply they may be severed. Fresh compost for relaying the roots in should be fairly rich, adding to equal parts of good garden soil and fresh loam about one-fifth of partially decayed horse droppings, with a similar proportion of wood ashes, old mortar rubbish, and sprinklings of chemical manure as the soil is added. Trim off broken, bruised, or decayed ends of roots, and distribute the latter in layers through the compost, the uppermost being within 4 inches of the surface. When completed lightly mulch the surface.

Preparing Soil for Planting Fruit Trees.—The preparation of the soil for planting fruit trees in November should be taken in hand forthwith. Whether rich or poor in quality it is essential to deeply move it, either by the method of providing stations of liberal width for each tree, or moving the whole plot to a uniform depth of 2 feet.

Trenching.—In ordinary fertile soil of a friable character a depth of 2 feet is ample for fruit trees to root in. Trench to this depth, forking up the bottom, and leaving it in its original position. It is only when the soil is poor that manure should be used, mixing it well with the staple. For sandy or light soil use cow manure, and add clay or marl for correcting extreme porosity.

Improving Soils.—Dry, poor soil can only be made suitable for fruit growing by deep cultivation, and adding enriching material of a substantial, holding character. Clayey or heavy soil should be improved by a course of preliminary preparation, consisting of roughly trenching, and exposing to the weather for amelioration. Frost, wind, and rain, with frequent disturbance in dry weather, assists in breaking down and pulverising the stubborn particles, and the addition of light, sandy loam,

or gritty material of various kinds acts mechanically. Lime is extremely beneficial to tenacious clayey soil, applying it at the rate of $1\frac{1}{2}$ bushel per rod, first digging or trenching. In dressing land with lime lay it in heaps on the surface, and spread it when it has become slacked, afterwards forking it in. Afford no manure to the soil at the same time as lime.

Stations for Fruit Trees.—Frequently trees require planting in positions where the area of ground is not large or to fill up vacancies. Take off the top spit within a circle of 6 feet diameter, and 2 feet deep. Throw this on one side, and effectually loosen the lower, enriching it if necessary with manure, and add some good loam to the surface soil for the object of starting the trees well.

FRUIT FORCING.

Vines.—**Houses of Ripe Grapes.**—The majority of Grapes will now be ripe, but the chief supplies for table and market will be furnished from the midseason houses, and consist of Black Hamburgs, Madresfield Court, and other thin-skinned varieties, which lose colour by hanging. This is a great detraction for home use or sale, and must be guarded against as much as possible. A good spread of their own foliage aids materially in retaining colour in the Grapes, and where this is scanty or only moderate some herring netting doubled over the roof lights will greatly aid in the Grapes keeping colour. A moderate amount of air moisture is beneficial to the foliage and not inimical to the Grapes, provided air is given early enough to prevent the sun heating the atmosphere, and causing moisture to be deposited on the berries. In too dry an atmosphere the Grapes are liable to shrivel, especially when the Vines are dry at the roots, it not being uncommon to see Vines with their roots entirely inside ripening their foliage and the Grapes shrivelling, whilst Vines in outside borders have fresh foliage and plump Grapes, and that in the same house. The Grapes should be looked over frequently for the removal of decayed berries, damp being their greatest enemy.

Late Black Hamburgs.—These finish and colour at a late period better than the thick-skinned varieties, but they ought now to be well advanced towards finishing—colouring and ripening, and should have a temperature of 60° to 65° at night, and 70° to 75° in the daytime, with a circulation of air constantly, not allowing the border to become dry, but giving a good watering if the Grapes are only partially advanced in ripening, and mulch lightly with rather short, sweet dry material. Hamburgs and all black thin-skinned Grapes like a good spread of foliage, therefore only restrict the laterals to prevent overcrowding; but after the Grapes are finished further extension must be avoided, yet not reducing the foliage much, as this assists thin-skinned black Grapes to keep their colour. When ripe a temperature of 45° to 50° must be maintained and air freely admitted by day whenever the weather is favourable, never allowing the temperature to rise considerably before air is admitted, otherwise moisture will be condensed by the cooler surfaces of the berries and their tissue be destroyed, the epidermis parting from the flesh.

Late Muscats.—If these are not now perfectly finished continue rather sharp firing in the daytime, with a free circulation of air, and enough at night to prevent the deposition of moisture on the berries. There is danger of the Grapes shrinking if there be a deficiency of moisture at the roots, and when water has to be given to inside borders where the Grapes are in an advanced stage of ripening there is liability to spot, though it may be prevented by a free air circulation and covering the border with a little dry material; indeed, moisture must be kept down by a buoyant atmosphere, pent-up air with a sudden increase of warmth from sun being sure to induce moisture to condense on the berries, which will cause spot, and then the berries will speedily decay. When the Grapes are thoroughly matured a gradual reduction of temperature must take place, about 50° at night being necessary for Muscats after they are matured.

Late Grapes.—Thick-skinned Grapes giving evidence of finish will not always bear close scrutiny. Make sure that the berries are quite finished up to the stalk before withdrawing the requisite aid from fire heat. Alicante invariably finishes well, and so does Gros Maroc, both very imposing Grapes in colour and bloom. Lady Downe's finishes better than Mrs. Pince, which requires more heat and a longer time to perfect its berries, and is not so good in retaining colour and plumpness as Lady Downe's, usually turning red and shrinking, whilst the last neither shrivels nor loses colour or quality, and is unquestionably the best of late-keeping Grapes, but it is hardly a profitable one for marketing purposes. Gros Guillaume, well done and in medium-sized clusters, is quite as noble in appearance as Gros Colman, and is certainly better flavoured, but its bunches are often too large for everyday use and for marketing, except on special occasions, when sometimes fancy prices are realised for large well coloured and finished bunches. Both have soft or fleshy footstalks, which militates against the Grapes keeping, as the footstalks, failing to keep the requisite consistence, the berries must fail. This may usually be avoided by employing a gritty soil and giving plenty of air whilst the growths are being made.

Gros Colman puts on colour and finish during late summer better than most varieties, and is a popular Grape, because easy to grow, free in bearing, noble in appearance, deep in colour and delicate in bloom, with, when allowed to hang some little time to part with its disagreeable earthy flavour, a fairly rich and pleasing quality. Of the white Grapes Trebbiano is the most desirable thick-skinned variety. All thick-skinned Grapes require a long time to mature after they are apparently ripe, consequently a temperature of about 55° should be assured, with a rise of 5° to 10° by day, and a circulation of air until the foliage is

giving indications of falling, when a temperature of 50° will be sufficient. The inside border must not be allowed to become too dry. Give water, if necessary, in the morning of a fine day, and admit air freely to dissipate the excess air moisture produced by the watering. Outside borders will not require watering, as they usually are damp enough, but it is essential for the sound and plump keeping of the Grapes that the soil be moist, lack of moisture at the roots being a chief cause of shrivelling when it does not arise from imperfect finish. If in a proper state of moisture they should be covered, preferably with lights, or some other means may be employed to throw off the wet, as repeated saturation from heavy rains, especially in borders of close retentive material, is destructive to the roots, besides needlessly reducing the temperature of the soil.

Houses Cleared of Grapes.—When the Grapes have been cleared from the Vines these should be divested of laterals down to the principal buds, which are to be retained for next year's bearing, doing so, however, without injury to the old leaves, as on their preservation in good health and natural maturing depends the proper formation of the buds, which should be plump and well ripened. The shoots, however, must not be reduced too much, allowing in each case a few joints beyond the pruning buds to remain as an outlet for the sap, and so prevent undue excitement or premature development of the pruning buds. A free circulation of air is necessary, and in the case of young Vines, or in those that are unduly vigorous, or where there is the least doubt as to the maturity of the wood, fire heat will be necessary.

Where the laterals have been removed, the old mulching or surface dressing should be cleared away, the border pointed over lightly, but not interfering with or damaging the roots, giving a top-dressing of turfy loam, with a fifth of sweetened horse droppings or thoroughly decayed manure, and a sprinkling of bonemeal. If the Vines do not make firm wood omit the manure and afford a good handful of basic slag per square yard along with the turfy loam. If the roots have not penetrated the mulching, or last year's top-dressing, remove the soil down to them and give fresh compost, but do not cover them deeply, 2 or 3 inches being quite sufficient. Follow in the case of inside borders with a moderate watering, and allow those outside to have the benefit of October rains, where they may be covered with dry litter or bracken to throw off heavy rains, and protect the roots from frost. Now is a good time to add a breadth of 2 feet to the front of borders only partly made, using fresh materials, all clean and sweet, also in good working condition, choosing dry weather if possible for work of this kind, mulching with a little short manure or horse droppings.

Young Vines.—Those planted last spring or early summer will need every encouragement in keeping the foliage clean and healthy, also keep the laterals away from the principal leaves in order to give free exposure to the air and light, especially those at the base of the canes, so that the buds to which they are to be pruned may be thoroughly ripened, and the wood at that part firm and stored with food. A genial warmth in the pipes by day will assist the wood to mature, and ripening will be induced by throwing open the ventilators at night. Although a somewhat dry condition at the roots is desirable it must not be persisted in to the extent of causing the soil to crack.

Pines.—*Growing Stock.*—To insure a healthy, sturdy condition in young plants free ventilation on all favourable occasions is essential, affording it early in the day and without lowering the temperature. Keep the bottom heat about the roots at 80°, maintaining a temperature of 60° to 65° by night with 5° to 10° rise by day from fire heat. Newly potted plants should have a bottom heat of 90° to 95°, with a view to the roots speedily penetrating the fresh soil. Water the plants whenever they require it, employing weak and tepid liquid manure, and avoid the use of the syringe too frequently, merely sprinkling the paths and similar surfaces. Morning and evening will suffice in all but very bright weather.

Suckers.—Recently started suckers should be raised near the glass as soon as roots are plentifully made, it being essential that those to be wintered in small pots be brought on very gradually; but they must not be withdrawn from the bottom heat, or only for a short time, so as not to give the plants a check. When the suckers started this autumn are well rooted pot them, draining the pots well. Employ the fibrous part only of turfy loam, and do not tear it up too fine, but use it in lumps proportionate to the size of the pots. The strongest plants may be transferred to the largest pots at once, the size of the pots being proportioned to the robustness of the plants or varieties. Jamaicas do well in 9 or 10-inch pots, Queens in 10 to 11-inch pots, Smooth-leaved Cayennes and similar varieties in 11 to 12-inch pots, and Providence in 13-inch pots, which will give fruit of the largest size, it being better to have 1 inch less than 1 inch more in size. The plants not large enough for transferring to the fruiting pots should be shifted into 7 or 8-inch, in which they be kept until the spring. Plunge the pots in bottom heat of 90° to 95°, in which they may remain until the roots have taken freely to the fresh compost, when they should be raised, a temperature of about 80° being afterwards sufficient. Fruiting plants should have a night temperature of 70°, or 80° to 90° during the day, closing at 85°.

Cucumbers.—*Autumn Fruiters.*—Maintain healthy and vigorous growth by a genial condition of the atmosphere. Avoid a close, moist air by judicious ventilation, and do not admit cold drying currents. Keep the growths fairly thin, going over the plants twice a week for stopping and removing superfluous growths, being careful not to overcrop the plants. Be sparing in the use of water, especially over the foliage, but damp the floors and walls in the morning and afternoon, gradually, however, reducing the moisture as the days shorten and the sun heat declines. Add a little fresh soil about once a fortnight to

the hillocks or ridges previously warmed, applying tepid liquid manure once or twice a week as may be necessary. Vapourise or fumigate if aphides appear, and be careful not to give too much.

The plants for winter fruiting should be placed out as soon as they are ready, a good bottom heat being essential to success, whether it be obtained by the aid of fermenting material or hot-water pipes, but a somewhat higher temperature is required to commence with if fermenting materials are used, as the heat will decline, and there should be hot-water pipes in the bed to keep up the bottom heat when that of fermenting material declines. The soil may consist of light turfy loam, with a third of fibrous peat, a sixth of old mortar rubbish, and a tenth of charcoal, the whole well incorporated. For imparting vigour later rely on liquid manure and surface dressings in preference to employing manure in the compost.

THE BEE-KEEPER.

APIARIAN NOTES.

PREPARING BEES FOR ANOTHER YEAR.

As most hives are now home from the Heather, and as success depends greatly on their condition and management, it is a fitting time to do all that is necessary for their requirements for the next six months to come. Owing to the paucity of swarms and the continuous wet weather during part of July, August, and the first two weeks in September, few hives have young queens. This is a great drawback, but with very little labour in April and the beginning of May young queens may be raised and placed in stocks to make up for any deficiency in the aged queens, which must be deposited as soon as circumstances will permit.

In all cases where there are too many stocks it will be advisable to join two together, and these should be the weaker ones, as it does no good, but rather evil, to have more bees now in hives than are necessary; they consume more honey, and are unnecessary for the internal economy of the hive during the early spring. When two stocks are to be joined experienced bee-keepers remove the worst of the combs from the hives, then as far as practicable alternate the combs of one with the other, and either sprinkle thoroughly with syrup until both lots of bees are gorged or dust well with peameal. Some people feed the bees to be united, but when that is done so that they store the syrup readily before the two lots fraternise, one lot being in consequence sometimes killed. When peameal is sprinkled judiciously over both I have never known it fail, and the method has been practised hereabout for generations.

We winter our bees successfully, and so can everyone else who follows our instructions. In every case we make sure there is ample food to last till May; if fed let it be after the hive is thoroughly covered for the winter, and from beneath. The best sugar is the cheapest, and safest for wintering on. Feeding as directed above with equal weights of sugar and water goes a long way to successful wintering.

The other requirements are to secure thorough dryness, no water lodging on or about the hive or its wrappings, also keeping internal moisture away by using ventilating floors, and the hive cosy in every respect, with a narrow entrance. When these points are attended to there will be much brood in the hives from the end of December to March.—A LANARKSHIRE BEE-KEEPER.

SEASONABLE NOTES.

At this time of the year it is an advantage to examine all hives in order to carry out the necessary repairs, and as the present spell of fine weather is so favourable for all outdoor operations, no time should be lost in giving the hives at least two coats of paint. This will preserve the wood and make all waterproof. I was lately consulted by a lady bee-keeper as to the cause of the paint peeling off her hives, and found enamel paint had been used. This should not be employed for outdoor purposes, as it will not withstand rough weather; but good white lead, mixed with raw linseed oil, turpentine, and dryers, will form a composition that will stand all weathers. I do not recommend boiled linseed oil for the purpose, although it gives a gloss and finish to the work that cannot otherwise be obtained. I find that when it is used for work that is exposed to all weathers the paint will often blister from the action of the sun. The paint should be well worked into all crevices and the cracks filled with putty. When the roofs are made of wood knots are often troublesome, the water working through them into the hive, and as neither paint nor putty will stop it, I have found a piece of canvas or thin calico well saturated with paint and placed over the knot will make the hive thoroughly waterproof.

One of the first steps towards the successful wintering of bees is keeping the interior of the hive dry, as it is impossible to keep

bees in health for any length of time, more particularly during the winter months, if the covering is allowed to remain in a wet state. In carrying out this operation it will not be necessary to interfere with the bees, for if they are troublesome the fronts of the hives may be left till later in the season, when there will be fewer bees on the wing, and there will then be no danger of disturbing them. —AN ENGLISH BEE-KEEPER.



* All correspondence should be directed either to "THE EDITOR" or to "THE PUBLISHER." Letters addressed to Dr. Hogg or members of the staff often remain unopened unavoidably. We request that no one will write privately to any of our correspondents, as doing so subjects them to unjustifiable trouble and expense.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Bee subjects, and should never send more than two or three questions at once. All articles intended for insertion should be written on one side of the paper only. We cannot reply to questions through the post, and we do not undertake to return rejected communications.

Manure Pamphlet (A. B.).—The pamphlet you name may be obtained from Mr. W. Dyke, Turnford, Herts, in return for 6d. in stamps, and contains information which you will probably consider worth the money.

New Chrysanthemums (G. B.).—Whether you are a member of the societies mentioned or not, you can have any new varieties of plants placed before the Committees on writing to the Secretaries on the subject, who will supply you with all necessary instructions.

French Marigolds (W. D. K.).—The Marigolds sent were certainly of very good form, substance, and colour, though not superior to many we have seen at various times. The seeds will be worth saving, though we cannot say they will have any special commercial value.

Blooms and Trusses (Precise Amateur).—A single bloom of a "Geranium" means a single flower on a single pedicel cut from one of those hardy plants growing in the flower border. A truss of a "Pelargonium" means a scape or stalk supporting more than one and generally several flowers, as in the case of the Zonal type, or of the show, fancy or decorative kinds grown in greenhouses. Geraniums are hardy or half-hardy, Pelargoniums tender plants.

A New Carnation (W. J. G.).—New, yet as old as the hills, or at least the Carnations that have grown on them. A visible step in the usually invisible process of the change from leaves to flowers, which are modified leaves. The half-and-half stage is seen in the Jackanapes Polyanthus, and the Green Rose is a mass of leafy parts, which have stopped there and not gone on to translucent petals. Your Carnation is not so far advanced as the Green Rose and Green Chrysanthemum, but is not less, but rather more, curious than either of them. It will not get a certificate.

Unsatisfactory Pear and Apple Trees (S. L.).—The trees bearing small fruit would not be much benefited by digging out a trench and putting in fresh soil, unless it could be done without injury to the roots. A surface dressing of good stable manure from the stem outwards to a foot beyond the spread of the branches, would probably have the desired effect, especially if followed by a top-dressing in early spring of three parts superphosphate, two parts muriate of potash, and one part nitrate of soda, mixed, and applying 2 to 4 ozs. per square yard, the lesser quantity if the natural manure has been used, and the larger if not; then, when the fruit is set supply $\frac{1}{2}$ oz. to 1 oz. nitrate of soda per square yard, the lesser amount if no ordinary manure has been used, and the larger if not. Perhaps a judicious pruning or thinning of the branches would be desirable, also dressing them with quicklime whilst damp and dormant, so as to destroy moss and insect pests.

Marechal Niel Rose Treatment (Crosby).—The plant now growing and flowering should be encouraged to make as much young wood as can have full exposure to light, so as to insure its solidification and ripening, on which depends the flowering. When the wood is mature, which will depend on circumstances, and especially so as the growth is late, it may be pruned, confining this to cutting out the weak and old wood, yet retaining some of the most promising stout and well ripened spur growths for flowering, merely removing their unripe or weak points, and shortening the long shoots to firm wood. Thus the pruning is a simple matter of cutting out old weak growths so as to secure sturdy wood and ripe for flowering without overcrowding. Usually about the month of December or January is the proper time for pruning; but we prefer to cut away the weak growths after flowering, and confine the winter pruning to shortening, merely removing the unripe points of the shoots or growth.

Planting Lilliums Harrisi and longiflorum for Successional Flowering (S. L. B.).—For early flowering it is necessary to plant the bulbs in the autumn, the sooner after this the better, and being covered not less than 4 inches deep they will not require protection, but we find it advantageous to cover the surface with a couple of inches thickness of cocoa-nut fibre refuse or other short, light protective material. This is usually all the protection required, except from late spring frosts, when a temporary awning of canvas or other light material on hoops or laths so as to be clear of the plants will insure safety. Another batch may be planted in February or as soon afterwards as the weather permits, a third batch being planted in March, which is as late as desirable, but some plant as late as April. This, however, is tampering with Nature, and generally means great impairment of the bulbs, if not inutility for future use. Indeed, spring planting is not generally desirable, as the bulbs are more or less weakened by being kept out of the ground, but autumn planted bulbs flower year after year almost if not quite as well as in the first year, they being left in the ground constantly.

Lettuce-root Aphid (J. L.).—The root has been infested by one of the Lettuce-root aphides, as indicated by the fine cottony filaments lining the parts of the cavities of the soil forwarded, in which the insects reside. We failed, however, to find any insects, which is not remarkable, as they have probably fallen a prey to the larvæ of hawk flies, or, escaping these, passed into the winged state preparatory to egg-laying for passing the winter. The commonest and most harmful species of Lettuce root aphid is that named Pemphigus lactucaris, which has been very abundant this year on the plants. Prevention of attack is difficult, and the infested plants are not usually suspected till the drooping of the leaves indicates injury to the roots. Soaking the ground around the plants with soapsuds, lime water, and tobacco water have been used successfully against the pests. We prefer gas liquor, diluted with five times its bulk of water, dishing each plant slightly, and then pouring in the diluted ammoniacal liquor. It kills the aphides, and is an excellent manure for the Lettuces. Good preventives are dressings of soot or lime, and for infested ground gas lime, using about a peck per rod, mixed with a similar quantity of dry earth, and incorporating well before use. It should be distributed evenly and left on the surface for a few days, then be pointed-in lightly. It must not be used over the roots of fruit trees. The soot should be applied in the spring or at sowing or planting-out time, using a peck per rod, and over the whole ground.

Beech Trees Diseased (Barkby).—The white cottony substance on the portion of bark sent was found to be the covering of the Beech Chermes (Aphis or Chermes fagi), which is a dreadful scourge to Beech trees in some localities, and usually compasses the destruction, or greatly impairs the vigour, of the infested trees. It is a very interesting creature, and has a penchant for trees that are growing in crowded positions, being seldom found on trees that are fully exposed, but there are exceptions. It succumbs to the following treatment. Wash the stems now from the surface of the ground (including all the exposed portion of the roots running on the surface) upwards to such height and along all the branches where the white cottony matter appears with the following solution. Dissolve 1 lb. of softsoap in a gallon of soft water by boiling in an iron pot, and when dissolved and boiling remove from the fire and add 1 gill ($\frac{1}{4}$ pint) of petroleum, stirring briskly so as to form a thorough amalgam, then dilute to 6 gallons with boiling water, mixing well, and when cooled to a safe temperature (120°) apply with a brush, and as thoroughly as in giving woodwork a coat of paint, but not in a slovenly way so as to cause more of the solution to run down than enters the cracks and crevices of the bark. A dry time should be chosen, the sooner the better, and if the work is done properly you will destroy millions of insects, and prevent the increase a hundredfold. One dressing well done is effective for the present, but in spring and early summer look out for any white cottony patches on the bark, and at once dress with the solution, and repeat as necessary.

Fungus on Pears and Apples (W. H. C.).—Both the Pears and Apples were infested with Monilia fructigena. Pears and Apples, as a rule, only show diseased patches, that being characteristic as seen on the Apples; but the tufts on the Pears are grouped in concentric fashion, like ringlets, and are ornamental though unwelcome, as the white ringlets show well on the brown ground. The injury is done to the fruit by the mycelium of the fungus, which penetrates beneath the epidermis, and from the mycelial threads spring the erect filaments. These break through the skin in the form of yellowish white tufts, and under the microscope are found to be made up of rows of bead-like cells, the filaments being simple or branched, but generally the latter, and each joint or cell is a conidium or spore. The conidia are elliptical or oval, and germinate on any suitable food, such as Apple, Apricot, Cherry, Pear, or Plum; but the fungus has other forms, which causes the destruction of the branches of fruit trees, as its mycelium is perennial under certain circumstances. We can only suggest burning all the diseased fruits, and either collecting the leaves and burning them or digging them in rather deeply after giving the land a dressing of quicklime. If this be sprinkled over the trees whilst damp and when quite dormant it would act beneficially. In the spring you may spray the trees with a solution of sulphate of copper, 1 lb. to 25 gallons of water; but it must be just before the buds commence swelling, or whilst they are quite dormant. When the fruit is set, spray with a quarter strength of Bordeaux mixture, and repeat when the fruit is a quarter, half, and three-quarters grown. You will find the usual full strength for using the mixture on pp. 83, 84, in one of the small books you have—Wright's "Primer on Horticulture."

Nierembergia rivularis (D. B. R.).—The flowers sent are those of *Nierembergia rivularis* (fig. 51), or the White Cup, as it is occasionally called. This plant was found by Miers, about the year 1845, growing on the grassy banks of the Rio de la Plata, South America, "the prostrate branches creeping among the grass, above which rise its pretty white flowers." Indeed, under cultivation, and when well established, there are few similar plants that contribute so much in such little space towards the beauty of the rockwork or border as this little gem. Although it seems to prefer a rockery or a similar situation where its roots get curbed, it will do equally well on dry banks or flats, and a large patch we saw on the flat fully exposed was a sight not soon to be forgotten, so thickly were the large beautiful white cups studded among



FIG. 51.—NIEREMBERGIA RIVULARIS.

the leaves on short stalks like so many *Campanula*-shaped Mushrooms. Those not hardy in the open air may be used with great advantage indoors in the shape of trailing or creeping plants. A hanging basket made with *N. gracilis* as an edging is extremely pretty, besides having the advantage of being permanent. Then there is *N. frutescens*, a strong shrubby species of considerable worth for a greenhouse or conservatory, as it makes fine bushes in a short time, flowering more or less incessantly. *N. rivularis* rarely grows more than an inch or two in height, having long prostrate creeping branches rooting as they spread away from the centre, which requires filling up occasionally. The leaves are alternate, oblong, blunt at the summit, on a long slender stalk; the corolla, shaped like a *Campanula*, is upright, about 2 inches in diameter, pure white, and very handsome. It flowers through the summer, and may be increased by division.

Gros Colman Grapes Shankling (T. C.).—The Grapes shanked differed from the unshanked in having a mould (*Botrytis cinerea*) and softer footstalks. This may or may not have something to do with the shanking, which has probably been accelerated by the close pinching, or excess matter over elaboration thus concentrated on the berries. Considering the good condition of the Grapes generally (and the Muscat of Alexandria and Madresfield Court berries are very fine) we do not think you have any need to be alarmed, as with another season you may find fewer or no shanked berries. We should, however, give the Vines all the room you can, and keep the growths well exposed to light and air. This seems the only defect in your case and that not very apparent, for Vines producing such berries as yours cannot be in bad condition at the roots.

Names of Fruits.—*Notice.*—We have pleasure in naming good typical fruits (when the names are discoverable) for the convenience of regular subscribers, who are the growers of such fruit, and not collectors of specimens from non-subscribers. This latter procedure is wholly irregular, and we trust that none of our readers will allow themselves to be made the mediums in infringing our rules. Special attention is directed to the following decision, the object of which is to discourage the growth of inferior and promote the culture of superior varieties. In consequence of the large number of worthless Apples and Pears sent to this office to be named, it has been decided to name only specimens and varieties of approved merit, and to reject the inferior, which are not worth sending or growing. The names and addresses of senders of fruit to be named must in all cases be enclosed with the specimens, whether letters referring to the fruit are sent by post or not. The names are not necessarily required for publication, initials sufficing for that. Only six specimens can be named at once, and any beyond that number cannot be preserved. They should be sent on the first indication of change towards ripening. Dessert Pears cannot be

named in a hard green state. (A. B.).—1, not known; 2, resembles a small fruit of Emperor Alexander. (W. Carr).—1, Quite hard and not recognisable; 2, Blenheim Pippin; 3, Cox's Pomona; 4, Ribston Pearmain; 5, Cox's Orange Pippin; Pear rotten. (N. L. C.).—1, Nonesuch; 2, Herefordshire Costard; 3, cannot name, one of the chief characters (the eye) defective. The Pears must be sent on approaching ripeness; see rules above. (W. A.).—1, Cox's Pomona; 2, probably Ecklinville; 3, worthless; 4, Northern Greening; 5, probably local. (W. S.).—1, 2, and 3, worthless, probably local; 4, Colmar d'Eté; 5, Hollandbury. (Alpha).—1, Tower of Glamis; 2, Cox's Pomona; 4, Winter Greening; others probably local.

Names of Plants.—We only undertake to name species of plants, not varieties that have originated from seeds and termed florists' flowers. Flowering specimens are necessary of flowering plants, and Fern fronds should bear spores. Specimens should arrive in a fresh state in firm boxes. Slightly damp moss, soft green grass, or leaves form the best packing, dry wool the worst. Not more than six specimens can be named at once, and the numbers should be visible without untying the ligatures, it being often difficult to separate them when the paper is damp. (X. Y.).—1, *Agapanthus umbellatus variegatus*; 2, specimen insufficient, send perfect leaf and flower; 3, *Selaginella caesia*; 4, a created form of *Polypodium* (*Phlebodium*) *aureum*, covered with thrips; 5, *Pteris longifolia*; 6, *Pteris serrulata major cristata*. (Inquirer).—1, *Cypripedium Sedeni*; 2, *Cœlogyne sparsa*. (J. W. S.).—1, *Diplopappus chrysophyllus*; 2, *Euphorbia Cyparissias*. (W. S.).—Specimen insufficient; send fresh one packed in damp moss, and give a few particulars of habit. (J. S.).—*Begonia argyrostigma*.

COVENT GARDEN MARKET.—SEPTEMBER 25TH.

FRUIT.

	s.	d.	s.	d.		s.	d.	s.	d.	
Apples, per bushel	1	3	to	3	0	Filberts, per 100 lbs.	35	0	to 0	0
„ Nova Scotia, per barrel	0	0	0	0	Grapes, per lb.	0	6	1	6	
„ Tasmanian, per case	0	0	0	0	Lemons, case	10	0	15	0	
Cobs, per 100 lbs.	35	0	40	0	Peaches, per dozen	1	0	9	0	
					Plums, per half sieve	2	6	4	6	
					St. Michael Pines, each	2	0	6	0	

VEGETABLES.

	s.	d.	s.	d.		s.	d.	s.	d.	
Beans, per bushel	1	0	to	2	0	Mustard and Cress, punnet	0	2	to 0	0
Beet, Red, dozen	1	0	0	0	Onions, bushel	3	6	4	0	
Carrots, bunch	0	3	0	4	Parsley, dozen bunches ..	2	0	3	0	
Cauliflowers, dozen	3	0	6	0	Parsnips, dozen	1	0	0	6	
Celery, bundle	1	0	1	3	Potatoes, per cwt.	2	0	4	0	
Coleworts, dozen bunches	2	0	4	0	Salsafy, bundle	1	0	1	6	
Cucumbers, dozen	0	9	1	6	Seakale, per basket	0	0	0	0	
Endive, dozen	1	3	1	6	Scorzoneria, bundle	1	6	0	0	
Herbs, bunch	0	3	0	0	Shallots, per lb.	0	3	0	0	
Leeks, bunch	0	2	0	0	Spinach, bushel	1	0	1	6	
Lettuce, dozen	0	9	1	6	Tomatoes, per lb.	0	3	0	4	
Mushrooms, punnet	0	9	1	0	Turnips, bunch	0	3	0	6	

AVERAGE WHOLESALE PRICES.—CUT FLOWERS.—Orchid Blooms in variety.

	s.	d.	s.	d.		s.	d.	s.	d.
Arum Lilies, 12 blooms ..	3	0	to	4	0	Maidenhair Fern, dozen			
Asparagus Fern, per bunch	2	0		4	0	bunches	4	0	to 6
Asters (English) doz. bchs.	2	0		4	0	Orchids, various, dozen			
Asters (French), dozen						blooms	1	6	18
bunches	8	0	12	0	Pansies, various, dozen				
Bouvardias, bunch	0	6	1	0	bunches	1	0	2	0
Carnations, 12 blooms ..	1	0	3	0	Peas, Sweet, doz. bunches..	1	6	3	0
„ dozen bunches..	4	0	8	0	Pelargoniums, 12 bunches	4	0	9	0
Chrysanthemum, dozen					Primula (double), doz. spys.	0	6	1	0
blooms..	1	0	2	0	Roses (indoor), dozen ..	1	0	2	0
„ doz. bunches	3	0	6	0	„ Tea, white, dozen ..	1	0	2	0
Dahlias, dozen bunches ..	2	0	4	0	„ Yellow, dozen (Niels)	3	0	6	0
Eucharis, dozen	1	6	2	6	„ Safrano (English),				
Gaillardias, doz. bunches..	1	0	2	0	dozen.. ..	1	0	2	0
Gardenias, dozen	2	0	3	0	„ Yellow, dozen blooms	0	6	0	9
Geranium, scarlet, doz.					„ Red, dozen blooms ..	1	0	1	6
bunches	4	0	6	0	„ various, doz. bunches	3	0	6	0
Lilium lancifolium, twelve					Smilax, per bunch	2	6	4	0
blooms	1	6	2	6	Stephanotis, dozen sprays	2	0	4	0
„ longiflorum, 12 blooms	3	6	4	0	Sunflowers (small) dozen				
Marguerites, 12 bunches ..	1	6	3	0	bunches	2	0	3	0
					Tuberose, 12 blooms..	0	2	0	4

PLANTS IN POTS.

	s.	d.	s.	d.		s.	d.	s.	d.	
Arbor Vitæ (golden) dozen	6	0	to	12	0	Ficus elastica, each	1	0	to 7	0
Aspidistra, dozen	18	0	36	0	Foliage plants, var. each	2	0	10	0	
Aspidistra, specimen plant	5	0	10	6	Heliotrope, per dozen ..	4	0	6	0	
Chrysanthemums, per doz.	6	0	18	0	Lilium lancifolium, 12 pots	12	0	18	0	
Coleus, per doz.	2	6	4	0	Lycopodiums, dozen	3	0	4	0	
Dracæna, various, dozen ..	12	0	30	0	Marguerite Daisy, dozen ..	6	0	9	0	
Dracæna viridis, dozen ..	9	0	18	0	" Yellow	9	0	18	0	
Euonymus, var., dozen ..	6	0	18	0	Myrtles, dozen	6	0	9	0	
Evergreens, in var., dozen	6	0	24	0	Palms, in var., each	1	0	15	0	
Ferns in variety, dozen ..	4	0	18	0	" (specimens)	21	0	63	0	
Ferns (small) per hundred	4	0	6	0	Pelargoniums, scarlets, doz.	3	0	6	0	



CIDER MAKING.

THE request of a correspondent for details of the management and finishing of cider for sale is a reminder that with

such a glut of Apples as we have this year many of our readers may like to make some cider for home consumption, if not for sale; and though we cannot hope to teach the making of that refreshing beverage in a manner that would enable a beginner to challenge the produce of the best makers, such as Bulmer in the West, and Gaymer in the East, we can at any rate give them particulars of the process in sufficient detail to enable them to make some good cider.

The degree of excellence attained depends very much on close attention to detail, on watchfulness, care, and management. Much also depends on the fruit, the best test being to press a few ripe Apples, to filter the juice, in which place a saccharometer; this will float and ultimately settle down to a mark, which on the graduated scale shows the density of the juice. If less than 1.040 it cannot make good cider, because there is not sufficient sugar in the juice under this density to cause it to keep well. A density of 1.050 is still better, because it indicates an average per-centage of alcohol of 6.43, which gives more body or better keeping qualities.

The fruit should be gathered with care, and be crushed or ground in the mill at once when ripe, neither sooner or later. If overripe there is a loss of sugar by the fermentation which occurs. There is no doubt that much cider is spoiled by the reckless use of mixed ripe, unripe, and decayed samples from the heap left out in the open. Sound ripe fruit and thoroughly clean implements and utensils are of primary importance. After the crushing the pulp is left in vats for twenty-four hours, and is then pressed. The liquor is put into casks of any convenient size, from 60 up to 120 gallons, which are not quite filled, a little space being left for the fermentation. This should commence at once, and continue for about a week.

Fortunate indeed will the beginner be who has no difficulty with the fermenting liquor, nor will there be anything of a serious nature to contend with if due care was exercised at first, and the casks are in a temperature of 55° to 60°. Excessive fermentation occurs when the juice is very rich in saccharine matter, and the temperature high. Slow fermentation arises from poor juice and a low temperature. It is clear how this can be avoided. If it is caused only by a sudden chill 2 or 3 gallons of the juice drawn from the cask with a syphon, heated up to 70°, put back into the cask, and well stirred at once with an osier switch will set fermentation going, and all will be well if the temperature of the cellar is kept right—a simple matter of closed doors and the use of a small portable stove. Excessive fermentation is easily corrected by a reduced temperature, but persistent fermentation or “fretting” is very difficult to overcome, and is an indication of inferiority. It is usually put an end to by filling another cask with the fumes of sulphur, and running the liquor into it, so that it absorbs the sulphurous acid and the yeast plant is destroyed. In any case this means inferior cider, and it should be avoided by the preliminary test of a saccharometer.

If all has gone well fermentation will be at an end in about a week, the liquor will be clear, with a mass of skin and pulp floating at the top, and thick ropy lees at the bottom; it is then ready for “racking.” This is done by drawing off the liquor with a syphon into casks that are quite clean, leaving a little space at the top for secondary fermentation. If this occurs the whole process has to be repeated; but if due care has been exercised throughout, and the casks containing the racked liquor are kept in a lower temperature, there should be no further trouble. If in the racking the cider is not quite clear $1\frac{1}{2}$ oz. of isinglass dissolved in a little of the cold liquor is sufficient fining for 100 gallons.

The casks then remain in an even temperature till the following spring, when the cider is either bottled or racked into small casks for sale. In bottling the bung is taken out about twelve hours beforehand, then the whole of the bottles are

filled before corking, the object in this is to prevent bursting bottles as much as possible. Champagne bottles and the best corks only should be used, the wiring being done with the corking.

It is obvious that there is no insuperable difficulty in the making of the very best cider. Given strict attention to the points we have enumerated proficiency should soon be acquired, and there is no doubt of a market for a really first-class article. This should be the aim of every farmer who may be turning his attention to cider as a detail of the mixed farming which has become a necessity in many a district now. If only it is well made it should enable him to turn his Apples to better account than forcing them on a low market.

WORK ON THE HOME FARM.

To farmers who intend planting fruit trees or bush fruits this autumn we strongly recommend an early preparation of the land for plantations or of stations for a grass orchard, so that the planting may be done immediately after the leaves have fallen, or say early in November. Of Apples for market Lord Suffield, Keswick Codlin, Worcester Pearmain, Potts' Seedling, King of the Pippins, and Bramley's Seedling are an excellent half dozen. For cider, Mr. John Watkins of Withington, Hereford, says, “If I were going to plant an orchard for cider and profit only I should plant Broad-leaved Norman to get the crops, Kingston Black and Cherry Pearmain the flavour, and Cherry Norman, White Bache, and Handsome Norman the saccharine matter.” This excerpt is taken from the excellent account of “Recent Improvements in Cider and Perry Making,” by Mr. D. R. Chapman, which appeared in the “Journal of the Royal Agricultural Society” in 1888, and which we have found to contain sound information. Mr. Chapman said that in addition to the sorts named by Mr. Watkins, he regarded Foxwhelp, Skyrme's Kernel, and the Royal Wilding as profitable sorts, which if not sure croppers, make such superior cider that the enhanced price obtained in a good year would about counterbalance the losses from a bad season. We like Mr. Watkins' idea of a good mixture for ordinary or home consumption, at any rate, as we have found this answer admirably in our own practice, our plan being to fill old sherry butts, whence the cider is drawn for use.

Of Gooseberries plant in quantity Whinham's Industry, Keepsake, Crown Bob, and Lancashire Lad. Black Currants: Baldwin and Black Naples. Red Currants: Red Dutch and Raby Castle. Raspberries: Carter's Prolific.

For a new plantation we have had the steam cultivator over the land four times, and the heavy harrows twice. This land is about ready, and heavy rain will prove a help rather than hindrance to the planting. On grass the stations are 6 feet square, and 2 feet 6 inches deep. The holes are drained if necessary, 6 inches of hard rubble rammed into the bottom, and the remaining 2 feet filled with sound top-spit loam.

OUR LETTER BOX.

Dairy Show Entries (W. S.).—The Secretary, British Dairy Farmers' Association, 12, Hanover Square, London, W.

Cider Making and Appliances (W. S.).—See our article on “Cider Making” this week. Ph. Mayfarth & Co., 16, Mincing Lane, London, E.C., supply cider-making plant.

METEOROLOGICAL OBSERVATIONS.

OAMDEN SQUARE, LONDON.

Lat. 51° 32' 40" N.; Long. 0° 8' 0" W.; Altitude 111 feet.

DATE.		9 A.M.				IN THE DAY.				Rain.	
1895. September.		Barometer at 32°, and Sea Level.	Hygrometer.		Direc- tion of Wind.	Temp. of soil at 1 foot.	Shade Tem- perature.		Radiation Temperature		
			Dry.	Wet.			Max.	Min.	In Sun.		On Grass.
		Inchs.	deg.	deg.		deg.	deg.	deg.	deg.	Inchs.	
Sunday .. 15		30.338	57.5	55.6	N.W.	53.2	65.2	46.2	86.4	40.3	—
Monday .. 16		30.325	52.9	52.6	N.	57.9	70.7	47.4	99.9	40.1	—
Tuesday .. 17		30.238	53.7	53.3	S.W.	58.2	73.6	50.3	111.9	42.2	—
Wednesday 18		30.101	56.7	53.4	W.	58.6	74.8	52.5	116.4	45.3	—
Thursday .. 19		30.144	56.2	55.4	S.W.	58.9	60.7	52.3	82.8	45.6	—
Friday .. 20		30.413	55.7	52.7	N.E.	57.6	66.7	42.8	103.7	35.4	—
Saturday .. 21		30.420	55.5	51.6	N.E.	56.6	64.2	42.9	103.3	35.9	—
		30.283	55.5	53.5		58.0	68.0	47.8	100.3	40.7	—

REMARKS.

15th.—Fine, but not much sunshine; solar halo in morning; misty evening.
16th.—Misty early; warm, sunny day.
17th.—Mist early, and overcast morning; sunny and warm afternoon.
18th.—Cloudy early; warm day, with bright sunshine.
19th.—Overcast and dull throughout, with drizzle from 7 A.M. to 10 A.M., and spots of rain at 1 P.M.
20th.—Generally sunny, but cloudy at times in the morning.
21st.—Cloudy early; generally sunny after 10 A.M., and brilliant afternoon.
A week with much sunshine, and no measurable rain. Maximum, minimum, and mean temperature all remarkably near the average.—G. J. SYMONS.

To Nurserymen, Builders, Local Boards, Vestries, and others who intend planting Trees and Shrubs this Season.

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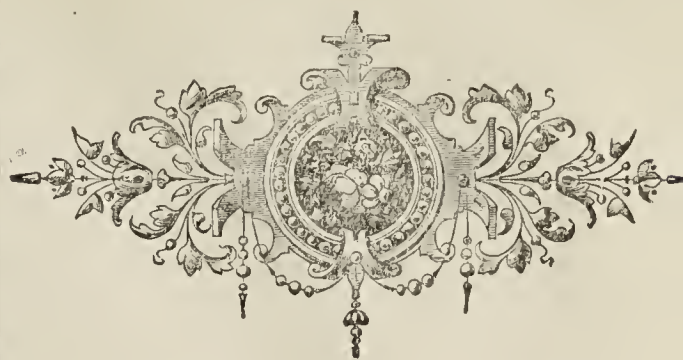
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Journal of Horticulture.

THURSDAY, OCTOBER 3, 1895.

THE GREAT FRUIT SHOW.

THAT the exhibition of fruits organised by the Royal Horticultural Society, and held in the Crystal Palace last week, merits the above specific designation, few, if any, persons will deny who were present on the occasion. Not only was the aggregate display considerable and imposing, as we suggested last week it would be, but it exceeded in that respect our anticipations. It was magnificent. The piles of grand specimens in what may be termed the trade section, together with heavily bearing trees, demonstrated that as a hardy fruit tree growing and fruit producing nation this country has attained to a very high position indeed. Then in the competitive section, in which the cultural skill of hundreds of persons was displayed, we had ample evidence of the capacity of our soil, coupled with sound knowledge in cultivation, to produce the most serviceable of hardy fruits in every respect equal to any we have seen from any part of the world. It has long been known that British cultivators, when the requisite means are afforded, have no rivals in the production of fruits under glass, such as Grapes and Peaches, and it would be strange if in the absence of climatal accidents they could not succeed equally well with the hardy kinds. They can and have done so, and there is not a doubt but that they will maintain their now well won reputation in the future.

The Apples at the Crystal Palace formed an exhibition in themselves of the most splendid character, and we question if a finer display of this noble fruit has ever been seen in the world. If the excellent growers in other lands send us of their best, as it is presumed they do—and their produce is most creditable to them—then it is certain that there were finer samples from end to end of the Crystal Palace of British grown Apples than could possibly be selected from the best of the importations that reach Covent Garden, no matter from whence they come. The fact now seems to be proved that by a concentration of effort, on comparatively few varieties of Apples, that this country can grow its own fruit for its own people when the seasons are ordinarily favourable. When they are not we will take the fruit from other lands;

and when the crops fail over the sea, as they do from time to time, and ours are good, we will have pleasure in returning the compliment. It is just a question of thoroughness in cultivation, care in selection, and skill in packing, with the breaking down of unreasonable obstacles which fetter distribution that will enable us to do so.

How great is the power of cultivation, as well as the demand for Apples of the highest class, was proved in a letter from perhaps the largest fruit salesman in Manchester to Mr. Lee Campbell, and read by that gentleman at the Palace Conference on the close of the prize essay of his gardener, Mr. S. T. Wright. The letter is as follows:—

With reference to your inquiry I can confidently state without fear of contradiction that your varieties of Apples realise at least 30 per cent. more on an average than any other English varieties of Apples sold in this market, and that you are by far the best grower of Apples in England. Your Worcester Pearmain average 40 per cent. better, Ecklinvilles average 33 per cent. better, Peasgood's Nonesuch average 25 per cent. better, Keswicks average 80 per cent. better, Warner's Kings average 30 per cent. better.

Several of your varieties of Apples, such as Transparents, Brown's Codlins, and Maltsters I do not receive from other growers, but Apples similar in appearance which are sold here realise on an average 30 per cent. less than yours. This is owing to the superior eating quality of your Apples, which is much appreciated by the buyers who have once had the opportunity of purchasing your fruit, and they are always eager to purchase your consignments, when advised by wire, even before they come to hand, as your packing is done honestly and can always be relied upon, and consequently the sales remain in the hands of a few large buyers.

The only trouble with your fruit is that the varieties do not last long enough for them to become generally known, which would increase the competition for their purchase. For instance, there were only about three consignments in bulk of Transparents, and the customers were quite excited for more, and were willing to pay increased prices for further lots; this applies generally to all your fruit. I could easily dispose of the produce of thirty or forty more growers of fruit equal in quantity, quality, and packing at more remunerative prices than I have been able to send you, as this would enable the various kinds to become better known.

As to foreign competition there is no doubt, but that the cheap rates enable foreign competitors to place their fruit upon the various markets here, with the result that prices are brought much lower than they otherwise would be, and this must exclude a portion of native production from coming to market, which otherwise would have come if it had not been crowded out by foreign supplies.

As to railway rates; at present rates are much too high; with lower rates and a better Land Bill it would enable us to successfully compete with foreign supplies, as then farmers would have confidence to speculate, and would be able to keep out all importation of foreign Apples to this country.—JOHN MILLS.

That, we do not hesitate to say, is one of the most significant communications that has yet been published on the fruit question. Here is *one* salesman who would be glad if Mr. Lee Campbell could supply thirty or forty times more Apples than at present, and it will be seen that those he does send, and they are many tons, are disposed of by "wire" without ever reaching his salesman. The fact speaks volumes for the skill, care, and honesty in packing that obtain at Glewston Court, and the results are the more striking as the fruit is grown on short leasehold land. We have also a note from Mr. Lee Campbell on the packing of Canadian Apples, but it cannot be published now.

We can only say that the Fruit Show, of which a report follows, was a great triumph. It was attractively arranged by the association of Palms supplied by Mr. Head, and all was ready by the appointed time for the Judges. There was, as many persons thought, a defect in the prize cards. The number of the class was printed in each case, but not the description of it. Whether the omission was accidental or designed, it was not thought to be exactly worthy of imitation. A greater misfortune and a general source of regret was the sudden—and for a time serious—illness (of the nature of a sunstroke) of Mr. Wilks, who was totally unable to attend the show, of which he was no doubt the chief organiser if not originator.

Though the show was so orderly, it was from our artist's point of view bewildering. He was searching for a "character sketch," and was told to find it as best he could. With an eye to the picturesque, he seized on Mr. Rivers' beautiful group of fruit trees, and, as a contrasting feature, Messrs. Sutton's remarkable display of Tomatoes (the surface covered by their exhibit being 75 by 8 feet) with a few other "subjects" adjoining. The "artist's choice" is represented on page 325, and will be recognised by visitors to the Palace as not an unfaithful portrayal of what is after all but a small sample of the Great Fruit Show of 1895.

REPORT OF THE SHOW.

SEPT. 26TH TO 28TH.

THE show of British fruits that was held at the Crystal Palace on the above dates, under the auspices of the Royal Horticultural Society, was the second of what it is hoped may now prove an annual event. The number of fruits that were brought together on this occasion was very great indeed, the amount of tabling utilised enormous, and the competition as a whole fairly keen. The exhibition was held in the centre transept, each end running from the central dome being fully occupied with tables on which the fruits were arranged. One end of the building was completely full of the fruit shown in competition, the other end holding the exhibits arranged by the various large fruit growers.

Never have better Apples been staged both as regards size and richness of colours. The latter was a remarkable feature, some varieties that only colour slightly being quite bright and glowing. Pears were, as a rule, staged in fine form, being of good average size and well coloured. Plums were, of course, not very numerous, the dates being rather too late, this applying with equal force to the Peaches and Nectarines. Grapes were, as a rule, not of the highest excellence. Though many handsome bunches were staged, several of the berries were undersized and not perfectly finished. It was, perhaps, unfortunate for the exhibitors that the day was so sunny, as shining directly on the black berries any defects were exposed at once. White Grapes were not very largely shown, but some splendid bunches of Muscat of Alexandria were noticed in the various classes.

As an exhibition of fruits the show could not be termed otherwise than a success, and we trust it will be equally so from a financial point of view. The arrangements made in the manner of staging were, with few exceptions, excellent, and reflect high credit on all concerned. On another occasion it would certainly be a great advantage in improving the general effect of the show if baize or some other material could be hung down the front of the tables to hide the numerous boxes, which have a very untidy appearance under the present circumstances. We append a list of the prizewinners in the principal classes.

OPEN CLASSES.

The chief class in this section was for a collection of twelve dishes of ripe fruit, in not less than six kinds, nor more than two varieties of each kind. There were only three exhibitors, and the competition was not particularly keen. Mr. J. McIndoe, gardener to Sir Joseph Pease, M.P., Hutton Hall, Guisborough, was a decided first. The collection comprised Gros Maroc, many berries of which were small, and Foster's Seedling Grapes in fair condition, grand Bananas, Bryanston Gage and Yellow Magnum Bonum Plums, Brown Turkey Figs, Doyenné Boussoch Pears, Exquisite and Sea Eagle Peaches, Yorkshire Beauty Melon, and Gascoigne's Scarlet Apple. Each of the front dishes was splendid, and had the Grapes been up to the mark the stand would have been greatly enhanced. C. E. Keyser, Esq., Stanmore, was a capital second with an even stand. His best examples were Ripley Queen Pine, Beurré Hardy Pear, and small but splendidly coloured bunches of Muscat of Alexandria Grapes. Mr. J. H. Goodacre, gardener to the Earl of Harrington, Elvaston Hall, Derby, occupied the third position, the stand being marred by the arrangement.

In the collection of eight dishes of fruits, Pines excluded, there were eight competitors, and several handsome dishes of fruit were staged. Mr. Reynolds, gardener to Messrs. De Rothschild, Gunnersbury Park, Acton, was deservedly accorded the premier position. Gros Maroc and Muscat of Alexandria Grapes. Sea Eagle and Thames Bank Peaches, Pineapple Nectarine, Ribston Pippin Apples, Coe's Golden Drop Plums, and Sutton's Al Melon; all in creditable condition. Mr. F. Harris, gardener to Lady Henry Somerset, Ledbury, was a good second with grand Coe's Golden Drop Plums, and fair Gros Maroc and Muscat of Alexandria Grapes. The third position was accorded to Mr. W. J. Empson, gardener to Mrs. Wingfield, Ampthill, Beds.

As has been said Grapes were not up to the average, but Mr. J. H. Goodacre staged some handsome examples in the class for twelve bunches in six distinct varieties, to include black and white. The stand was composed of Gros Guillaume, Muscat of Alexandria, fine in berry and bunch; Gros Colman, Lady Downe's, in superb condition, the bunches being very broad across the shoulders for this variety; Black Alicante and Mrs. Pearson, large, shapely bunches of good berries. Mr. Reynolds

was a fair second with examples of Chasselas Napoleon, Black Alicante, Trebbiano, Mrs. Pince, Muscat of Alexandria, and Gros Maroc, the two latter being the best in the stand. In the class for three distinct varieties of Grapes, two bunches of each, Mr. R. Grindrod, gardener to P. T. Phillips, Esq., Whitfield, was a fine first with Gros Colmans, Black Alicantes, and Lady Downe's. Mr. A. Belcher, gardener to Sir E. H. Carbutt, Bart., Cranleigh, was second with poor Lady Downe's, good Muscat of Alexandria, and fair Black Alicante.

Mr. W. Taylor, gardener to C. Bayer, Esq., Forest Hill, was placed first for three bunches of Black Hamburg; Mr. W. Mitchell, Romsey, Hants, being second; and Mr. M. Newman, gardener to J. A. Tulk, Esq., Cowley House, Chertsey, third. There were six competitors in this class, but not one first-class exhibit was shown. For three bunches of Madresfield Court, Mr. J. Day, gardener to C. J. Massey, Esq., Garliestown, was first with long bunches of small berries, the ends of the clusters being quite red and unfinished. The second prize went to Mr. W. Taylor, who staged smaller bunches than the former, but larger berries of much better finish. Mr. J. Gibson, gardener to Earl Cowley, Chippenham, was a good third.

For three bunches of either Gros Colman or Gros Maroc, the prizes went to Messrs. J. Gibson, J. Day, and W. Newman, each with the last-named variety. The bunches in this class were good throughout, those of the prizewinners being highly creditable. For Black Alicantes the competition was keen, Mr. Reynolds being first, Mr. W. Howe, gardener to H. Tate, Esq., Streatham Common, second, and Mr. J. Berry, Byfleet, third. There were nine competitors in this class. In the class for three bunches of any other black Grape, Mr. W. Mitchell was a good first with Mrs. Pince in fine form; Mr. A. Kemp, gardener to C. S. S. Dickens, Esq., Coolhurst, second with Lady Downe's; and Mr. W. Taylor third with Gros Guillaume.

White Grapes were not extensively exhibited—in fact, only two classes were scheduled for them. Mr. Tidy, gardener to W. R. D'Arcy, Esq., Stanmore, with medium-sized bunches of well-coloured berries, secured the top position for three bunches of Muscat of Alexandria; Mr. W. Taylor, Bath, being second with enormous bunches, made up of greenish berries; and Mr. W. J. Empson a close third. In the class for three bunches of any other white Grape Mr. W. Taylor was first with beautiful specimens of Buckland Sweetwater; Mr. Reynolds second with Chasselas Napoleon; and Mr. Robinson, gardener to W. Lawrence, Esq., Hollingbourne, third with Buckland Sweetwater.

Tomatoes were splendidly shown by numerous exhibitors, the competition being very keen in each of the three classes. Mr. W. Howe was a fine first in the class for four dishes of distinct varieties, nine fruits of each, with Trophy, Frogmore Selected, Hackwood Park Prolific, and Suttons' Perfection. Mr. E. Ryder, Orpington, was second, staging Igotium, Mayflower, Duke of York, and Trophy. Mr. G. Garraway, Bailbrook, was third. There were seventeen competitors in the single dish class, in which Mr. G. Helman, Lewes, was first with Polegate; Mr. R. C. Sanders was second with Ham Green Favourite; and Mr. Richards, gardener to R. Summers, Esq., Streatham, third with Suttons' Perfection.

For six clusters of Tomatoes of one variety, as cut from the plant, there was again a large number of exhibitors, and the specimens staged were of the first quality so far as appearances were concerned. Mr. J. Gore, Polegate, secured the highest award with superb specimens of The Polegate; Mr. Wells, Bexley, was second; and Mr. J. Hill, New Malden, third with Conference.

There were three exhibitors in the class for a collection of hardy fruit, grown partly or entirely under glass, to illustrate orchard house culture. The first position was well taken by Mr. C. Blick, gardener to Martin L. Smith, Esq., The Warren, Hayes, Kent, who staged in excellent form. Amongst the Apples were noticed Emperor Alexander, Cellini, King of the Pippins, Nonesuch (splendid), Cox's Orange Pippin, Ribston Pippin, Scarlet Nonpareil, Lord Derby, and Ecklinville. Pears comprised Beurré Diel, Doyenné du Comice, Delices d'Hardenpoint, Pitmaston Duchess, Nouvelle Fulvie, Conference, Princess, and Souvenir du Congrès. Besides these there were Nectarines Gladstone and Sea Eagle, Peaches Rivers' Early and Pineapple Nectarines, Coe's Golden Drop, Monarch, Grand Duke, and Reine Claude de Bavay Plums, with Morello Cherries. Mr. Potter, gardener to Sir M. Collett, Bart., Sevenoaks, was second; and Mr. J. McIndoe third.

OPEN TO GARDENERS AND AMATEURS ONLY.

A magnificent exhibit staged by Mr. Woodward, gardener to Major Warde, Barham Court, Maidstone, took the highest award in the class for eighteen dishes of Apples. In size and colour the fruit left little to be desired, containing fine examples of The Queen, Cox's Orange Pippin, Baumann's Red Winter Reinette, Wealthy, Ribston Pippin, Cornish Aromatic, Warren's King, Mère de Ménage, Washington, Gascoigne's Scarlet Seedling, Belle de Pontoise, Bismarck, Belle Dubois, Alexander, Stone's, Peasgood's Nonesuch, Lord Derby, and Tyler's Kernel. In the second prize exhibit, staged by Mr. G. Goldsmith, gardener to Sir E. G. Loder, Horsham, were good examples of Cox's Pomona, Cox's Orange Pippin, Wealthy, Emperor Alexander, Peasgood's Nonesuch, and Ribston Pippin, the whole displaying high colour, but inferior to the first prize collection in size. Mr. W. King, gardener to J. Colman, Esq., Reigate, occupied third place, his exhibit including a fine dish of King of the Pippins.

Mr. T. W. Startup was an undoubted first with twelve dishes of Apples, the fruit being large, rich in colour. The varieties included Cox's Orange Pippin, Baumann's Reinette, Ribston Pippin, Mabbott's Pearmain, Queen, Stone's, New Hawthornden, Beauty of Kent, Peasgood's None-

such, Gascoigne's Scarlet, Lord Derby, and Warner's King. The second prize went to Mr. A. T. Killick, Maidstone, showing good examples of Warner's King, Ecklinville Seedling, and Cox's Orange Pippin; and Mr. Pragnell, gardener to J. Wingfield Digby, Esq., Sherborne Castle, Dorset, followed with the third.

In the class for nine dishes of Apples the competition was excessively keen, there being no less than sixteen competitors. Superb fruits staged by Mr. Turton, gardener to John Hargreaves, Esq., Reading, occupied the post of honour, the exhibit including Cox's Orange Pippin, King of the Pippins, Ribston Pippin, Loddington Seedling, Cox's Pomona, Warner's King, Peasgood's Nonesuch, Mère de Ménage, and Emperor Alexander. Mr. S. H. Goodwin, Mereworth, was a good second, staging highly coloured fruits of Worcester Pearmain, Yorkshire Beauty, and Cox's Pomona. Mr. R. Grindrod, gardener to P. T. Phillips, Esq., Whitfield, was third, also showing good fruit.

Mr. G. Woodward was first with six dishes of cooking Apples, staging fine Peasgood's Nonesuch, Belle Dubois, Warner's King, Stone's, Emperor, Lord Derby. Mr. S. T. Wright, gardener to C. Lee Campbell, Esq., Glewston Court, was second, showing fine Peasgood's Nonesuch and Ecklinville, and Mr. J. E. Burton, gardener to Sir E. Paul, Twickenham, followed with the third. Fine examples of Peasgood's Nonesuch, Alexander, and The Queen, staged by Mr. R. C. Sanders, Halton, Tring, took the first prize in the class for three dishes of cooking Apples, Mr. A. T. Killick and Mr. W. Jones being second and third in the order named. There were twelve exhibitors in this class.

Dessert Apples of superb quality were shown in large numbers. In the class for six dishes there were nine competitors, and the first prize went to Mr. G. Woodward, who staged perfect samples of Calville Rouge Præcox, Lady Sudeley, Baumann's Red Winter Reinette, Cox's Orange Pippin, Washington, and Ribston Pippin. Mr. G. Goldsmith, gardener to Sir E. G. Loder, Horsham, was second, showing fine fruit of Ribston Pippin, Worcester Pearmain, and King of the Pippins. Mr. Bannister followed with the third place. Mr. A. Kemp, gardener to C. S. S. Dickens, Esq., Horsham, was first with three dishes of dessert Apples, staging Cox's Orange Pippin, Ribston Pippin, and American Mother in good form. No card was to be seen showing who was second, Mr. Turton being third.

Mr. G. Goldsmith claimed premier honours with eighteen dishes of dessert Pears. The fruit was very large, though not so highly coloured as might have been expected. Conspicuous in the exhibit were Brockworth Park, Sylvestre d'Automne, Marguerite Marrillat, Pitmaston Duchess, Madame Treyve, and Souvenir du Congrès. In the second prize collection, staged by Mr. G. Woodward, were fine fruits of Doyenné Boussoch, Triomphe de Vienne, Brockwork Park, and Durondeau. Mr. Spencer, gardener to H. C. Moffatt, Esq., Goodrich Court, Hereford, occupied the third place. Mr. G. W. Cotterell, gardener to Sir W. Gear, Tonbridge, and Mr. A. Offer, gardener to G. Warren, Esq., Crawley, were equal firsts with twelve dishes of Pears, the former showing, amongst others, fine fruit of Pitmaston Duchess, Doyenné du Comice, Durondeau, Brockworth Park, and Maréchal de Cour; and the latter superb examples of Williams' Bon Chrétien, Louise Bonne of Jersey, and Beurré Diel. Mr. W. Pragnell was a capital second, showing excellent Durondeau, General Toddleben, and Beurré Clairgeau.

Mr. J. Gibson, gardener to Earl Cowley, Chippenham, was a good first with nine dishes of Pears, showing fine examples of Alexander Lambre, Louise Bonne of Jersey, Triomphe de Vienne, General Toddleben, Duchesse d'Angoulême, and Beurré Clairgeau. Mr. J. E. Burton, gardener to Sir E. Paul, Bart., Twickenham, was second with fruit less even; and Mr. W. Jones, gardener to J. R. Brougham, Esq., Carshalton, followed with third. Mr. W. Bannister, gardener to H. St. Vincent Ames, Esq., Westbury-on-Trym, was first with six dishes of dessert Pears, staging in good form Durondeau, Marie Louise, Beurré Superfin, Maréchal de Cour, Pitmaston Duchess, and Madame Treyve. Mr. Slogrove, gardener to Mrs. Crawford, Reigate, was a good second; and Mr. Rickwood, gardener to the Dowager Lady Freake, Twickenham, took the third place. Mr. F. Fennell, gardener to W. M. Cazalet, Esq., Tonbridge, was first with three dishes of dessert Pears, showing fine fruits of Marguerite Marrillat, Souvenir du Congrès, and Pitmaston Duchess. Mr. R. Edwards, gardener to G. H. Field, Esq., Sevenoaks, and Mr. G. Thompson, gardener to Messrs. W. and E. Wells, Hounslow, followed second and third.

Large fruits of Vicar of Winkfield, General Toddleben, and Catillac, shown by Mr. Woodward, took the highest award for three dishes of stewing Pears. Mr. W. Cotterill was a fair second, and Mr. G. Goldsmith third. Mr. J. Masterson, gardener to Countess of Camperdown, Shipston-on-Stour, was first with a single dish of stewing Pears, showing Uvedale's St. Germain. Mr. J. Gibson was second with Vicar of Winkfield, and Mr. R. Edwards third with Catillac.

Peaches on the whole were good, and in the class for three dishes Mr. Woodward was first with well coloured examples of Nectarine Peach, Sea Eagle, and Princess of Wales. Mr. J. McIndoe was second, showing Exquisite and Golden Eagle of very rich colour; and Mr. Chas. Herrin, gardener to Hon. G. M. Fortescue, Maidenhead, followed with the third. The competition in the single dish class was very keen, there being seventeen dishes staged. Mr. Richards, gardener to R. Summers Esq., Streatham, was first with a superb dish of Barrington; Mr. Markham, gardener to Viscountess Falmouth, Maidstone, was second with Princess of Wales; and Mr. J. Wallis, gardener to R. Sneyd, Esq., Keele Hall, Staffs, third with Sea Eagle.

Mr. G. Goldsmith was first for three dishes of Nectarines. For one dish of Nectarines Mr. Reynolds, gardener to Messrs. de Rothschild, Acton, was first with well coloured Pineapple. Mr. F. Harris, gardener

to Lady Henry Somerset, Eastnor Castle, was a good second, and Mr. Masterson third.

Mr. J. McIndoe was first with four dishes of Plums, staging Bryanston Green Gage, Monarch, Coe's Golden Drop, and Jefferson's. Mr. J. Day, gardener to C. J. Massey, Esq., Garliestown, was a fair second; and Mr. Masterson third. Mr. G. Herrin was first with a dish of dessert Plums, staging highly coloured fruits of Coe's Golden Drop. Mr. R. Rickwood, gardener to Dowager Lady Freake, Twickenham, was second; and Mr. F. Fennell third. Mr. J. Day was to the front with four dishes of cooking Plums, showing Victoria, Goliath, Magnum Bonum, and Pond's Seedling. Mr. J. McIndoe and Mr. J. Nowell, Abergavenny, followed second and third in the above order.

Mr. J. Empson, gardener to Mrs. Wingfield, Amptill, was first for one dish of cooking Plums with Grand Duke. Mr. R. C. Sanders, Tring, was second with Monarch, and Mr. G. Tebbut, Isleworth, third with Belle de Septembre. For a single dish of Gage Plums Mr. J. Hill, gardener to C. R. W. Adeane, Esq., Cambridge, was first with well-coloured fruit of Reine Claude de Bavay. Mr. J. McIndoe was second with Bryanston Green Gage, and Mr. J. Nowell third with Golden Gage. For three dishes of Damsons and Prunes Mr. J. Fennell was first, Mr. A. T. Killick second, and Mr. J. Ryall third.

Mr. J. Masterson was first with Morello Cherries, followed by Mr. J. Nowell and Mr. J. Day, second and third. Mr. Turton was first with a collection of Nuts, staging an interesting exhibit. Mr. S. H. Goodwin was second, and Mr. J. Helman, Lewes, third. Mr. W. Mitchell, Romsey, was first with a dish of Quinces, Mr. W. King second, and Mr. G. Garraway, Bath, third.

SINGLE DISHES OF OPEN-AIR FRUIT.

As might naturally have been expected, this section, which was open only to amateurs and gardeners, was one of the most popular in the whole show. Numerous tables were packed with plates of fruit and, especially in the Apple classes, the quality was excellent throughout. It is in such classes as these that the inexperienced person can gain such a great amount of knowledge of the more minute characteristics of the different varieties, and thus learn to distinguish the one from the other. Taking this into consideration one would think that this form of class might well be made a greater feature of other shows.

Dessert Apples.—Adams' Pearmain.—First, Mr. Fennell; second, Mr. Turton; third, Mr. Mackenzie. Cox's Orange Pippin.—First, Mr. Turton; second, Mr. S. T. Wright; third, Mr. Collins. King of the Pippins.—First, Mr. A. Wyatt; second, Mr. J. Turner; third, Mr. Wright. Mannington's Pearmain.—First, Mr. Turton; second, Mr. Potter; third, Mr. Ross. Margil.—First, Mr. Spencer; second, Mr. A. Wyatt; third, Mr. Buxton. American Motber.—First, Mr. Mackenzie; second, Mr. Spencer; third, Mr. Wright. Reinette de Canada.—First, Mr. Woodward; second, Mr. Munro; third, H. C. Prinsep, Uckfield. Ribston Pippin.—First, Mr. A. Ocock, Rudgwick; second, Mr. Mackenzie; third, Mr. Thompson. Rosemary Russet.—First, Mr. P. Cavanagh, Roehampton; second, Mr. Turton; third, Mr. Bridges. Scarlet Nonpareil.—First, no name; second, Mr. Mackenzie; third, Mr. Woodward. Worcester Pearmain.—First, Mr. G. Wakefield, Maidstone; second, Mr. Killick, Maidstone; third, Mr. Mease. For any other variety.—First, Mr. Mackenzie with St. Edmund's Pippin; second, Mr. Herrin with Red Calville; third, Mr. P. Cavanagh, Roehampton, with Jefferson's.

Cooking Apples.—Alfriston.—First, Mr. Mackenzie; second, Mr. Woodward; third, Mr. P. Cavanagh. Bismarck.—First, Mr. Mackenzie; second, Mr. Woodward; third, Mr. Goldsmith. Blenheim Orange.—First, Mr. Ross; second, Mr. Newman; third, Mr. T. W. Startup, West Farleigh. Bramley's Seedling.—First, Mr. Killick; second, Mr. Woodward; third, Mr. Ross. Cellini.—First, Mr. Killick; second, Mr. Mackenzie; third, Mr. Goldsmith. Cox's Pomona.—First, Mr. Ross; second, Mr. S. H. Goodwin, Mereworth; third, Mr. Woodward. Duchess of Oldenburg.—First, Mr. Wright; second, Mr. S. H. Goodwin; third, Mr. Haines. Dumelow's Seedling.—First, Mr. T. Bridgwell, Orsett, Grays; second, Mr. Ross. Ecklinville Seedling.—First, Mr. Mackenzie; second, Mr. Woodward; third, Mr. Herrin. Emperor Alexander.—First, Mr. Mackenzie; second, Mr. Buxton; third, Mr. Woodward. Gascoigne's Scarlet.—First, Mr. Mackenzie; second, Mr. Goldsmith; third, Mr. Woodward. Golden Noble.—First, Mr. Woodward; second, Mr. Mackenzie; third, Mr. G. Garraway, Bath. Golden Spire.—First, Mr. Woodward; second, Mr. Goldsmith; third, Mr. T. W. Startup. Grenadier.—First, no name; second, Mr. Woodward; third, Mr. Herrin. New Hawthornden.—First, Mr. Mackenzie; second, Mr. Bannister; third, Mr. Woodward. Lane's Prince Albert.—First, Mr. Ross; second, H. C. Prinsep; third, Mr. Wright. Lord Darcy.—First, Mr. Goldsmith; second, Mr. Woodward; third, Mr. G. Wakefield. Lord Grosvenor.—First, Mr. Woodward; second, Mr. Mackenzie; third, Mr. R. Webb, Beenharn. Lord Suffield.—First, Mr. Turton; second, Mr. Mackenzie; third, Mr. Burton. Mère de Ménage.—First, Mr. Mackenzie; second, Mr. Spencer; third, Mr. Ross. Northern Greening.—First, Mr. H. C. Prinsep; second, Mr. Jones; third, Mr. Cotterell. Newton Wonder.—First, Mr. Goldsmith; second, Mr. Harris; third, Mr. Wright. Peasgood's Nonesuch.—First, Mr. Mackenzie; second, Mr. Woodward; third, Mr. Sanders, Halton. Pond's Seedling.—First, Mr. T. Ridgwell; second, Mr. P. Cavanagh; third, Mr. G. Helman, Lewes. Spencer's Favourite.—First, Mr. Woodward; second, Mr. T. W. Startup; third, Mr. Wright. Stirling Castle.—First, Mr. Ross; second, Mr. Goldsmith; third, Mr. J. Finch Hill, Watford. Loddington Seedling.—First, Mr. Mackenzie; second, Mr. Woodward; third, Mr. Ross. The Queen.—First, Mr. Sanders; second, Mr. Mackenzie; third, Mr. Goldsmith.

Tower of Glamis.—First, Mr. Woodward; second, Mr. Ross; third, Mr. T. W. Startup. Warner's King.—First, Mr. Mackenzie; second, Mr. Woodward; third, Mr. Wright. Waltham Abbey Seedling.—First, Mr. T. W. Startup; second, Mr. Mackenzie; third, Mr. Wright.

Dessert Pears.—Beurré Diel.—First, Mr. Wythes; second, Mr. Bannister; third, Mr. Spottiswood. Beurré Hardy.—First, Mr. Woodward; second, Mr. H. C. Prinsep; third, Mr. Hill. Beurré Superfin.—First, Mr. Woodward; second, Mr. Goldsmith; third, Mr. Cotterell. Williams' Bon Chrétien.—First, Mr. Sanders; second, Mr. Herrin; third, Mr. Spottiswood. Conference.—First, Mr. Woodward; second, Mr. Wythes; third, Mr. Nicholson. Maréchal de la Cour.—First, Mr. Goldsmith; second, Mr. Pragnell; third, Mr. Woodward. Doyenné du Comice.—First, Mr. Goldsmith; second, Mr. Woodward; third, Mr. Edwards. Durondeau.—First, Mr. Collins; second, Mr. J. Sims; third, Mr. Goldsmith. Emile d'Heyst.—First, Mr. Woodward; second, Mr. Goldsmith; third, Mr. J. Nowell. Fondante d'Automne.—First, Mr. Gibson; second, Mr. Rogers; third, Mr. H. C. Prinsep. Glou Morceau.—First, Mr. Goldsmith; second, Mr. Cotterell; third, Mr. Chard. Josephine de Malines.—First, Mr. Ross; second, Mr. Bannister; third, Mr. Hill. Louise Bonne of Jersey.—First, Mr. Goldsmith; second, Mr. King; third, Mr. J. Nowell. Marie Louise.—First, Mr. Burton; second, Mr. Goldsmith; third, Mr. H. C. Prinsep. Nouvelle Fulvie.—First, Mr. Spencer; second, Mr. Wythes; third, Mr. Fennell. Pitmaston Duchess.—First, Mr. Gibson; second, Mr. Woodward; third, Mr. Cotterell. Souvenir du Congrès.—First, Mr. Thompson; second, Mr. Turton; third, Mr. Goldsmith. Thompson's.—First, Mr. Goldsmith; second, Mr. Gibson; third, Mr. Cotterell. Triomphe de Vienne.—First, Mr. Sanders; second, Mr. Woodward; third, Mr. Gibson. Winter Nelis.—First, Mr. H. C. Prinsep; second, Mr. Goldsmith; third, Mr. Rickwood.

DRIED FRUITS, NOT PRESERVED IN FLUID OR SUGAR.

This ought to have been an important section of the show, but could scarcely be termed so, as one exhibitor was well to the front in every class. The industry of fruit drying does not seem to gain much popularity in England, and we suppose it is to this that the sparsity of competitors at this exhibition must be ascribed. The principal class was for a collection of dried fruits, the Royal Horticultural Society offering a silver-gilt and a silver medal as prizes. Mr. W. A. Trotter, Ledbury, was the only exhibitor, and received the more valuable of the two awards. The collection was highly creditable, the fruits comprising Apples, Pears, Plums, and Cherries, in excellent condition. The remaining classes were for 1 lb. of sliced Apples, 1 lb. of whole Apples, 1 lb. of Plums, and 1 lb. of Cherries, the above mentioned exhibitor being first in each case. The Apple rings represent Golden Noble, the whole Apples Flower of Herts, the Plums Washinton, and the Cherries Morello. Mr. W. Bull staged in the whole Apple class, and was accorded second position.

FRUIT PACKING.

From the exhibits staged at the Palace it is evident that perfection in the packing of fruits has not yet been reached, though the improvements that have been made of late years are readily perceptible. In the class for six varieties of hardy fruits, 2 gallons of each, and of at least two kinds, open only to *bonâ fide* market growers, Mr. H. S. Goodwin, Mereworth, was a good first; Mr. G. Tebbutt, Isleworth, a close second; and A. Wyatt, Halton, third. The prizes in this class were given by the Worshipful Company of Fruiterers. Mr. Archibald Weir, Ottery St. Mary, offered a prize for "Bushel (42 lbs.) of a cooking Apple, and a half bushel (20 lbs.) of a dessert Apple, packed for market in as many packages as may be considered desirable. The cost of the packages and method of packing employed must be stated." This was open only to amateurs and private gardeners. Messrs. R. Grindrod, W. Cotterell, and F. Harris were placed in the order their names are given. In the class for the best packed basket or other package of Grapes, 12 lbs. weight of fruit, received by rail, Mr. C. Cooper was a splendid first with fruits in fine condition. Mr. J. Gore, Polegate, was a good second, and Mr. Harris third. For the best packed box of twenty-four Peaches received by rail, Mr. Wells, gardener to F. G. Arbuthnot, Esq., Bexley, was a distinct first, the fruits partially enclosed in tissue paper, and firmly embedded in wood wool; Mr. R. Grindrod a good second, and Mr. A. Pentney, gardener to A. J. Howard, Esq., Isleworth, third. For the best packed box or other package of twenty-four ripe Pears received by rail, Messrs. W. Wells, A. Pentney, and W. King were the prizewinners in the order of their names.

MISCELLANEOUS.

As is usual at all shows of much repute the miscellaneous exhibits of nurserymen added no small share to the sum total of the display. Though several exhibits of flowers were noticed the majority was, of course, fruit, in such variety and of quality unequalled at any show of the present year. The Society granted awards to nurserymen in the shape of medals, so that it was to some extent competitive; but throughout the show all exhibits were excellent, and in almost every one were to be seen one or more dishes possessed of extraordinary merit, reflecting much credit on the cultivators.

Prominent in the show was a fine display of Apples and Pears from the Royal Gardens, which was very highly commended. Amongst Apples were noticed good Ribston Pippin, Brown's Codlin, Paradise Pippin, Queen Caroline, Duchess of Oldenburg, Potts' Seedling, Peasgood's Nonesuch, and Golden Noble; and of Pears—Maréchal de Cour, Louise Bonne of Jersey, Triomphe de Vienne, Seckle, Knight's Monarch,

Gros Calabasse, Beurré Hardy, Victoria, Brockworth Park, Durondeau, and others, were all fine. Messrs. J. Veitch & Sons, Chelsea, were represented by a fine display, which included enormous fruits of Peasgood's Nonesuch, fine Blenheim Orange, Tom Putt, Ecklinville Seedling, Ribston Pippin, Tyler's Kernel, Cox's Orange Pippin, Warner's King, Queen Caroline, Lord Grosvenor, New Hawthornden, Lord Derby, Frogmore Prolific, Lane's Prince Albert, Lord Suffield, King of the Pippins, and many others, all displaying good culture and finish. On another table devoted to Plums and Pears were superb fruits; Jefferson, Coe's Golden Drop, Monarch, and Pond's Seedling; and amongst the Pears, Fertility, Pitmaston Duchess, Thompson's, General Toddleben, and Souvenir du Congrès were all of high order (highly commended).

Amongst the Midland exhibitors Messrs. J. R. Pearson & Sons, Chilwell, were awarded a silver medal for a fine collection of Apples, in which were Peasgood's Nonesuch, grand and highly coloured, as also were Gascoigne's Scarlet, Stirling Castle, Warner's King, Duchess of Oldenburg, Emperor Alexander, Beauty of Kent, Cox's Pomona, and Newton Wonder, the colour and quality throughout being of the best. From the Royal Horticultural Society's Gardens at Chiswick came a large and varied exhibit of Pears, which included all the best known varieties. Mr. Reynolds, gardener to Messrs. de Rothschild, Acton, sent an even collection of Apples and Pears, in which colour and quality were equally displayed. Messrs. George Bunyard & Co., Maidstone, made a most effective display with Apples, Pears, Peaches, and Grapes in pots, together with a large number of delightfully coloured fruit in dishes, which included perfect specimens of Gascoigne's Scarlet, Cox's Pomona, Peasgood's Nonesuch, King of the Pippins, Washington, Tyler's Kernel, Worcester Pearmain, and Emperor Alexander Apple. A silver-gilt medal was awarded. The same firm was also awarded a gold medal for a hundred varieties of hardy fruits, which were tastefully displayed on a large table, and contained magnificent specimens of Apples, Pears, Plums, and Damsons of all the recognised kinds, and staged in perfect form. A silver-gilt medal also fell to Messrs. Bunyard for a grand collection of fifty distinct varieties of Apples, in which the size and quality were in every respect equal to those in the afore-mentioned exhibits.

Messrs. S. S. Spooner & Sons, Middlesex, were highly commended for a varied group of Apples and Pears. Messrs. J. Cheal & Sons, Crawley, were represented by Apples in pots and otherwise, a most effective display of good, highly coloured samples, including Yorkshire Beauty, Peasgood's Nonesuch, Lord Derby, Duchess of Oldenburg, Bismarck, Potts' Seedling, Worcester Pearmain, and many others, which were very highly commended. A gold medal was awarded for a group of fruit trees in pots set up by Messrs. T. Rivers & Son, Sawbridgeworth, was a bright feature in the show, being composed of Peaches, Apples, Pears, and Vines. Amongst the latter were well fruited pots of Alicante and Golden Queen. The Apples included Cox's Orange Pippin, Bijou, and Gascoigne's, and amongst the Pears were Doyenné du Comice, Louise Bonne of Jersey, and Conference, the highly coloured fruit of the whole making a fine display. Mr. Ward, gardener to the Earl of Radnor, Salisbury, sent fruits of Melon Earl's Favourite, and Messrs. Nothard and Lowe, London, sent samples of the Nova Scotian Apple Gravenstein.

Mr. John Watkins, Hereford, sent a large collection of Pears, which included fine examples of Williams' Bon Chrétien, Easter Beurré, Durondeau, Pitmaston Duchess, Flemish Beauty, Napoleon, Vicar of Winkfield, Fertility, and others for which a silver-gilt medal was awarded; the same firm also staged Apples in great variety and superb quality. Mr. A. Wyatt, Hatton, Middlesex, sent a good collection of Apples and Pears, which included fine samples of the best recognised varieties. From Messrs. William Paul & Son, Waltham Cross, came a fine display of Apples and Pears, including among the latter, Cellini, King of the Pippins, Bismarck and Duchess' Favourite, very good. Mr. W. Taylor, Southampton, sent Apples, Pears and Plums, all large and highly coloured samples of the best kinds in cultivation. From the Horticultural College, Swanley, came a collection of Apples, and Mr. W. Horne, Rochester, also staged fine fruit.

Messrs. Jno. Jefferies & Son, Cirencester, sent a good collection of Apples, as also did Mr. H. Berwick, Sidmouth, who was awarded a medal for a collection of fifty varieties of fruit. All the samples staged were large, richly coloured, and firm in quality, and consisted of Pears, Apples, Plums, Medlars, Nuts, Cherries, and Peaches, all well-known varieties. A good display of Apples came from Messrs. Paul & Son, Cheshant, in which were noticed fine Cellini, Washington, Yorkshire Beauty, Lord Suffield, Bismarck, and a host of others. Mr. R. Wells, Crawley, had a collection of medium sized, richly coloured Apples.

Messrs. John Laing & Sons, Forest Hill, were very highly commended for a fine exhibit of Apples and Pears, in which colour, quality, and size were all in evidence. Amongst the former were noticed Duchess of Oldenburg, Golden Spire, Duchess' Favourite, Kerry Pippin, Lane's Prince Albert, King of the Pippins, and others, and of the latter Beurré Sterckmans, Beurré Clairgeau, Louise Bonne of Jersey, Beurré Diel, Beurré Hardy, St. Michel, Princess, and Doyenné du Comice were conspicuous. The same firm also had a fine group of Caladiums and other foliage plants. Messrs. John Pect & Sons, Norwood, sent a large and varied collection of Apples and Pears in which good quality was evident. All the best kinds were represented, and the fruit fine and well coloured (commended). Very effective was the large exhibit of Messrs. Charles Lee & Son, Hammersmith, who staged Apples and Pears of superb quality in large numbers (very highly commended).

Quite a feature in the show was the large collection of Tomatoes shown by Messrs. Sutton & Sons, Reading. The exhibit included thirty-seven distinct varieties, all grown and ripened outdoors. The fruits in

this astonishing display were large and well coloured, the majority of them being shown with the long stems on which they had grown; they were, in fact, quite a study in Tomatoes, and were very highly commended. As illustrative of the magnificence of the exhibit we may mention that the space occupied was 75 feet in length by about 8 feet in width. Messrs. Felloes & Ryder, Orpington, sent good dishes of the new Tomato Duke of York.

Several fine collections of hardy flowers were shown, including one from Messrs. B. Ladhams, Southampton, and another from Mr. Prichard, Christchurch. Mr. T. S. Ware, Tottenham, had a fine collection of double Begonias, and also a large and varied group of Dahlias. A tastefully arranged collection of Begonias and Chrysanthemums, set up by Mr. H. J. Jones, Lewisham, was much admired. Messrs. J. Cheal and Sons staged a collection of single Dahlias, and from Messrs. William Paul & Son came a collection of Roses. Messrs. W. Cutbush and Sons, Highgate, were represented by an interesting display. Mr. H. A. Orr, Bedford, showed samples of his patent self-supporting shelves for fruit, bulbs, and Potatoes. Messrs. Chaffey Bros. sent samples of dried fruits from the Australian Irrigation Colonies. Messrs. W. Wood & Sons showed horticultural sundries, and from Mr. E. L. Johnson, Ealing, came samples of Mushroom spawn.

THE LECTURES.

NEW FRUITS OF RECENT INTRODUCTION.

On Thursday a paper, entitled "New Fruits of Recent Introduction," was read by Mr. G. Bunyard. The attendance was not so large as might have been expected, this, to some extent, being accounted for through some misunderstanding in the arrangements, as instead of taking place in the Garden Hall, as was advertised, which is quite close to the central transept, where the show was held, a room a considerable distance away had at the last moment to be utilised. If, however, there was a lack of attendance, it was made up in enthusiasm, as after the paper was read an interesting discussion took place.

In a few preliminary remarks Mr. Bunyard said, that though the paper was entitled "new" fruits, yet, to save any confusion, he would add that it also included others, which though they were not, strictly speaking, new, having been in commerce for some years, were but little known and grown; and further, all those enumerated had come under his own personal observation, he having cultivated them at his nurseries at Maidstone. They were classed in alphabetical order, commencing with Apples. These included many—some new, and others but little known; and amongst them Beauty of Bath, which ripens in August, has fruit of medium size, brilliant in colour, rich in flavour, and likely to prove a good market variety. September Beauty is another new sort of merit, and likely when better known to become popular. Rivers' Early Peach came next, and though he (Mr. Bunyard) had not fruited it himself, he was well acquainted with this introduction, for which Mr. Rivers was responsible. The fruit is almost identical with Irish Peach, but ripens earlier, is a better bearer, altogether an improved variety of superior habit. Armorer, though little known, he considered worthy of mention; it is a small russetty flavoured Apple, very late, and was raised by Mr. Charles Ross. Then there is Lady Sudeley, a fine Apple, ripening in August and September, with fruit of a delicious flavour, the tree being also most productive. Next in order came Christmas Pearmain, a new variety raised by himself, and he thought likely to prove most useful for growing for market purposes. South Lincoln Pippin was spoken most highly of by the essayist as being a fine variety, much resembling Cox's Orange Pippin in flavour, while the colour is very rich; it has, in addition, the reputation of succeeding in many places where Cox's Orange fails, this being a great recommendation, and altogether it is a most desirable dessert Apple. Okera he thought was well worth mentioning, as it produces fine fruit in September and October, of a rich rosy salmon tint; the flesh is hard, and very good when ripe. Next came Wealthy, an American Apple, soft in flesh and of good flavour, but should be planted with caution, as in some soils and localities it has the character of being an uncertain cropper. He could highly recommend Williams's Favourite as being a good grower and most profuse bearer.

Mr. Bunyard then went on to say that there were several others he could mention, but as he had not fruited them he would refrain from doing so, and he thought the above covered all the novelties in dessert Apples, and with just a mention of Allen's Everlasting, one of Rivers' raising, which, though it had been out many years, was but little known, he would pass on to the novelties in the culinary division. First came Early Rivers, a fine Apple, very like Lord Suffield, but the tree is a much better grower, often succeeding where the latter fails, and has not the same tendency to become infested with mildew. Then came Hambling's Seedling, a good keeping variety, the fruit remaining in good condition till March, while the growth is exceedingly vigorous and free from canker. Then there was Byford's Wonder, a large Apple, somewhat resembling Blenheim Orange, being a good keeper and of excellent quality. Vicar of Beighton was next in order; this, said Mr. Bunyard, was much fancied by the late Mr. Shirley Hibberd, but he thought it must be condemned as it cankers too much, and therefore cannot be considered very good. Newton Wonder was the next mentioned, for which Messrs. J. R. Pearson & Sons of Chilwell were responsible, and it could safely be termed one of the best in the market, the fruit being large and good, and the tree a most prolific cropper. Belle de Pontoise is a good growing variety, bearing large fruit of high quality. Mrs. Barron is a good growing kind for restricted gardens, ripening in October. Tyler's Kernel is a very vigorous grower

and bears freely, the fruit being fine with scarlet cheeks of the Blenheim type. Though there were several others not yet out, he would complete the Apples by mention of one of Messrs. Rivers' introductions, Late Transparent, which is a good grower in any warm corners, the fruit is fine, and it is one of the best of the kitchen sorts.

Following in alphabetical order Cherries next claimed attention, new kinds of which are not very plentiful. The best of the recent introductions, though but little known, was Early Rivers, with large black fruit, very hardy, and considered to be one of the best early Cherries in cultivation. Passing on to Nectarines the first mentioned was Early Rivers, rightly named, said the essayist, as it is the earliest Nectarine in existence, coming in quite seven days before any other, while the flavour is grand. Newton and Spencer were both mentioned as useful kinds, bearing large fruit, while the wood and habit is perfect. For a midseason Nectarine Mr. Bunyard recommended Dryden, a large highly flavoured kind, coming in about August. Several others were mentioned, and with reference to Peaches he said that, although several good early varieties had been introduced from America, still we were yet in want of a first-class early Peach of good flavour, as up to now we have nothing superior to Hales' Early. Notes on the culture of the American kinds referred to followed; they are very suitable for pot culture in the orchard house if stood outdoors about three weeks before the fruit is ripe.

Plums came next, and amongst the newest kinds Rivers' Transparent Gages were placed pre-eminent. Late Transparent was highly spoken of as being a fine late kind, coming in fully ten days after any other; while the tree is of dwarf habit, and an abundant bearer. Amongst others mentioned as superior was Monarch, a large purple dessert Plum, ripening in September. Amongst Damsons Bradley's King, raised by the late Mr. Bradley of Southwell, was classed as one of the best.

In dealing with Pears Mr. Bunyard spoke of Beacon as being a profuse bearer on the Quince stock, and in flavour very sweet and pleasant. Several others were mentioned, and their qualifications dwelt upon, including Conference, a fine Pear introduced by Mr. Rivers, which ripens in November. The tree is very prolific, and Mr. Bunyard considers it has a future as a good market Pear. A French Pear, Electa, was spoken of as being of good quality, the fruit being in good condition in January. Rivers' Magnet and Princess the essayist considered to be fine large Pears, but much neglected. Several other dessert and baking Pears were also spoken of, and in dealing with Quinces Mr. Bunyard said these had been introduced chiefly from America in large quantities.

Amongst Raspberries Superlative was accorded the highest place, and is rapidly gaining in popularity. It is considered, he continued, to be the best for preserving, and jam made with it improves in flavour with keeping. With reference to Strawberries Mr. Laxton had been responsible for many introductions, and he regretted that noted grower had not lived to see the popularity of several of his latest kinds. He should mention Laxton's No. 1 as being the earliest of all, coming in fully ten days before any other. Laxton's King of the Earlies was also good, and these were followed by Royal Sovereign. Sensation he considered very fine, but it does not travel well when gathered. Amongst the last introductions Laxton's Latest of All is one of the best, though under some conditions its rough leaves are very liable to attacks from red spider. Mr. Allan of Gunton Park has been responsible for several good varieties, including Empress of India, Gunton Park, and Lord Suffield, but these vary much according to locality, as this year they had failed with him in the south, while in the north they had fruited well.

Several novelties in Grapes were mentioned, but Mr. Bunyard considered that the day is close at hand when Grapes will have to be divided into two sections, those grown for size and appearance, and others in which quality predominates. The Japanese Wineberry was spoken highly of as a recent introduction, valuable both as a handsome climbing and trailing plant and also for its qualities as a palatable fruit. Several American Blackberries had been tried, said the essayist; but they were looked on as being quite a failure, and nothing had been sent over to equal the English Blackberry. This finished the list, and in conclusion Mr. Bunyard said it was foolish to try a new fruit for one season, and if it failed give it up, as conditions of climate and locality vary so much. It was always his custom to grow a new fruit at least five years to thoroughly test its qualifications, and after that, if not good, it is destroyed. Depend on it, he said, that when sending samples to be placed before the Fruit Committee of the Royal Horticultural Society nothing but what is first-class will pass the vigilance of the experts seated at the table, and receive a certificate or award of merit.

This brought the lecture to a close, and an interesting discussion followed, in which Messrs. Rivers, Crump, Roupell, and others took part.

PRUNING FRUIT TREES.

On Friday a most interesting and instructive paper, on "Pruning of Fruit Trees," was read by Mr. Alfred Pearson, of Chilwell, Nottingham, who, in connection with the well-known firm of Messrs. J. R. Pearson and Sons, has had a life-long experience in fruit tree culture. The attendance was not large, but in the discussion that followed much interest was centred.

The essayist, in introducing the subject, remarked that fruit tree pruning had been much discussed. There were, however, a great many persons still in the dark, especially amongst amateurs, and it was also a subject about which there was a great diversity of opinion. First the amateur buys fruit trees, and then wants to know whether it is the correct thing to prune at the time of planting. Now, those who are not advocates of pruning at planting time assert that it is a

great check on the trees to perform the operation then; while on the other hand, advocates for this system state the branches should then be shortened, so as to obtain a fair balance between the action of the branch and root growth. On many of the County Council plots in various parts of the country demonstrations had been carried out on this and other important points, which had proved very beneficial, and from experiments which had taken place on the Duke of Bedford's fruit farm at Woburn, it had been estimated that on pruned trees the leaf surface is 15 per cent. less than on those unpruned.

With reference to pruning, the manner in which it is effected must depend a great deal on the kind of tree to be done, and in his opinion the pruning should take place at the time of planting. The objects to be attained by pruning were next dealt with, and are as follows—first, to obtain fruit, and, secondly, to keep the tree in a good shape; and though the principles are simple enough, the application of them requires a considerable amount of discretion. It is impossible, said Mr. Pearson, to lay down any hard and fast rules in connection with pruning, and proper judgment on part of the operator must be used. Two rules may, however, be adhered to—first, that the branches should be disposed as equally as can be, and, secondly, that it should be the endeavour to get all leading shoots as strong as possible and the side growths, on the other hand, weak. The more the branches are stopped the stronger will the remaining buds be, and in pruning all shoots should be cut back to about one-third their length and always to an outside bud; this was very important in order to produce trees with heads as open as possible. If young standard trees are not pruned they will produce little or no fruit the next year, the majority of the buds being blind. Pyramid trees require different treatment to standards. Young specimens should be well pruned, whilst older transplanted trees simply need the longer shoots shortening. Very close pruning was condemned by Mr. Pearson as being responsible for more failures than any other cause, as by this the tree was transformed into a thick mass, and it was quite impossible for the benefits of the action of the sun and air to be felt. The excuse for it was so as not to leave the trees unsightly and unshapely in habit. An ocular demonstration was then given on the pinching of growths to the bloom buds, and remarks made on the spur system of pruning Apples, Pears and Plums. Mr. Pearson then produced a pyramid tree, and showed that in some instances specimens obtained from the nursery require a few of the branches cutting out where placed too thickly. With cordon trees the leading branches should be left as long as possible, and the side growths pruned closely, though it is much better to err on the side of cutting away too little rather than too much.

Examples were then given of maiden Pear trees, showing that some kinds require little or no pruning, whilst in others the case is opposite. With espalier trees the leading shoots should be cut back to about 14 inches, and the side branches, disposed at about a foot apart, need the same treatment as cordons. Mr. Pearson then went on to demonstrate the difference necessary in the pruning of cordons and standards.

Summer pruning was next dealt with, and this operation when wrongly performed, said the essayist, is responsible for a greater loss of garden fruits than any other cause; whereas, if properly carried out, it is the right thing to do, and good results will accrue from it. In summer pruning or pinching the side shoots should be stopped back to three leaves, and then again to two, making five, with the result that the side shoots are kept weak, while the extra sap is transferred to the leading growths. With young trees three buds should be left, whilst with older specimens two will suffice.

Speaking of Peaches, Nectarines, and Apricots, Mr. Pearson said that he had not dealt with them in his paper, as these trees were generally under the care of an accomplished gardener, though he might add that all stone fruits hate the knife, and require less pruning than any other, so that great care was necessary. With reference to root-pruning, the essayist maintained that if proper attention was paid the top growth very little of this is required; and with old trees much care should be exercised in the operation, or there is great danger of killing the tree. The work should be done as early as possible, before all the leaves are off. A trench must be dug round the tree at a distance varying according to the age and size of the specimen operated on, and the roots cut with a knife in a slanting position upwards, so as to induce the young fibres to take a surface direction. A spade should be driven under the ball to sever the long tap roots, and the trench be filled up with good prepared soil as soon as possible. With old trees it was best to root-prune only half way round one season, and complete the circle the next year, and it is the better plan to withhold manure until the fruit is swelling.

The operation of pruning in all forms, said Mr. Pearson, is one which must be ruled to a great extent by the judgment of the operator, and when thoroughly understood and properly carried out many are the benefits that result from it; but where knowledge of the subject was imperfect (instances in his experience being given of this), it was much the better plan to err on the side of too little rather than too much pruning, as it was an undoubted fact that the knife was responsible for a great many failures in the fruit garden. On conclusion of the paper an interesting discussion took place, and several questions were asked, to which Mr. Pearson afterwards replied, and a hearty vote of thanks for his interesting essay brought the proceedings to a close.

COMMERCIAL ASPECTS OF HARDY FRUIT GROWING.

On Saturday a most able essay on the "Commercial Aspects of Hardy Fruit Growing in Great Britain" was read. It will be remembered

that the prize offered by the Royal Horticultural Society for the best essay on this subject was advanced from £10 to £15, and equally divided between Mr. S. T. Wright, gardener to Chas. Lee Campbell, Esq., Glewston Court, Hereford, and Mr. Lewis Castle, Manager of the Duke of Bedford's fruit farm at Woburn. It was decided that one of the papers should be read at this meeting, and that of the former was chosen. Very interesting it proved to be, as the practical experience of Mr. Wright is such that renders him one of the best authorities on profitable fruit growing in the country. As time would not admit of the whole of the essay being read many items were left out.

In commencement, the essayist stated that owing to great agricultural depression it had become necessary that attention should be directed into channels that would give better returns for capital invested than ordinary farm produce. In his opinion hardy fruit growing seemed to present itself as the best solution of the problem. Many arguments were, of course, put forward against it in the shape of foreign competition and the uncertainty of the English climate, but our climate is no worse than that of many other countries in the world, as the almost total loss of the Orange crop this year in Florida proves that we are not the only sufferers in this respect, and as regards foreign competition we have no need to fear, as samples may be produced in England that are able to compete with any imports from abroad. With many farmers of the present day, however, the knowledge of growing fruit was so meagre, that to invest capital in this industry would only result in failure. The fruit growers of the future must either be men possessed with sound practical knowledge of the subject, or capitalists who are in a position to purchase land and employ managers to carry out the work connected with it, and even in this case only men should be engaged who have acquired by experience a thorough practical knowledge in their business. Many gardeners would doubtless take up fruit growing as an occupation, but few have the necessary capital, as the income of gardeners generally was such that did not allow of them saving much money. He had, however, known cases where gardeners had taken up fruit growing and succeeded in making a good living, but there was room for much improvement on the way that fruit is grown, graded, packed, and sent to market.

He should mention Apples first as being the king of fruits for future profit, and to make them pay they should be grown as dwarf trees on good soil. Dwarf bush trees have many advantages over standards, first because they give much quicker returns, and will generally pay the second year after planting. The writer then gave an instance of Lane's Prince Albert (which he considers one of the best market varieties grown). The second year's crop was sold at 22s. per cwt., and showed a net return of 3s. 6d. per tree; this, of course, was exceptional, though the trees have continued to bear heavy crops ever since. Another advantage gained by bush trees is that all the necessary pruning, gathering, and other operations can be done from the ground without the use of ladders; and a difficulty with standards is that a far greater amount of trouble and labour is necessary in the keeping down of insect pests. Again, dwarf trees are not so liable to suffer from the effects of cold and cutting winds, and as the trees are low wind-fallen fruit is not bruised to any extent, as would be the case with tall standards, and if picked up and dispatched without delay it is little if any the worse; and, lastly, the trees can be easily gone over and all malformed samples picked off, thus leaving all those remaining of one uniform size and dispensing with the necessity of much grading at the time of gathering. This is a great advantage, and the fruit may be picked and packed straight away, the samples being good and even all through.

Packing, said the writer, is a most important item, and bad or dishonest methods cannot be too severely condemned; there is nothing gained by such practices as placing a few of the best samples on the top of the hampers and inferior fruit underneath, as buyers soon learn which is honestly packed and otherwise, and purchase accordingly. For standard trees he considers those on the Crab stock to be the best, while for dwarfs the Paradise stock is preferable. The latter commence to give returns the second year, and this will be continued over a period of at least twenty years. The writer had planted such trees 9 feet apart, or 539 trees to the acre, though he considered 435 would be ample. Standards should be planted 24 feet apart, requiring seventy-five trees per acre. Next to Apples he considered Plums to be one of the most profitable crops for market, but the land must be well adapted for the growth of the trees, and an abundance of support in the shape of manure is necessary, as strong, well-fed trees are better able to withstand frost. In some districts we hear of seasons when prices are so low that the fruit is scarcely worth picking, but the writer could quote a season when Plums were cheap, when he received £176 for an acre of Victorias, which he considered the best market variety, and ranked next to Apples. With reference to manures that from the farmyard could not always be obtained, therefore chemical fertilisers had to be used; these he considered to be equally as good, as for the last ten years the trees under his charge had received none but chemical manure with the very best results. The mode of gathering Plums depends a great deal on the distance they are from the market; if somewhat close the fruit may be left until fairly ripe before it is gathered; but if the market, as in his case, is 140 miles away, gathering must be done before the fruit becomes too soft. Plums are best packed in half sieves, containing 18 or 20 lbs. of fruit, resting on hay or bracken, clean paper should line the baskets, and cover the fruit, then a little more hay or bracken on the top; fruit packed in this way had travelled a long distance without any damage being done to it. With reference to grading it was a mistake to pack all together, as the small and large should be marketed separately.

In dealing with Pears, the writer said he considered these to be a

very uncertain crop for paying, as they were somewhat fastidious as to soil and locality, and were so liable to suffer from early frosts. Where, however, the trees grow well they are doubtless a paying crop, especially with such varieties as will keep up till Christmas. He also thought that stewing varieties would give good returns, as for these the demand was evidently increasing. With regard to packing and consigning the former remarks were applicable, and under favourable conditions Pears would prove remunerative, though he considered them somewhat uncertain. Cherries were next taken, and in regard to these, said the essayist, we have little or no cause to fear foreign competition, as those imported are so much inferior to home-grown produce. Kent, however, held the monopoly of Cherry culture, and this he was surprised at, considering that in the West of England there were thousands of acres of land thoroughly adapted for growing Cherries, where the fruit could be sold at remunerative prices in the markets of the great Northern and Midland towns. Only one variety should be grown in an orchard, owing to the ravages caused by birds, and these, all ripening at once, can be gathered at the same time. Two kinds only are necessary—namely, one good early and one good late variety, and after paying all expenses in an average season a net return of £30 per acre may be obtained.

Turning to bush fruits Mr. Wright considers that these pay best with small growers, and amongst others Black Currants may be looked on as the most profitable crop, but to grow them well the land requires thoroughly draining and should be situated in a warm aspect. All the old wood must be kept well cut out of the trees, so as to give every encouragement to the young growth. Trees on good soil in a suitable situation will, when well established, give a return of 3 tons per acre, which can readily be sold at £22 per ton, and after picking, marketing, and other expenses have been paid a net profit of £54 per acre remains. A great point in favour of Black Currant culture is that there is nothing to fear in the shape of foreign competition. Red and White Currants, though not greatly in demand, pay fairly well, and of the former Raby Castle is the best kind to grow, and good fruit sells readily at about 3d. per lb. Raspberries, in the opinion of the writer, are a very profitable crop, but where largely grown the picking question is often a difficult one, and they should only be cultivated in such localities where pickers can be obtained, as the fruit spoils if not gathered when just ripe. Foreign competition does not affect this fruit, and it can be picked wet or dry and sent to market in small tubs. These should not be filled quite full, so as to allow a little room for the juice that escapes from the fruit rising to the surface, and a clean sheet of paper must be fastened over the top of the tub. Above all extreme cleanliness, both in picking and packing, should be insisted on; £50 per ton is about the highest price obtained, and the lowest about £20. Three tons per acre may be obtained in a good season, and taken altogether Raspberries may be considered to give good returns.

Gooseberries are a most reliable and profitable crop, though with these there is a strong foreign competition, as large quantities of superior fruit are annually imported from France, and the best kinds to compete with them are Whinham's Industry and Keepsake, both excellent for gathering in a green state. They will realise a price of 25s. (?) per cwt., and after allowing expenses a net return of £20 per acre may be reckoned on. With reference to Strawberries, the writer asserts that their cultivation has extensively increased during late years, and the demand must have advanced at the same rate, as prices generally keep up as well as when less were grown. Another point in their favour is that comparatively little skill is required in their culture. When speaking of varieties he said that Royal Sovereign was becoming a universal favourite for growing for market, and had doubtless a great future before it. The average price obtained was £20 per ton, and the return per acre was about 2 tons, though many might consider this a very low average, as much heavier crops had been recorded; but even at the above rate Strawberries might be considered a good paying crop.

Mr. Wright considers that too much importance cannot be attached to the grading and packing of fruits, especially Apples, Pears, and Plums. On these points there is still room for vast improvements. All these fruits should be sorted into three divisions, and marked 1, 2, 3 or A, B, C, and on no account should any of these be mixed, but all sent to market separately, and above all things perfect cleanliness should be strictly enforced, as buyers know well what they are purchasing, and the highest prices are always obtained for first-rate samples. With soft fruits the earliest supplies should be sent to market in punnets, and the later in larger quantities.

With regard to manure the essayist asserts that fruit growers must use it, and where obtainable farmyard manure at the rate of about 20 tons per acre is good, but many growers experienced much difficulty in obtaining farmyard manure, and therefore chemicals had to be resorted to. He had proved from experience that the very best results could be obtained by the use of chemical manure, and for light land a mixture of 3 cwt. of muriate of potash and 5 cwt. of superphosphate of lime per acre had proved most beneficial, and for heavy land 5 cwt. of bonemeal per acre. The study of insect pests, he said, required much attention, but the limit of the essay did not allow of them being dealt with.

An interesting discussion followed, in which Messrs. C. Lee-Campbell, J. Wright (who announced that Dr. Hogg had decided to give a large silver medal to the essayist, and also to Mr. L. Castle), G. Gordon, J. Cheal, and others took part, and regrets were expressed of the unavoidable absence through illness of the Secretary of the Society, the Rev. W. Wilks, whose interest in the great show is too well known to need any further comments here.

HARDY FLOWER NOTES.

SIGNS of the coming of winter multiply, and the garden begins to show by yellowing leaf and fading flower that soon the flowers in which we delight shall be few and far between. Cool breezes are blowing, and the sun smiles more faintly on the garden and its inmates. Possibly even before this is in type the frost spirit may have passed over us and touched with death-giving breath these bright forms we love. Thus even our present enjoyment is mingled with dread, for we see, as it were, the shadow of the pall which is to be cast over the garden's life, and to leave us comparatively forlorn for a time. It is, however, neither wise nor profitable to allow these thoughts to dominate our minds, and the beauty of the present as displayed in our gardens will furnish us with food for more cheerful thoughts.

The flower of the season in many gardens is the Dahlia, and in its several forms it is calculated to attract the admiration of most of the admirers of Flora's subjects. To the many-coloured globular-shaped blooms of the show and fancy and Pompon Dahlias, the showy Cactus and decorative varieties form a pleasing variety, in which the single forms usefully join. Annuals, too, in many kinds and of many forms and colours supply pleasing fare for our refreshment and delight. Then the Michaelmas Daisies in charming hues present much variety, some forming pyramids in which the graceful foliage is mingled with the delicate or bright-hued flowers, others forming dwarf bushes of spreading habit, and with many tiny starry flowers; while others, again, seem as if they had resolved to outshine all their sisters by covering themselves so freely with bloom as to form a gigantic bouquet of lilac and gold. Sunflowers find the orb they worship still giving enough of encouragement to induce them to open their golden-rayed blossoms.

Autumn Roses, unusually plentiful and unusually fine here this year, charm us with their colour and contour now that their rivals, the Lilies, have nearly gone for the season. Jackman's Clematis still mingles some of its fine purple blooms with the greenish gold of the climbing Hop on the house, and its progenitor in part, *C. viticella*, looks dowdy and dull beside its brighter offspring. *C. flammula* on the Hawthorn arch is now covered with its fleecy heads, save where a few late blooms still show their white stars. Violas are unwilling to cease yielding us their pretty flowers, and, sooth to say, we weary not to see them depart, so bright and so cheery are their blooms. Gladioli stand still with stately mien and grand colours among the other plants, and some Montbretias yet tell of the wealth of colour their advent has brought to our beds and borders. Rudbeckias, with dark centre and rich yellow rays, rival the Sunflower in lighting up the borders, and white Japan Anemones give us that purity of colour so much appreciated in every garden.

The succession of Colchicums is long maintained, and has not yet come to an end, while the Croci, their more refined relatives, in form at least, but not in scientific classification, which entered on the race some weeks ago, charm us with their delicate beauty, and will continue to do so for a while to come should inclement weather keep away. The rockeries, despite the advanced season, still give us something to linger over with pleasure. That plant of *Hypericum reptans*, which in a cosy corner facing south-west has bloomed for long, is still fine with its light green carpet of leaves and its pretty yellow flowers. *Potentilla alchemilloides*, which, after blooming a long time, took a rest for a month or so, has again made an effort to please us with its white Anemone-like flowers. *Geranium lancastriense*, which usually rests also for a time, is resolved not to be outdone, and is once more opening its pale pink flowers with purple veins. Cyclamens droop their white, or purple, or varied blooms in shady corners. Linarias, with spurred flowers, are still in flower. That shy flowering plant, *Wulfenia carinthiaca*, which only deigns to flower with me at times, has for the second time this year sent up a spike.

Plumbago Larpentæ, on a warm and dry rockery where it grows fast, is in flower, and has thus for some years, although it occasionally fails me, proved more suitable for this garden than the Californian *Zauschneria*. A fine bush of the white Cornish Heath, *Erica vagans alba*, surmounts a dry rockery, where it looks well nestling at one side close to a large piece of fossil coral from a reef on the shore. This block has become mossy and weather-beaten looking, and a *Sempervivum* on the top, with a bit of wild Thyme running up a crack in the front, make it pretty and quite in keeping with the fine Heath now profusely in flower. Then there are still some Alpine Pinks, *Linum flavum*, Geums, *Potentillas*, *Campanulas*, and other plants more numerous than one would think, all trying to add their quota to the sum of pleasure.

The largest of all the Colchicums is, I think, one known as *C. Bornmulleri*, which I bloomed for the first time last year, but only mentioned briefly, not having had it long enough to be able to say much about it. It stood the test of last winter and came

into flower about the beginning of September, and has produced several flowers in succession from the same bulb. On first opening it is almost white, with a little pink appearing here and there. This spreads and gradually suffuses nearly the whole flower until, when fully open, this Meadow Saffron has become a deep pink and white flower, with perhaps that tinge of purple in the colouring which is the fault of the most of the Colchicums. The flower is a little larger than the best of the varieties of *C. speciosum*, and has a yellowish tube. The leaves come in spring and are very large and handsome. The Colchicums all like a stronger soil than I have at command, so that the blooms here are generally smaller than where grown in a rather retentive compost. I have now a fair collection of the Meadow Saffrons, which gives me much pleasure and satisfaction. Among some bulbs which came from Mr. Whittall of Smyrna in 1895 were those of a pretty little Colchicum, which resembles a small *C. autumnale*.

The first Crocus to flower with me this autumn has been the exquisite *C. pulchellus*, from the Bithynian Olympus, of which I spoke a year or so ago. It has been well named pulchellus, so delightful are its pearl blue flowers. It is doing well here, and seeding well for the last two years, so that I hope in time to have some fine masses of this species. I think, however, that *C. iridiflorus*, which just followed it, carries off the palm in the estimation of my garden visitors. It is a very beautiful species, with its rich purple and lilac flowers, which in form are unique among Crocuses, their outer segments being much larger than the inner ones. There are a considerable number of these autumn and winter flowering Croci, and, unfortunately, they are not nearly well enough known. Were they known a demand would spring up, and they would soon become much cheaper, so that they could be planted in generous masses, as can be done with the Dutch spring-flowering varieties, to the enrichment of our gardens and to our great enjoyment.

It is a great leap from the Meadow Saffron and the Crocus to the Sunflower, but one should like to say something about Miss Mellish's Sunflower, *Helianthus rigidus* Miss Mellish. *Harpalum rigidum* has been superseded, but the old name dies hard, and was rather useful as applied to a type of Sunflower, well known as *Harpalum*. In recent notes I preferred to say little about this fine variety until I had seen it in bloom in my own garden, so that its effect as a garden plant could be realised in comparison with others. It is in bloom as I write, and even surpasses my expectations, as it is so fine and effective in every way. It is in every way worthy of the recognition it received at the hands of the Royal Horticultural Society. I was under the impression that it had been raised at Hodsock Priory. It was, however, found by Mr. Joseph Mallender, who is gardener there, in a clergyman's garden, and sent by him to Chiswick for trial. Mr. Mallender is to be congratulated on his discernment, which is only to be expected from one who grows so many hardy flowers as he has under his charge, and who takes so much interest in them.

We are all familiar with the words "to err is human," although too often we seem to consider that the remainder of the sentence applies to others than ourselves. One cannot be long among flowers without recognising how easy it is to fall into error in speaking or writing of them, and it is doubly the duty of those who write of flowers to endeavour to steer clear of mistakes, which are more easily made than rectified. When we do fall into error this way, it is only right that we should try to correct it when satisfied that a mistake has been made. I am thus only too glad when any of my correspondents inform me of an error I have made, and the Rev. C. Wolley-Dod, with that kindness which I have always found so characteristic of him, called my attention recently to what I said of *Agrostemma* (now *Lychnis*) *Walkerii* or *hybrida*. I made a remark to the effect that it had no appearance of being a hybrid. Mr. Wolley-Dod informs me that it is really one, and that the parentage is *Lychnis flos-Jovis* × *L. coronaria*, and that the particular stock came in the garden of Mr. Alfred Walker of Chester, and was distributed by Messrs. Dicksons of that city. It appeared, however, that the plants I had seen, and which came from the same source as mine (not Messrs. Dicksons, it is only fair to say), were not this hybrid at all, but only a fine form of *L. coronaria*, so that it was no wonder I could see no trace of hybrid origin. I have since seen a plant of the true *L. Walkerii*, and there appears in it to be evidence of the influence of *L. flos-Jovis*. The Rev. C. Wolley-Dod tells me that "its chief merit is its very long flowering period." He also says that it does not produce many seeds, and that the seedlings generally revert to one of the parents. The true *L. Walkerii* is lighter in colour than the spurious one, but is still of a deep enough shade to satisfy anyone.

I had intended speaking of some of the Michaelmas Daisies, but have already exceeded the space at disposal. They are so beautiful that a few lines could not do justice to their merits. —S. ARNOTT.



CATTLEYA SUPERBA ALBA.

THIS Orchid, as represented by the woodcut (fig. 52), is, as its name implies, a form of the well known *C. superba*, regarding which the London correspondent of an American contemporary wrote:—"One of the most beautiful and distinct of tropical Cattleyas is the typical *C. superba*, from the Northern States of South America; which has been known in cultivation here about fifty years. Hitherto it has shown little variation in the colour or form of its flowers, with the exception of the white-flowered form. It was discovered in the neighbourhood of Para by Mr. E. S. Rand in 1890, when it was introduced into England and named by Mr. Rolfe. The flowers are pure white, except for a stain of golden yellow towards the front of the lip. The only drawback *C. superba* has is in its behaving rather badly under cultivation for a Cattleya. It is, however, easy to get, being abundant in a wild state and a good traveller."

The flower shown was sketched at the Drill Hall, Westminster, where, when exhibited by Mr. Johnson, gardener to T. Statter, Esq., Stand Hall, Manchester, the Orchid Committee of the Royal Horticultural Society awarded it a first-class certificate.

NOTES ON ONCIDIUMS.

THE number of species in this fine old genus is very large, and they play an important part in the autumn decoration of our Orchid houses. Not that they are peculiarly autumn bloomers, for some one or other of the kinds may always be seen, but just now they are doubly welcome on account of the scarcity of bloom. A great variety of shape and colour exists in the genus, yet there are distinctive characteristics, so that one can hardly fail to recognise them at a glance. The majority are pseudo-bulbous epiphytes from South America, but there is also a section as represented by *O. Lanceanum* and *O. Cavendishianum* that are remarkable for the absence of bulbs, but bearing large handsome, in many cases spotted, foliage. Most of them possess the merit of being long lasting, and all are useful garden Orchids. Their culture is not usually difficult, but as they are found at greatly differing altitudes and in various positions they cannot be treated collectively, their wants varying according to their habit, manner of growth, and flowering.

A pretty Brazilian species is *O. bifolium*, a kind that not many years ago was plentiful enough, but that is now seldom seen in good order. It is now rather late for this to be in flower, the usual blooming season being in July or August. The flowers are produced on slender stalks, and each of these bears about half a dozen. The lip of *O. bifolium* is its chief attraction, being a singularly clear bright yellow and very showy; the sepals and petals are very small, yellow with bands and spots of chestnut brown. This will be found rather a difficult plant to maintain in health unless carefully attended to. It is best grown in a suspended pan or basket in a rough and open compost consisting largely of sphagnum moss and charcoal. If much peat is used it is apt to become too close. Good drainage must be provided, and the plants set well up in the basket or pan. It should be grown in the intermediate house and freely watered while making its growth.

The old *O. flexuosum* is another useful free blooming kind of which one can hardly have too much. It is readily grown under the ordinary cultural routine, and its graceful branching scapes are always welcome. Not, perhaps, quite so easily grown, but still quite amenable to culture, is the beautiful *O. Gravesianum*. This produces a fine branching inflorescence that lasts long in perfect condition. The flowers are large, the sepals brown and yellow, the lip bright yellow with a few brown spots near the column. This

does not require a great deal of heat, but can hardly be classed as a cool species. The finest growths I have seen were on plants wired to cork blocks, lightly dressed with sphagnum, hung in the cool end of a large Cattleya house where it was occasionally syringed in hot weather. Being near the door it was well supplied with air, and during winter it was kept on the dry side.

The popular *Oncidium incurvum* with its long elegant racemes of prettily marked flowers is another most useful kind, while of a totally differing type of beauty is the Butterfly Oncid, *O. Kramerianum* or *O. papilio*. These produce a long succession of flowers one at a time on the apex of the long wiry stems. The small shallow Orchid pans or dressed blocks may be used for these, and the partly decayed whitish looking sphagnum moss is a capital rooting medium. In summer the green points may be allowed to grow freely about the plants, but some of this must be removed on the approach of winter.

These require plenty of heat, as does *O. Jonesianum*, a singular species of a very distinct habit of growth. This has pseudo-bulbs, but they are very small and seemingly part of the long rush-like foliage, which is from 6 to 12 inches in length, channelled and



FIG. 52.—CATTLEYA SUPERBA ALBA.

deep green in colour. Many growers have failed with this *Oncidium* owing to overburdening the roots with compost and keeping it too cool. It thrives well on trellised blocks of teak, to which it must be securely fastened, and a little moss placed about the roots.

A sunny and moist house such as suits *Dendrobiums* will also be found suitable for this *Oncidium*, which produces elegant drooping racemes of flowers about eight or ten on each. The sepals and petals are greenish yellow with brownish and crimson spots, while the lip is white marked about the crest with crimson and yellow. *O. pulvinatum* is one of the freest blooming Orchids in existence, bearing all through the summer and autumn months immense panicles of prettily marked flowers. I have frequently cut spikes 6 feet long, leaving about a foot of clear stem at the bottom, and these have again started and produced very useful secondary spikes, thus making a display over a very long season. The flowers are about an inch in diameter, light yellow with a few small spots of red at the base of the segments and on the lip.

It is of the easiest culture, thriving well in the Cattleya house in an ordinary description of compost. There are many others in this beautiful family, the *crispum* and *Forbesi* groups being especially valuable. *O. tigrinum* again, with its showy spikes of sweetly scented flowers, is a magnificent Orchid, while *O. varicosum* Rogersi is one of the most showy and ornamental plants imaginable. The superb colour of the lip and the scores of charming flowers on the great branching panicles under a well flowered specimen of this Orchid is a truly noble object.—H. R. R.



EVENTS OF THE WEEK.—The only event of particular interest to horticulturists that will be held in London during the coming week is the early show of the National Chrysanthemum Society, which opens on Tuesday next at the Royal Aquarium.

WEATHER IN LONDON.—At last the tropical weather which, for September is almost unprecedented, has shown signs of giving way, as at the time of going to press the air is much cooler, and the sky dull and cloudy. On Monday morning thick fogs were experienced in some districts, but later on the sun quickly reasserted its influence, and in London the thermometer rose to a maximum of 79°, being 1° higher than on Sunday, and 17° above the average for the time of the year. The weather since has been appreciably cooler, and on Tuesday night copious showers of rain fell.

MEDALS FOR PRIZE ESSAYS.—As may perhaps be remembered, when the Fruiterers' Company offered a prize of 25 guineas for an essay on fruit comprising 20,000 words, Dr. Hogg added to the prize a gold medal. He has now granted a large silver medal each to Mr. Lewis Castle and Mr. S. T. Wright for their essays of 10,000 words, to be presented with the prizes of the Royal Horticultural Society, as a mark of recognition of the efforts thus made for the advancement of hardy fruit culture and distribution in this country.

THE GARDENERS' ROYAL BENEVOLENT INSTITUTION AND HARVEST FESTIVALS.—Mr. G. J. Ingram informs us that he has received fifteen guineas from Rev. W. Wilks, the result of a collection in Shirley Church, Croydon, on the occasion of the harvest festival on the 29th ult. We are told the population of Shirley is only 600, and the inhabitants have therefore done well for the institution. The church was charmingly decorated with Michaelmas Daisies and other composites from the Vicar's garden, but illness unfortunately precluded Mr. Wilks attending the festival service.

NOTES FROM KEW.—The Palm house is now being thoroughly repainted inside; the stokehole roofs have been raised, and several minor improvements made. During the summer of 1894 the northern wing was painted inside, and hot-water pipes placed in the lantern to prevent drip from excessive condensation during winter. This summer the southern wing has been attended to, and the work has just been finished, so that in a few days visitors will be able to again inspect the fine Cycads, the big Cereus, and other fine and interesting plants. The centre part of this huge glass structure has yet to be painted, and this work is to be performed next summer.

SEPTEMBER SUNSHINE.—The meteorological correspondent of the "Daily News" says:—As regards temperature and bright sunshine, September, 1895, appears to have beaten all the records, and in many parts of England the same remark holds good respecting the deficient rainfall. In London the mean of all the daily maximum temperatures was only a fraction under 75°, 8½° above the average for the twenty years 1871-90. The mean of the daily minima was, however, very little more than 2° above the average, the mean of the day and night readings combined being about 5½° above the normal, which is considerably in excess of anything shown by the September records of the past twenty-five years. During the past quarter of a century the only September which in any way compared with last month was that of 1875. In that year the thermometer in London rose to 75° and upwards on ten days, and to 80° and upwards on five days, the highest reading of all being 85° on the 18th. This year the thermometer in September reached 75° or more on eighteen days, and 80° or more on eight days, the 1875 maximum of 85° being equalled on the 28th and exceeded (by 1°) on the 24th. The records of bright sunshine do not extend back so many years as those of the temperature or rainfall observations, but so far as they go they give ample proof of the unusual brilliance of last month. At Westminster the total duration of sunshine in September was 194 hours, being eighty-three hours in excess of the average of the previous twelve years, and forty-nine hours more than in any September since the recording instrument was started in 1883. During an average September the mean daily amount of bright sunshine in London is rather less than three and three-quarter hours per day; this year the mean daily allowance was all but six hours and a half.

— WE are informed that the forthcoming Tredegar Show has been fixed for Tuesday and Wednesday, November 26th and 27th.

— **RETIREMENT OF MR. J. NEWTON.**—It has been publicly announced that Mr. John Newton, F.R.H.S., is retiring from the post of gardener to the Benchers of the Inner Temple, in the Gardens of which Chrysanthemum shows have been held for many years.

— **HORTICULTURAL CLUB.**—The following are the arrangements for the conversaciones for the next three months:—October 15th, "Botanical Rambles in Lapland and Novaya Zemlya," by Mr. C. E. Pearson, illustrated by specimens of the flora. November 12th, "Flowers, Fruits, and Plants in the Life and in the Home," by Mr. D. T. Fish; "The Fruit Supply of Covent Garden," by Mr. Geo. Monro.

— **BOTLEY SHOW.**—The Botley and South Hants Gardeners' and Amateurs' Mutual Improvement Society held its second autumn exhibition on Thursday in the Market Hall, where the exhibits were too much crowded. This Society has done useful work in horticulture in this district, and great credit is due to Mr. J. Mathews, the Honorary Secretary, and the Committee for the able way in which they carried out the arrangements.

— **EFFECTS OF THE FROST ON THE 20TH AND 21ST ULT.**—It may be interesting to state that the frosts on the nights of the above dates was sufficiently severe to totally destroy in the more exposed places the Scarlet Runner Beans and Dahlias in the Calthorpe Estate Allotment gardens, situate in Chad Valley, adjoining the Edgbaston Botanical Gardens, Birmingham. I was not cognisant of the fact until several days subsequently. As yet I have not heard of or seen any account of a similar occurrence elsewhere. Here, on the hill adjacent at a considerably higher position, the thermometer registered on both of the above dates 2° above freezing point. — WILLIAM GARDINER, *Harborne, Birmingham.*

— **FRUIT-SELLING EXTRAORDINARY.**—With reference to the superabundance of this year's fruit crops, and the consequent embarrassment of the growers, the correspondent of a west country paper, says the "North British Agriculturist," tells an instructive story. In Somersetshire Apples are so plentiful that their owners hardly know how to dispose of them. A farmer of that county sent twenty baskets, each containing 100 cwt. of Apples, to London, paying railway carriage and other expenses incidental to the cost of transport, and instructing his agent to sell as profitably as possible. The latter obeyed, and, after having retained his commission, remitted to the farmer 7d., his share of the "profit" on the transaction, or rather, the total sum due to him for a ton of excellent Apples.

— **GRAND YORKSHIRE GALA—LIST OF GRANTS.**—A meeting of the guarantors and life members in connection with the Grand Yorkshire Gala was held last week at Harker's Hotel. Ald. Sir Joseph Terry, J.P., presided. The balance-sheet submitted showed a profit of £413 7s. 4d. on the year, compared with £348 3s. 4d. on the Gala of 1894. It was recommended that grants amounting to £300 should be made, and they were apportioned as follows:—County Hospital, £50; Dispensary, £50; Blue and Grey Coat Schools, £40; Boys' Industrial School, £10; Girls' Industrial School, £10; Bootham Asylum, £21; Home for Friendless Girls, £10; Home for Nurses, £15; Blind School, £5 5s.; Soldiers' Institute, £5; Penitentiary, £10; Yorkshire Society's School, £26 5s.; St. Stephen's Orphanage, £10; Charity Organisation, £10; Association for the Care of Young Girls, £10; Hungate Mission, £5; Sisters of St. Vincent de Paul (Crèche), £5; Gratuities, £7 10s. It was decided to invest £100 of the £222 at present in the bank, and a suggestion was made that the remainder, or a part of it, might be devoted to the improvement of the fixtures. Votes of thanks were passed to the President (Mr. Ald. McKay), the Chairman (Sir Joseph Terry), the Vice-Chairman, the Treasurer, Mr. Welburn, the Colonels of the regiments supplying the bands, Messrs. Backhouse, and the Secretary (Mr. C. W. Simmons). Sir Joseph Terry was re-elected Chairman of the Council. The fixing of the exact date for the next Gala was left to the Committee, it being understood that it was to take place during the month of June. Upwards of £2300 has been given since 1859 in furtherance of charitable objects, and there is hardly a charitable institution in the locality which has not received some help from the Gala. As becomes a flourishing institution the Gala has a good reserve fund. Its invested capital amounts to £2000, and beyond this it has a sufficient sum of cash in hand and an asset of property. The visitors to the Gala Ground have increased almost year by year until they reached in the present year the enormous total of 54,400. In 1859, the first year of the Gala, the number of visitors was 17,920.

— THE WINDSOR ELMS.—The Elm tree is one of the most graceful trees in nature. The avenue of Elm trees at Windsor Castle is three miles long. These trees were planted as memorials of the accession of Charles II. to the throne. A curious feature is their number, 1660, the year in which they were planted, at least so says the "Rural World."

— SEPTEMBER WEATHER AT DRIFFIELD.—Mean temperature at 9 A.M., 60.30°. Mean maximum, 68.71°; mean minimum, 46.18°. Highest, 78° on the 26th; lowest, 34.8 on the 22nd. Mean radiation temperature on the grass, 40.07°; lowest, 27.4° on the 22nd. Rainfall, 1.23 inch. Number of rainy days, eight. Greatest amount on one day, 0.67 on the 6th.—W. E. LOVELL, *York Road, Driffield*.

— A GIANT WATER LILY AT SHEFFIELD.—Sheffield has a *Victoria Regia* rivalling the one at Regent's Park. The flowers are large and numerous. Four leaves have been cut from the plant, each measuring more than 7 feet across, but ten leaves remain, one 7 feet 10½ inches in diameter, including the turned-up rim. The next largest measures 7 feet 2 inches, and there are three of 7 feet 1 inch, and two of 7 feet apiece.

— VERBASCUM OLYMPICUM.—This comparatively rare Mullein deserves to be better known as a decorative plant, and especially as an isolated specimen, particularly on a small mound or sloping bank, where its noble rosette of soft woolly glaucous-coloured leaves could be seen to advantage. It is a veritable giant amongst such plants of a similar hue. Its spike of yellow flowers grows to a height of 9 and 10 feet, and in this state the plant is exceedingly picturesque. Its congeners, *V. Chalcid*, or *V. vernale* as it is also called, and *V. phoeniceum*, are also handsome border plants. A group of either of the species enumerated when in bloom makes a singularly and attractive object.—WILLIAM GARDINER.

— EUROPEAN FORESTS.—The wasteful destruction of forest areas undoubtedly has a baneful effect on the climate and regular water supply of the section in which the cutting is done. Dr. Felix L. Oswald states: "Since the beginning of the sixteenth century the population of the four Mediterranean peninsulas has decreased more than 55,900,000, the loss of a larger population than that of the United States in 1880, while the value of their agricultural products has decreased by at least 60 per cent. This remarkable decline is attributed to the destruction of the forests, which in that region were more essential as a protective influence from excessive summer heats than in other portions of Europe." Some of the most fruitful portions of Asia, Asia Minor, and northern Africa have undergone the same experience.—("American Cultivator.")

— AMERICAN OPINION.—A dispatch from London, says a transatlantic contemporary, states that this year there has been such an enormous crop of Plums in Great Britain that the price for the fruit has fallen to 2d. a pound, which is so little that it does not pay the cost of gathering and freight. One would naturally have supposed that the growers would have made haste to dry the fruit, since England pays annually two million dollars for dried Plums imported from France. English farmers are extremely conservative, however, and they sat still and allowed the fruit to fall on the ground and rot. It may be that these Plum growers can give some reasonable excuse for their failure to meet such an emergency. Farmers and fruit growers are often accused of a lack of enterprise, when in reality it is practically impossible to solve off-hand the problems which suddenly confront them.

— EMIGRANTS' INFORMATION OFFICE, 31, BROADWAY, WESTMINSTER, S.W.—We find the following references in the last circular issued from the above office:—Taking New South Wales as a whole, there does not seem to be any opening for more emigrants at the present time, other than domestic servants. In many agricultural districts the scarcity of employment and the low prices of produce are severely felt. The agricultural returns for 1894-5 show a considerable increase in the area under cultivation, especially in that under Wheat, but the average yield per acre of Maize, Sugar Cane, Grapes, Oranges, and other fruit was less than it was in 1893-4. In Tasmania there appears to be a good opening for men who are accustomed to rough and heavy work. The statistics for 1894-5, which have just been issued, show that there has been an increase in the acreage of all crops in the Colony, except Wheat and Turnips. In New Zealand recent agricultural returns show that the number of acres under all kinds of crop—exclusive of land in sown grasses—was 64,000 acres less in 1895 than in 1894, but that land in sown grasses increased by 131,000 acres. The number of holdings of 1 acre and upwards increased by 1386.

— WOOD FOR STREET PAVING.—In the pavement of one Paris street not less than six different kinds of wood have been used—viz., pitch pine, pine from the Landes, teak, red karri, box, and a particularly hard wood from Borneo. From time to time a committee will report on the most durable of the woods.

— VEGETATION AND SUNSHINE.—Herr J. Weisner has come to the conclusion that all luxuriant vegetation is produced under conditions of comparatively feeble, and especially of diffused, daylight. Intense sunlight is not an advantage to a plant growing in unfavourable conditions, and especially in poor, dry soil. Tropical plants receive more sunlight than temperate ones on the whole, yet the latter receive a more intense light than the former in the spring time.

— OPENING OF KIRKSTALL ABBEY, LEEDS.—This fine old ruin has been formally reopened after the work of renovation. The Mayor and Corporation were present, and an appropriate address was delivered by the Bishop of Ripon. The Abbey and grounds were purchased by Colonel North ten years ago at a cost of £11,000, and presented by him to the Corporation, who have spent £5000 in laying out and extending the grounds, while the work of preserving the ruins has cost nearly another £8000.

— THE POTATO HARVEST.—In the extensive Potato-growing districts of Lincolnshire and the Fens the work of lifting the tubers has commenced. There is a larger acreage this year than usual, and the crops give promise of good results. Disease has already been noticed amongst some of the delicate varieties, but this does not prevail to any serious extent. Some growers are of the opinion that the Potatoes will turn out so large as usual on account of the dry season, but they believe that this will be compensated for by the ease with which they can be dug and picked. Those tubers, however, which have already been raised appear to be well grown, clean, and free from disease, and the standard sorts are expected to produce more than average crops.—("Rural World.")

— VINE PRUNING COMPETITION IN SOUTH AUSTRALIA.—The first of these events was held in 1892 under the auspices of Professor Perkins, who has devoted much time to the development of the art of pruning in the best style. A recent affair of this character took place at Tanunda, a German settlement next to the Angaston district. No less than twenty-seven competitors entered the lists, and so fine was the quality of the work that the Judges experienced great trouble in placing one pruner before another. Between the first and the fourth there was only three points, and the work was wonderfully well done. The pruning throughout was acknowledged to be the best that has been done in South Australia. The third and fourth places were won by pupils at the Roseworthy College. This was more creditable to them because there were only 2½ acres of Vines for thirty-seven pupils to practise on. The result does great credit to the instruction imparted by Professor Perkins to his college pupils, the work being done by the spur-pruning system exclusively.

— THE BOTANICAL MAGAZINE for the current month contains the following subjects:—*Anthurium Gustavi* (Aroidæ).—A handsome Aroid coming from New Grenada. The spathe is deep purple, and more than a foot in length, while the spadix is slightly longer, and of a redder purple. The very short and tuberous stem is surrounded by small red-brown sheaths, from which rise leaves extending to 4 feet in height. *Momodes Rolfeanum* (Orchideæ).—This is a native of Peru. The leaves, which attain to a length of almost a foot, are speckled with dark green. The terminal racemes have but few flowers. These are erect, and there is a distance of 4 inches between the end of the deflexed sepals and the tip of the erect lip. Their general aspect is that of deep orange or chestnut brown, streaked with red. *Polygala Galpini* (Polygalæ).—This flourishes naturally in Natal and Swaziland up to an elevation of from 4000 to 5000 feet. It is a very graceful greenhouse plant. The inflorescence is arranged in light pink racemes of a somewhat papilionaceous aspect. The rachis, the stems, the leaves, and indeed the whole plant is strongly hispidulous; the style up-curved, trumpet shaped, with a punctiform stigma in front. *Tulipa violacea* (Liliaceæ).—A beautiful Tulip from Persia, where it grows to an altitude of 8000 feet. The perianth is of a mauve red colour, and each of the segments has at the base a large black blotch bordered with white. The stamens are black and half an inch in length. *Sternbergia Fischeriana* (Amaryllidæ).—This comes from the North-east of Asia Minor. It is very like *S. lutea*, otherwise *Amaryllis lutea*. The outer tissues of the bulb are brown above the neck, and the flowers have the well-known bright yellow appearance.

— **APPLE BLOSSOMS IN SEPTEMBER.**—A singular phenomenon, says the "Rural World," is reported from Hungerford. An Apple tree in the garden of Mrs. John Matthew is to be seen in full blossom, a sack and a half of Apples having already been gathered off the same tree, which is an old one.

— **RAILWAY GARDENING.**—To encourage the cultivation of flowers at the railway stations on the Midland Railway Company's system, that Company offered £200 in prizes among their station masters, covering nearly 2000 miles of rail. There were upwards of 200 entries for the competition, and the first prize has just been awarded to the station master at Matlock Bath.

— **KEEPING APPLES UNDER WATER.**—Moisture is generally supposed to be unfavourable for the keeping qualities of fruit. It hastens fermentation, especially if warmth accompanies it. Yet there have been successful experiments made, says a transatlantic journal, in keeping Apples under water. This excludes the air, and if the temperature is reduced to nearly freezing there can be no decay. We remember in boyhood an Apple tree which stood beside a small pond. Some of the fruit fell in the water and was frozen in by ice. It came out in good condition in spring. Of course, this fruit was not bruised. A slight bruise would admit air to the inside of the Apple, and this would injure its keeping qualities.

— **GLUT OF FRUIT AT PRESTON.**—Preston Market, says a contemporary, has been recently glutted with fruit from the Fylde, Leyland, and other neighbouring districts. Prime Damsons fetched only 8d. to 10d. per dozen quarts, and not even those prices for larger quantities. Fourpence and 5d. per score pounds was as much as good Apples could command, and Pears were sold for less. Small Plums have been growing in clusters like Grapes, and were never so cheap. There was also an extraordinary supply of Potatoes, and good sound large tubers were selling at 3s. 6d. per load of 240 lbs. Prices for almost every kind of farm produce have scarcely ever been known so low.

— **COMPOSITION OF AMBER.**—Amber is a resinoid body exuded from certain plants of the coal epoch, and most of the ambers found in various parts of the world differ in their physical and chemical properties, and sometimes in their geological age. The most important amber is the Succinite, found in the Baltic; English amber belonged to the same kind, and was found mostly on the coasts of Norfolk, Suffolk, and Essex. This amber contained insects, and wood, leaves, and flowers of plants probably belonging to the oldest Tertiary formation. From microscopical sections made by Professor Couwentz of Danzig it has been found that those plants represented the Pines and other Conifers of those ages. Some specimens of English ambers also contained fragments of more tropical plants, such as Magnolia and Cinnamon. A detailed examination of all plants found in this amber justify the conclusion that the flora of the amber period was not the same as the vegetation of modern Europe. It was more similar to the recent flora of North America and East Asia.

— **ANANASSA SATIVA VARIEGATA.**—While the ordinary Pine Apple plant is not remarkable for its beauty, this variegated form takes a high rank among plants with striking foliage. The leaves are 2 or more feet long, spreading, canaliculate, with slightly spinate edges. Their colour is green in the centre, edged with ivory white and often suffused with bright orange or scarlet, or shades between the two. The white and scarlet in the leaves is generally clearly marked, and sometimes there are only faint lines of green in the centre. This variety will flower and fruit, just as the ordinary Pine Apple does, at a height of about 3 feet. It will stand plenty of rough usage, extreme heat, drought and sunshine, without apparent injury. Its rosette of leaves is compact and regular, and few better plants can be found for a choice collection. It can be grown either in hanging-baskets or pots in a compost of equal parts fibrous peat, sphagnum, and broken pieces of dry cow manure. It will also do well in ordinary soil, provided the pots are well drained. It prefers a sunny position, and while an occasional drying is not injurious, moderate moisture at the roots is best. It should be sponged occasionally to keep it free from dust, but it is not under ordinary conditions subject to insect pests. Propagation by means of the young growth above the fruit is slow, but easy. Strong-growing plants can be topped to induce them to form several new growths, which in their turn may be taken off, potted in fibrous peat in small pots, and placed in bottom heat, where they soon root. This is the best way of propagation. Ordinary summer heat is sufficient during all stages of growth, but a somewhat higher temperature facilitates propagation.—("Garden and Forest.")

— **USES OF AMERICAN TIMBER.**—The variety of Wisconsin Elm known as "Blue Rock" is the one used so extensively in making bicycle rims. A Chicago lumber concern has a contract with a bicycle rim factory at Plymouth, Ind., for 3,000,000 feet of this wood. For special purposes requiring lightness, flexibility, and strength it is taking the place of Hickory, the supply of which north of the Ohio River is running low.

— **IMPORTS OF POTATOES.**—For the six months ending June last, says the "Rural World," our imports of Potatoes amounted to 900,000 cwts. more than for the same period last year. Of course, most of these are "new" Potatoes. All the same, there is no sufficient reason in our opinion why this growing importation should be allowed. We can understand that the farmers of the Channel Islands have a slight advantage over those in the Midlands and in the north of England, but the same argument scarcely holds good when applied to the southern counties. In this connection we may mention that the quantity of butter imported for the six months ending last June amounted in value to £7,243,861, as against £7,169,332 for the same period last year. On the other hand, our exports of butter for these two periods amounted respectively to £47,999 and £45,308. It will strike some people, perhaps, as a little bit surprising to find that we export any butter at all.

— **CUCUMBER MILDEW.**—This pest has this season been a very unwelcome guest in many a Cucumber house or frame, and even in the open where ridge Cucumbers are grown. The fungus is known as *Oidium halsami*, and its presence is readily detected by the white patches that at times cover the surfaces of the leaves; the mycelium does not penetrate the substance of the leaf attacked, but spreads itself over each surface, preventing respiration, and soon rendering the plant unhealthy and unproductive. The same species of fungus also attacks Swedes and Turnips, causing the foliage to whiten as though powdered. In houses and frames this mildew may be successfully combated by the use of finely powdered sulphur dusted on the parts of the plants attacked. In the case of outdoor Cucumbers the sulphur should be dusted all over the plants, while for Swedes or Turnips spraying with bouillie bordelaise is the best remedy where the area infested is a large one.

VEGETABLE JUDGING AT SHREWSBURY.

I SHOULD like to make a few remarks on the editorial note which was appended to my communication under the above heading in last week's *Journal of Horticulture*. In my first letter on this subject I pointed out that criticism, when done in a fair and impartial spirit by a competent person, is productive of good. Especially is this remark applicable to judges of all kinds. Their sentences or awards may and are frequently reviewed by duly qualified persons with ultimate advantage to the general public; but when the prizes had been awarded, after due consideration had been given to size, shape, and quality, to the best all-round exhibits by men well known in the horticultural world, and the awards are then criticised in an unfair, unpractical, and insulting manner, simply for the sake of saying something smart and fault-finding, it is expecting too much of frail man, even from judges, to expect them to remain silent under the circumstances indicated. I think it would be interesting to the readers of the *Journal of Horticulture*, and just to the four Judges who made the awards in the vegetable section of the late Shrewsbury show, if their names, together with that of your Shrewsbury vegetable reporter, were given, as then they would be better able to form an opinion on the question at issue.

The suggested list of dates when your Shrewsbury vegetable reporter was engaged judging this year would be of no use unless the names of the shows were also given. Moreover, I would like to point out that your reporter was, and I believe is still, open to accept every invitation he received, and may yet receive, providing that the dates do not clash. Gentlemen's gardeners, as well as gardeners to "great noblemen," are, by reason of their home duties, only able to accept a few of the invitations which managers of shows are good enough to send them—these, of course, being to officiate at the most important shows.—ONE OF THE JUDGES.

[We do not think "One of the Judges" has quite remained "silent," nor do we think he has always done so when other judges have not pleased him as an exhibitor. It is not the custom of the *Journal of Horticulture* to entrust the reporting of shows to incompetent men. We have not had one letter from an unprejudiced person complaining of the references in the report to the large size of vegetables at Shrewsbury, but we have had several expressions of opinion that the vegetables at the show in question are notorious for their gigantic proportions. Whether it is right or wrong that "size" or "quality" should be the predominating factor in determining awards is essentially a question of public interest, and as such perfectly appropriate for public discussion. As to the acceptance of invitations by persons who are requested to act as judges, there only seems this difference between our reporter and correspondent—namely, that "home duties" are more pressing in one case than the other as influencing such acceptances.]

POTATOES AND SOILS.

Is there, apart from its food or manurial constituents, an ideal Potato soil? I have been recently occupied in getting up tubers of many varieties of Potatoes from different soils, and have found the strangest divergences in the results. One soil gave disease frightfully, another a beautiful crop, and hardly a disease spot; another soil the most ungainly samples possible, another samples that were clean and of excellent form. Still another soil would give much scab, and another the greatest size of tuber, with fair shape. These are odd products, all serving to show that Potatoes have their fancies in soils, if the term may be so applied. Very likely it might be possible to create from out of a combination of these earths the ideal soil, or it may be that any such effort at soil

respect was it more gross or luxuriant than was the haulm in some other plots where disease was scarcely evident.

In two cases, one a deep black sand and the other fairly stiff bog, animal manure had been applied fresh. In one or two others previous crops had been manured, and in several others, the soil being distinctly poor, a dressing of chemical manure was given when the seed tubers were planted. The crop that gave the best average size, clearness of skin, and neat sample, was a comparatively poor chalk marl. This had previously been a part of waste ground, almost a net of couch grass, but before planting had been deeply dug and fairly cleaned. This description of soil reputedly gives the best eating Potatoes; indeed, I learned that dealers would readily pay 10s. per ton more for those than for others from ordinary market garden or field land.



FIG. 53.—CRYSTAL PALACE SHOW.—OUR ARTIST'S CHOICE. (See page 314.)

construction might end in failure. But then we have had to deal with a very irregular, indeed an abnormal season, and the causes which led to certain results on diverse soils may not be presented next or following years. In that case, any attempt at artificial soil combination might lead to failure in other directions.

The chief troubles to Potatoes I have found this season were first severe disease, and second almost outrageous ill-shape. Disease was worst, and very bad indeed on a light porous soil almost the texture of ashes. Generally around as well as on this particular plot the *Peronospora* did great harm to the tubers. That would indicate that a very porous light soil, for many years fed with London manure, and never deeply worked, was not an ideal one in any case. But on the particular plot disease was exceptionally rife, and that may have been due to the fact that for some two or three years it had been the receptacle for all sorts of garden rubbish, street sweepings, and other highly nitrogenous substances, and when trenched last winter was literally smothered in nettles and other weeds. Generally, top growth was luxuriant after the late summer rains, but not excessively so and certainly in no

A very fine crop, but perhaps of all giving the most unshapely tubers, came from deep sharp black sand. It was possibly to some extent due to the ground having had before planting a good dressing of animal manure, although at the time of lifting there was no great amount of disease visible. But the finest samples and best crop on the whole came from sandy bog, or gravel, and lying very high. This was quite poor, and owed the heavy crop to the artificial dressing and the much deeper working than the soil previously had enjoyed. The result seemed to show very clearly that whilst poor soil is far less promotive of disease than is soil much enriched by heavy dressings during previous seasons, it is easy at planting time by applying a moderate dressing of superphosphate, kainit, and nitrate of soda to furnish pretty well all that the immediate crop needs.

It may be thought that light sandy soils would allow free percolation of moisture, and with it fungoid spores to the newly forming tubers as readily as that light porous soil which did furnish such a disastrous exhibition of disease. I am not sure that such is a correct deduction. Sand is an admirable filter, and, it

may be, does act so in relation to even such minute atoms as disease spores. There was comparatively little disease found on the crop lifted from a yellowish stiff loam in another place where the top growth had been almost abnormal, though the soil had become quite poor previously to the application of the chemical dressing. Here, whilst there was a fairly good crop, it was evident that tuber formation was later, as at the time of lifting they were still far from ripe. I had here anticipated much disease, but was agreeably surprised to find so little. This soil seems to need liming, and the addition of sand to render it more fitted for Potato culture. It is, however, fairly strong and retentive, and grows all forms of Brassica luxuriantly.

On land prepared by the plough in the past, but forked over shallow for the purposes of the trial, of sand, clay, and bog, in each case the resultant crop was less than might have been anticipated, and materially so, than was lifted from poorer soil much more deeply worked and thoroughly pulverised. When the lifting took place it was found that the tubers were all near the surface, that the soil was exceedingly lumpy, having become baked during the drought and never afterwards softened; also the forks in lifting found a hard bottom immediately beneath the tubers. Naturally, tubers were more irregularly shaped than were found from free working soils, due not so much to supertuberation or growing out (found in other instances) but to hard compression. I feel more than ever satisfied that whilst it is possible to enrich soils too highly for Potatoes, it is hardly possible to have them too deeply worked or thoroughly pulverised.—A. D.

HYACINTHS IN BEDS.

It has now become quite general in both large and small gardens to have one or more beds of Hyacinths out of doors, and very welcome their flowers are in the early spring before the beds are needed for summer plants. A few hints upon the subject may therefore be useful, especially as planting time will soon be here, and bulbs should be procured at once.

To grow Hyacinths well in beds the soil should be rich, light, and deep, supposing the soil of the garden is a sound loam and well drained. Then fix upon the beds intended for these bulbs and excavate it to the depth of 15 inches. Level the bottom, and place a layer of small stones or brick-ends broken small, 2 inches thick. Cover this drainage with 2 inches of littery dung; then mix the soil that has been thrown out with some well-decomposed cow manure, some leaf mould, and plenty of river or sea sand, well screened. The proportions to be one part cowdung, one part leaf mould, to six parts of loam. Should the substratum be clayey or gravelly, that part must be wheeled away, and as much good loam added as will replace it; then mix the compost well together, and fill the bed with it; let it be 4 or 5 inches above the former level, to allow for settling; lay it perfectly level, so that it may have the full benefit of the rain that falls upon it. This preparation of the beds should be done immediately. If there is time it would be all the better for a turn over before planting. I may just remark that if cow manure cannot be procured hotbed refuse well decayed will do; but I greatly prefer the former, because it is of a cooler nature, and, generally, has less straw amongst it.

The best time for planting is the first week in October, though if the weather is mild they may be planted as late as the middle of November. Much depends on the weather and the state of the ground. It should by all means be moderately dry, and therefore it is better to wait a week or two should the season at the right time of planting be wet. To prevent treading upon the bed at that time lay upon it a narrow piece of board long enough to reach across it, or have the board strong enough to bear the planter's weight, and raise it up at each end high enough to clear the bed; then procure a dibber to plant them with, which should be thick enough to make a hole as wide as the largest Hyacinth is in diameter, and the end that is thrust into the soil should be cut across and a mark made just as far from the bottom as the bulbs should be covered with soil; the proper depth is 3 inches from the top of the bulb. Anybody with a saw and a knife could make such a one.

Having a fine day and the board and dibber ready, then bring out the bulbs and place them on the bed just where they are to be planted. Each Hyacinth should have at least 5 inches to grow in, but 6 inches would not be too much space for the leaves to expand, especially if the same bulbs are to be planted again the following season. If the colours are to be mixed place them so that the colours will succeed each other in rotation, as, for instance, 1, red; 2, blue; 3, white; 4, yellow; then 5, red, and so on till the bed is full; or if there are several beds, and it is desirable to keep the colours separate, so that one bed shall be red, another blue, another white, and another yellow, then plant them accordingly. For a

geometrical flower garden the latter mode will be preferable. As soon as one bed is placed with bulbs, then fix the board across at one end, and proceed to plant them. As the planting proceeds have some of the compost ready sifted through a coarse sieve, and fill up the holes with it. This is much better than levelling the holes with a rake, because they are when so covered sure to be at the right depth. When all are planted, then rake the bed very lightly, and the operation is complete.

The Hyacinth is hardy enough to bear a moderate degree of frost; but it is advisable to cover the bed with about 2 inches of spent tanners' bark, to be removed early in spring before the shoots appear above ground. Where this is scarce, half-decayed leaves would answer the same purpose, or a mat or two thrown over the bed would be protection sufficient. These shelters are for such Hyacinth beds as may be in an ordinary flower garden on the lawn, or in beds in a geometrical flower garden, with Box or other edgings and gravel walks. If an amateur or florist cultivates the Hyacinth in long common beds like Tulips, a permanent shelter should be put up in the form of the bed, or the beds might be sheltered with hoops and mats. These kind of shelters can be used when the bulbs are in flower as a protection from sun, wind, and heavy rains. If so protected, the season of bloom will be considerably prolonged.

As the season of the Hyacinth's growth takes place during winter and early spring, it very seldom happens that they require much water at the roots, but during dry parching winds, which sometimes occur in March, a slight sprinkling over the beds will be acceptable to the rising buds. In frosty weather this should be applied in the morning only; but if there is no appearance of frost, then water in the evenings also, previously to putting on the shutters for the night. This sprinkling may be continued with advantage till the blooms begin to expand. As soon as the bloom is over the old flower stems should be cut off, but not quite down to the ground, the covers removed, and as soon as the leaves turn yellow the bulbs should be taken up and laid upon a mat to dry. By being laid upon a mat they can be lifted easily under shelter in heavy rains, which would injure them much if allowed to fall upon them. When the leaves are all quite decayed dress them off carefully, without bruising the bulbs, and then put them away in a dry cool room till the planting season comes round again.

—JACINTHE.

JUDGMENT WITHOUT LAW.

VAST as is the difference between those tribunals "where angry Justice frowns severe" and the judicial functions of a flower show, we may, for present purposes, assume that the object in both cases is the same—viz., the administration of justice. Yet, again, how vastly different is the process by which this happy (or satisfactory) result is arrived at. On the one hand we have all the complex machinery of the law, invented, perfected, added to, or re-adjusted, as civilisation progresses and demands arise; on the other hand we see the most important decisions on horticultural matters practically dependent on individual opinion.

Each year, and at each season of the year, does the fact become more forcibly impressed that so far as judging is concerned, and in spite of increasing keenness of competition with its added difficulties, matters remain very much as they were in times of yore. That exhibiting held a prominent place in the past it is needless to say, for that there were giants in those days cannot be denied, and probably grievances too; but that powerful engine the Press appears now to be driving matters to a crisis.

To illustrate the parallel of judging with and without law cases may be occasionally noticed in which some dignitary of the judicial bench brings his individual opinion so far into a case as to express regret that the law only allows him to mete out a certain measure of justice to the violator. Here the law steps in to the protection of both parties—the offender from the judge, the judge from himself, and on the law practically rests the onus of the verdict arrived at. Further analogy is unnecessary. The nearest approach that we in horticulture have to guide our judges is the schedule, and this is, in some cases, so ambiguously framed as to be worse than useless, and in most cases leaves that individual opinion of what is best to roam free and unfettered through the ranks of competition.

No inferences need be deduced but that integrity and a conscientious desire to eliminate all personal feeling is the prevailing desire of our judges when entering the field of their duties, nor will they as liberal-minded men shun honest-meaning criticism of their performance. Their critics stand on the same debateable ground as themselves; it is simply a matter of opinion—of judgment without law. There may, indeed, arise some few examples in which a judge is assailed, "and whilst his tongue the charge denies his conscience owns it true;" but these examples

are rare, for though error may not be uncommon the desire to do justice is common amongst those who undertake the arduous duties.

Setting aside for once and for all any imputative suggestions of the baser kind, the fact remains that prejudice reigns supreme and practically uncontrolled. Each man's ideal is founded on varying experience. A certain bias has been gradually warped to colour, size or form, and the stronger the man is in the courage of his convictions so much the more difficult is it for him to avoid partiality. In vegetable judging, for instance, the dual question arises as to what are the points of excellence generally looked for on the exhibition table, and what are those which should be accredited to the exhibit taking the premier position. Is it not the case that in catering for the exhibition table we are apt to lose sight of the dining-room mahogany? From observation extending over some years, and places of various degrees, I draw the conclusion that giant varieties of various species do not find favour with either connoisseur or cook; and he would, I think, be a bold man as a gardener who leaves the cook out of his calculations.

The Cauliflowers, as taking rather an important place in the menu, will serve as a case in point. Now, we may take it that a stand of vegetables comprises so many dishes—one of each kind, and that on the exhibition table our dish of Cauliflowers is made up of some half-dozen fine heads of, say, Veitch's Autumn Giant. A grand dish, no doubt, for the village club dinner or the servants' hall; but what of the dining-room, representing a higher court of judgment? Here, of course, no cook would think of dishing up half a dozen Giants (unless in their infancy), nor would I insinuate that any reader need be told so. No, he (or she) takes one, or half of one, and sends up the dish of Cauliflower (not flowers) in a heterogenous mass—mash I might say—and what is the verdict? Oh, "We like the little Cauliflowers dished up entire, with just a little of the green around them, as they grow." And this is the ideal dish of Cauliflowers (not flower), neat little heads as perfect in form and colour as when growing in the garden.

Obviously, one need not go far to find other examples of the vegetable department in which sharp inharmonious lines are drawn in growing for show and for use. Yet this digression, which is drawing me from the fundamental question, need go no farther beyond saying that concordance should exist in growing for exhibition and growing for use. If it is not so, then the main object of competition is lost sight of, and so the principle may be carried tentatively to other classes of a schedule.

The question is the ideal, for an ideal we must have, mentally, whether it is attained or not. And should this ideal any longer exist in its multifarious character, which it must do under existing conditions? If so, it must be allowed that not only shall we see controversial criticism carried on indefinitely, but the cause, if permitted to remain, will intensify the feeling as competition grows keener. Not alone in a few phases of exhibiting do we require a clearly defined standard of excellence, but probably there is not one class of the many in which exhibitors compete that is not amenable to being brought under fixed rules.

To say that this cannot be done would, to my mind, be casting a slight on the giant intellects who lead the van in the march of horticulture, and to say that such would not be hailed as a boon by those acting in a judicial capacity, as well as giving confidence to exhibitors, would be an admission that the present order of things is perfection, of which we have copious evidence that such is not the case.

Admitting the need of a clear understanding between all parties concerned with the abolition of haphazard work pertaining to judging, there should, beyond the labour entailed, be but little difficulty in settling matters on a satisfactory basis. For instance, let a given number of expert vegetable growers, and not only growers, but consumers, give their opinion on the points of excellence each dish of vegetables should consist of, and so on, and from the leading Grape growers, Begonia growers, and from this combined wisdom shall be extracted the standard—the law, fixed and unalterable till such time as new requirements arise. If we do not by this or a similar method arrive in the first instance at perfection, it will, at least, be the best obtainable, and from the chaos of many opinions, as at present, will spring the blessing of order.

Given the law, we need not, I think, be fearful that our judges will be reduced to mere machines. This is not the case with those who administer the law of the land. Rather will it be found that our judges on matters horticultural, armed with the law, will exercise their mental abilities in the due administration of it, and find sufficient elasticity within its scope to display their legal acumen. The evil exists; the remedy is clear, and but a few years more or less will have passed ere the old order of things will have given place to the new. Such, at least, I venture to predict, and will even look farther to that time when our judges will be paid—

paid a salary sufficient for them to devote their whole time and ability to so important a matter, for there are many straws flying at present which show which way the wind blows.—INVICTA.



BATTERSEA PARK.

THE Chrysanthemum show will be open to the public in the frame ground, Battersea Park, near the Albert Bridge entrance, on and after the 5th October, between the hours of 10 A.M. and dusk.

CHRYSANTHEMUMS.

WILL any reader of the Journal inform me (if this present heat continues) whether it is a good plan to syringe Chrysanthemums morning and evening? For myself I find it most beneficial to crown buds, but quite the reverse with terminals, as it induces rapid second growth, which I am afraid will not have time to ripen, especially if dull damp weather sets in before the plants commence blooming. M. Thérèse Rey is very much given to this, and I much doubt if we shall see any blooms this season equal to what we have seen of this variety. In accordance with Mr. Molyneux's theory, that extra fine blooms cannot be produced unless the wood is thoroughly ripened by full exposure to the sun all day, we may, owing to the present phenomenal weather, expect one of the finest Chrysanthemum seasons on record, although for my own part I still believe in the good old saying "*Est modis in rebus*."—F. C. BARKER.

PORTSMOUTH.

It seems absurd to think that a town like Portsmouth should not have a Chrysanthemum show. There is one of the finest halls in England, and one of the most popular Secretaries in Mr. F. Power. Visiting Southsea a few days I wended my way to the residence of H. Edgecombe, Esq. The gardener (Mr. Adams), who was a successful prizetaker at the late Portsmouth shows, is not now growing for exhibition. There were 300 well-grown bush plants for decoration of all the best and most useful varieties. Walking to the Victoria Park, Mr. Hatch, the Superintendent, has made a name as a prize-taker in groups—incurved and single varieties. I find he is not growing for exhibition this year, but has 300 plants on the cut-down plan. Taking them altogether, the plants give promise of fine bloom, and superior to many found in places with more convenience.—A LOVER OF SOUTHSEA.

CHRYSANTHEMUMS AT FAREHAM.

THE time is now fast coming when growers will be anxious as to their success at the forthcoming shows, and they are also interested in the work of others. Having the opportunity of a cheap excursion to Portsmouth I took advantage of it for a visit to Fareham. A walk of about ten minutes brought me to the place of business of Messrs. W. & G. Drover. Though they have given up exhibiting Chrysanthemums for prizes, I found 600 plants, mostly in 9 and 10-inch pots, staked and tied to strained wires. The plants were in the best of health, with stems as stout as walking sticks and short jointed. The buds appeared to be showing and giving promise of fine bloom. Most noticeable were Lady Randolph, Hairy Wonder, Pallanza, Duchess of York, Mrs. C. E. Shea, Mrs. W. H. Lees, Miss Goschen, Mrs. H. T. Drewett, Miss Dulcie Schroeter, Miss Bronna Foster, Wilfred Marshall, Viscountess Hambledon, A. H. Fewkes, Rose Wynne, and Lily Love. The following Japanese were showing fine sound buds:—Col. W. B. Smith, Commander Blussett, M. E. Rey, Good Gracious, W. H. Lincoln, International, C. Childs, Madame Isaac, Mrs. Nisbet, and Mr. B. Fletcher. The incurved, with which this firm has made its name, include whole rows of the Queen family, Tecks and Princess, J. Agate, C. H. Curtis, Globe d'Or, Baron Hirsch, Robert Cannell, Robert Petfield, Sir Titus, Camille Flammarion, Lucy Kendall, Asia, and D. B. Crane. A collar 2 inches deep, made of zinc, is fitted inside the rim of the pots of the incurved, which gives additional space for top-dressing. I noticed the little white roots coming up through the surface, as if in expectancy of their evening meal.—BURTON-ON-TRENT.

NATIONAL CHRYSANTHEMUM SOCIETY.

A MEETING of the Floral Committee was held on the 25th September at the Royal Aquarium. Mr. T. Bevan occupied the chair, and the only exhibit of importance was a collection of twenty-four cut blooms sent by Mr. Jones of Lewisham, who was awarded a vote of thanks for his flowers. A first-class certificate was awarded to Miss Alice Love, a very pure white Japanese with early intermingling florets of medium width, very long, and ribbed or veined on the outer surface.

Some clusters of an excellent early flowering decorative Japanese called Mdlle. Marie Massé, were exhibited by Mr. D. B. Crane. It is a bright, free flowering variety of a clear rosy pink and a golden centre. Among other varieties well shown were Noces d'Or, a large yellow Japanese; President Armand, Eda Prass, and M. Aug. Lacoivier.

A MEETING of the General Committee of this Society was held on Monday evening last at Anderton's Hotel, Fleet Street, Mr. B. Wynn

occupying the chair. The minutes of the previous meeting having been read and confirmed, it was announced by the Secretary that a special circular had been prepared in connection with the Jubilee celebration, which will take the form of—

1, An immense exhibition of Chrysanthemums in London in 1896, in which all types of the flower will be fully represented, also of fruit, vegetables, &c., and which will extend over four days, with a further competition and an entire reconstruction of the exhibition on the third day.

2, A grand opening ceremony and private view at noon on the first day.

3, A conference of Chrysanthemum growers and raisers from all parts of the world.

4, A Jubilee banquet at the Hotel Metropole, and other festive gatherings.

5, The striking of Jubilee medals of value for competition, and for rewarding persons who have rendered conspicuous service in promoting the advancement, cultivation, and improvement of the Chrysanthemum.

6, The preparation and publication of an exhaustive Jubilee catalogue of Chrysanthemums, with the most complete classification.

The Committee will be happy to receive offers of special prizes (several handsome ones having already been offered) from those in sympathy with the Jubilee celebration, and they make early application for the same in order that the schedule of special prizes may be issued at the end of October in the present year.

Some interesting correspondence was read from New Zealand, Victoria, and South Africa, and a pattern of a new small silver medal to be awarded to miscellaneous exhibits was submitted for approval. It was also reported that income amounting to £156 16s. 11d. had been received up to the present, and the awards made by the Judges on the occasion of the recent September show were confirmed.

Fifteen new members and two Fellows were elected, and the Hertford Horticultural Society applied for affiliation, which was granted. Altogether seventy-nine new members and Fellows have joined the Society since the beginning of the financial year in March, and seven local societies have been admitted in affiliation.

CHRYSANTHEMUMS AT TRENT PARK.

DURING the last three years the Chrysanthemums from Trent Park have been so successful in winning prizes at the leading shows in the best competitions, that a note as to the present appearance of the plants and the prospect of their again being successful cannot fail to be of interest to many readers, and especially to those who are interested more particularly in this flower.

Lately calling on Mr. Lees, the ever courteous gardener at Trent Park, I found the collection of 600 plants in a most promising and interesting condition. Naturally an exhibitor of leading rank is fully alive to the importance of being up to date with all new approved varieties. It would, indeed, be difficult to find any of note that are not included in this collection. At least 150 varieties of Japanese are grown here, which must surely embrace the cream of all that are worth attention. The same remarks are equally applicable to the incurved or Chinese section. The plants, with the exception of a score or two that were being retarded as much as possible under a north wall, were safely under cover, and were apparently as fine as it is possible to find, judging from the sturdy, well matured stems, and large bronzy tinted leaves, extending down to the pot.

Mr. Lees attaches much importance to the autumn tints, as it were, on the leaves of his Chrysanthemums, and from my experience in a smaller way of this flower I should say he has some reason to look on the plants with no little satisfaction. The plants range in height from 3 feet to 8 feet, according to variety. All are intended to carry three blooms each. In addition to the satisfactory condition of the leaves and stems the plants are furnished with another, and it is an indispensable item in culture—buds! As far as the human eye can judge the "timing" of these is not far from what it ought to be to achieve success in the near future. Stout are the peduncles that support the buds, and so they should be. The swelling buds look "kind," betokening something besides burnt roots below. I am not given to making predictions, but I do venture to say that if Mr. Lees does not win a single first prize in the coming fray his opponents will be lucky.

In addition to the often named varieties like Colonel W. B. Smith, Madame Thérèse Rey, Etoile de Lyon, and a host of others familiar with everyone at all versed in Chrysanthemums, promising plants of Mrs. Alpheus Hardy, the newer Philadelphia, with its somewhat pale looking drooping leaves and perfectly rounded flower buds are to be seen. Mrs. C. E. Shea, too, is endeavouring to maintain the opinion formed by the raiser and introducer. In habit of growth this is a deserving variety. Of M. Calvat's newer seedlings L'Aigle des Alpes, Bayard, L'Etendard, Chevron de Leche, and Professor Lachman are promising. Lord of Lorne, Madame Adrian Armand, Mons. Pierre Lallemant are opening in the style of Comte de Germiny.

In the incurved section J. Agate is remarkable in its habit of growth, the stems reach 8 feet high. These and the leaves have all the appearance of a Japanese Chrysanthemum. C. H. Curtis, Owen's Crimson, and William Tunnington amongst newer, and the Queens, the Princesses, the Alfreds, and the Tecks amongst the older varieties give ample promise of future greatness.—A RAMBLER.

THE FLORISTS' TULIP.

[By JAS. W. BENTLEY, Hon. Secretary of the Royal National Tulip Society.]

DESCRIPTIVE CATALOGUE.

(Continued from page 269.)

AGNES STRICKLAND (Slater).—Rose. Tall; was a good breeder thirty-five years ago; when broken is best flamed.

ALICE MAUD (Camp).—Bybloemen. Broken feathered by Mr. Haynes of Warwick; shape rather long, base very pure; makes a good flamed flower also, as it is very steady in that state.

AMAZON (———).—Bybloemen. Tall; shape good; makes a fine flamed flower having a bold branching beam. It opens very impure, and takes a long time to bleach.

AMY (Martin).—Rose. Best when feathered; highly esteemed twenty-five years ago, now apparently lost.

ANTAGONIST (Marris).—Bizarre. Shape good and base pure. A seedling from Polyphemus × Optimus; was esteemed forty years ago as breeder and as a red flamed bizarre.

ANTIGONUS (H. Goldham).—Bybloemen. Dwarf; base pure, shape long, best when flamed, when the feathering is dark purple and the beam much paler. A seedling from Queen of the North × Gipsey.

APELLES (Clark).—Bizarre. Tall; formerly esteemed as a dark flamed flower.

APELLES.—A syn. of San José; feathered.

APOLLO (Headly).—Bizarre. Tall, shape good; base pure; petals stout, and flower large. It is best when flamed, the flaming being dark crimson on fine yellow ground. A favourite forty years ago.

ARIOSTO (Groom).—Bizarre. Shape fair; best as breeder, which is rich red brown in colour, but generally impure; now of little value.

ARLETTE (Dixon).—Rose. Dwarf; shape poor, as petals stand loose instead of forming a cup; base pure; was a famous variety forty years ago when feathered. The marking colour is scarlet. A shy grower and now rarely seen.

ARETHUSA (Headly).—Rose. Tall; pure; shape fine; flower large, beautifully feathered and flamed with rosy scarlet. Highly esteemed thirty years ago, but now lost.

ASHMOLE'S 114 (Ashmole).—Bybloemen. Tall, shape very good; base pure, best in breeder state when the colour is an attractive heliotrope shade; when broken it is best flamed, but is unsteady and the flaming too rosy. It is a good exhibition breeder, especially when the blooming time is cold and wet, as it opens readily. In hot weather it looks more like a saucer than a cup.

ASHMOLE'S 126 (Ashmole).—Bybloemen. Tall, shape good, base pure. A sister seedling to the above and very similar in most respects; it is a little deeper in colour, and makes a better flamed flower when broken.

ATLAS.—See BACCHUS.

ATTRACTION (Walker).—Bybloemen. Shape good; base very pure, good as a breeder, but best when flamed, the flaming being bright deep purple. A poor grower, and rather unsteady. This fine variety is, I fear, almost lost; much esteemed twenty-five years ago.

AUROMINE (Lloyd).—Self. Shape good; base very pure, petals of good substance, and a fine golden yellow in colour.

BACCHUS (Dutch).—Bybloemen. Shape good; base pure, best when flamed, when the markings are most refined. Unfortunately the colour is neither that of a rose or bybloemen. When young it is a dubious kind of rose, and when old a doubtful bybloemen. It has been grown in this country over 120 years. Syns., Rose Baccu, Atlas.

BAGUET (Dutch).—Bybloemen. Cup long, base impure, petals thin, stamens insignificant. Used to be popular as a feathered flower in the early part of this century. Its steady marking was its only good quality. Syns., Black Baguet, Baguet Rigaut.

BEATRICE (Haynes).—Bybloemen. Shape rather long. Not of much value as an exhibition flower, but its large flower and bold striking colours make it a fine bed flower.

BEAUTY (Buckley).—Bybloemen. Dwarf; shape fair, base scarcely pure, best feathered when the marking colour is nearly black. Raised at Ashton-under-Lyne about seventy years ago, and formerly much esteemed in the north.

BEAUTY OF BRIGHOUSE (Hepworth).—Bybloemen. Best when flamed. Not of first-class quality.

BEAUTY OF BURTON (Hepworth).—Bybloemen. Shape not good, as the petals are pointed; base pure, best when feathered, but is a small flower, and inconstant. Impure in breeder state.

BEAUTY OF LITCHURCH (Haynes).—Bybloemen. Shape very good, tall grower; base very pure, best as a breeder, being a beautiful lilac in shade; when broken it is flamed, and although well marked the colours are weak and pale, which detract from its value as an exhibition flower. It blooms rather late.

BERTHA (Hiley).—Bybloemen. Shape good; base cloudy at first opening, but bleaches easily; of no value except when feathered, in which state it is very beautiful, having a heavy unbroken feather of rosy purple. It won the premier prize for the best feathered Tulip at the Royal National Exhibition in 1893. It is very scarce, and was raised by the late Mr. George Hiley of Ashton-under-Lyne.

BESSIE (Hepworth).—Bybloemen. Dwarf; shape good, base yellow at opening, but bleaches. It is best feathered, when the dark purple feathering is narrow and continuous. The petals are rather narrow, and the flower is apt to quarter. It is early in bloom, and much esteemed as an exhibition flower. In the flamed state it sometimes makes a good flower, but is often too heavy in colour. A good flamed strain of this

flower goes by the name of Dauntless in Yorkshire. Bessie is a shy grower, and although it has been out over thirty-five years it is not very common in the feathered state.

BIENFAIT (Dutch).—Bybloemen. Dwarf; shape narrow, base generally showing blue stains, but occasionally pure. The white ground is very pure, and the feathering of a rich violet. It is valueless when flamed, and discarded from most collections nowadays. Introduced about eighty years ago. Syns., Violet Lillard, Roi de Prusse, Incomparable.

BIJOU (Lawrence).—Bybloemen. Tall; shape long, creamy base, best when flamed. Obsolete.

BIJOU (Scarnel).—Rose. Dwarf; shape good base creamy, came out with a great noise in 1850 as a scarlet feathered variety and was figured in the "Florist," but was soon discarded as worthless.

BIJOU (H. Goldham).—Rose. Flamed, of no particular merit. A seedling from Portia and Mary.

BIJOU DES AMATEURS (Dutch).—Bybloemen. Best when flamed, the base creamy and marking colour dark; much esteemed by the London growers about 1848. Obsolete.

BION (Dixon).—Rose. Cup long but pure, best when feathered, but is now seen only as a flamed flower. The colour is dull, and although correctly marked, for this cause is little thought of. A seedling from Comte de Vergennes, raised at Manchester by the late Mr. R. Dixon, and let out about 1845. It was a famous feathered flower in its day.

BLEMART (Groom).—Bybloemen. Much esteemed about fifty years ago as a flamed flower. Syns., Duke of Cumberland and Mrs. Siddons. Obsolete.

BLONDE (Goldham, H.).—Rose. Makes a pretty bed flower with its flame of soft rose. Of no value for exhibition.

BOB MOORLEY (Johnson).—Bybloemen. Shape rather long, very pure; is excellent as a flamed flower with its distinct beam and deep purple colour. It is a fine exhibition variety, but a very poor grower. It was raised by Mr. Johnson of Audley, Staff., probably from Princess Royal, and is very scarce.

BOLIVAR (Lawrence).—Bizarre. Dark flamed and not pure. Obsolete.

BRIDESMAID (Cresswell).—Rose. Shape good, base pure; a striking flamed flower, the colours being "scarlet and blood," to quote the Rev. Mr. Clarke of Mountmellick, Queen's County, who has kept alive many of Norman's, Battersby's, and Headly's varieties that would otherwise have been lost. It is a desirable variety, but very scarce.

BRIDESMAID (—).—Bybloemen. Shape good, base pure. This variety is excellent as a breeder when the colour is pale lilac. It is liable to be damaged by frost at the tops of the outer petals, and it increases slowly. Not of much value when broken.

BRITANNIA (Gibbons).—Bybloemen. Tall growing; shape too long, base pure; the petals are stout and well shaped. It is best as a flamed flower when the markings are rich dark purple in colour. First broke in 1842, and is still grown.

BRULANTE ECLATANTE (Beteral).—Rose. Shape poor; petals pointed, base pure; was in high repute in the south as a flamed flower fifty years ago on account of its purity and bright scarlet markings.

BRUNETTE (Walker).—Bybloemen. Shape good, base pure, marking colour violet on good white ground, but of little value as an exhibition flower, as it rarely comes well marked either as a feather or flame.

BUTTERCUP (Oldfield).—A yellow self. Shape good, very pure, and the colour bright golden yellow. The best yellow self; a shy grower and scarce.

BRUNSWICK (Hardwick).—Bizarre. A fine feathered variety, broken by the late Mr. Parker of Wakefield about 1879.

DEATH OF MR. PETER GRIEVE.

THIS well known gardener passed quietly to his rest on the early morning of Thursday last, the 26th September, at his private residence, 4, Orchard Street, Bury St. Edmunds, in the eighty-fourth year of his age. For several years Mr. Grieve had suffered from heart disease, but up to the day before his death he had been out of doors attending to his usual round of duties on the Burial Board, making meteorological observations, attending the reading room, or taking notes of any public or horticultural question that claimed his attention.

The change came suddenly at last. He had an unexpected seizure, when ready to go out on Wednesday morning, from which he never rallied, and passed away the next morning without pain amid the respect and esteem of all who knew him. His widow survives and mourns his loss. His only daughter, Lucy Grieve, who raised the Pear bearing her name, died some years since, and is buried in Culford Churchyard, whither Mr. Grieve was carried last Tuesday to be laid by her side, within sight and touch of his labours and triumphs for thirty-three years, until the day breaks and the shadows flee away. Thus one more true comrade and faithful leader and fellow worker in the van of horticultural progress has ended his career, as a shock of corn in his season, and in laying him to his rest we wish to scatter a few sprays of Forget-me-nots on his freshly made grave.

Mr. Grieve's rise and progress in horticulture, which only a very few of the present staff or readers of the *Journal of Horticulture* can remember, is but a new rendering of the old old story of how character, pluck, and perseverance laugh at impossibilities, and say how it shall be done. A native of Allanton, near Blackadder, in Berwickshire, he was not long in finding his way to Edinburgh, and had the good fortune to secure an engagement under "Old Macnab," as the youngsters of that day irreverently called the Curator of the Edinburgh Botanic Gardens,

one of the cleverest botanists and best cultivators of his time. We next hear of Mr. Peter Grieve under another veteran cultivator, planter and transplant, as well as a distinguished landscape gardener, the late Mr. Barron, of Elvaston Castle, the magnificent demesne of the Earl of Harrington, near Derby. The friendship between these two only terminated with the decease of the late Mr. Barron, who evidently did a good deal towards developing the character as well as the talent and the taste of his young pupil.

We next find traces of Mr. Grieve at the pretty place of the Earl of Lanesborough, Smithland Hall, near Loughborough, where he spent seven years in planning, planting, making roads, conveying water, fully furnishing and highly cultivating a very pretty place. The next move of moment was to Culford Hall, nearly fifty years ago, where Mr. Grieve spent thirty-three years of the most active and useful years of his life in making, moulding, and furnishing this fine old place to the satisfaction of his employers, Mr. and Mrs. Benyon. The splendid Yew hedges in the kitchen garden were of his planting, the flower garden so charmingly furnished for years in the centre of the kitchen

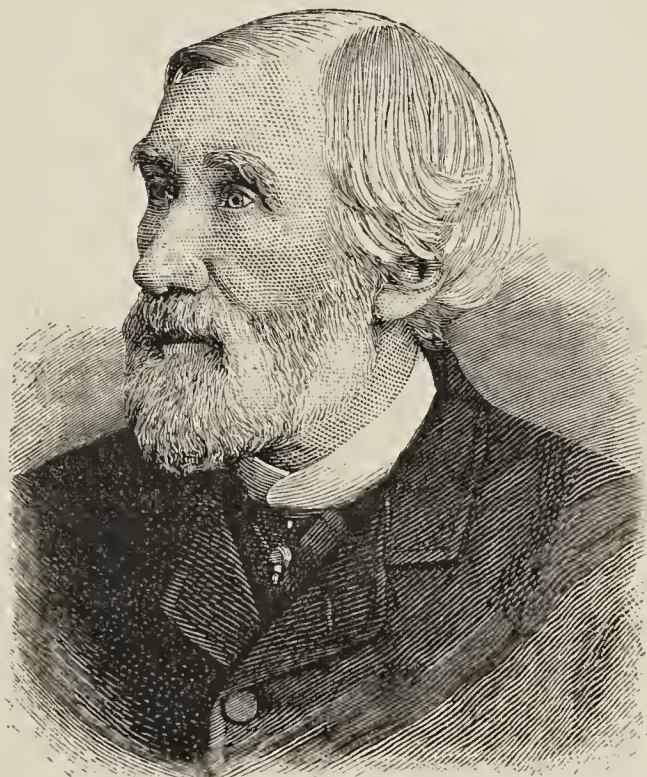


FIG. 54.—MR. PETER GRIEVE.

garden, and others of Mr. Grieve's design and execution, whilst the culture and keeping in all departments were of the highest and best.

Many readers of the *Journal* know Mr. Grieve best as a hybridist or cross-breeder of new varieties, almost new families, of Zonal Pelargoniums; he was, in fact, the father of the tricolors, bicolors, and bronzes. He gave lectures, and wrote a lucid brochure on his favourite theme, and was a frequent contributor to the horticultural Press, covering in his contributions almost the entire field of horticulture. He was equally at home among fruits and vegetables as flowers, had a cultured taste in landscape gardening, and was a most successful planter. Culford Gardens and demesne is, however, the noblest monument of his talent and genius, and these are writ deep in the earth in living trees and shrubs, though not in marble.

He left Culford in 1880, and settled in Bury. For some years he acted as co-Secretary of the Bury Horticultural Society with Mr. Armstrong. He also kept a record for years of the rainfall and temperature for the National Meteorological Society and the local newspapers. To the last his love of horticulture and his sympathy for the craft continued strong and deep as ever, and, take him for all and all, we shall not soon see the like of Mr. Peter Grieve again.

RIPENED WOOD.

ARE not both sides in this matter after all meaning the same thing? I should like to know how our friend "A Sceptic" likes to see the wood, of his Peach trees say, appear at the end of October? I will tell him how I like to see mine. I like to see it moderately small, hard looking, and firm to the touch, with leaves erring rather on the small than the large size, and these not more than 1 inch apart, and I like its colour to be brownish, if not distinctly brown. I like to see the buds in the axils of the leaves fairly visible. I should expect such wood to give me a greater chance of fruit next year, and be better able to resist the frost and cold than green, sappy-looking wood, possibly 2 inches or more between the leaves; in fact, I should call the latter immature wood, and the former ripened. I am very desirous of seeing how "Sceptic" likes to see his wood. Surely, he does not expect a sappy, squeezable Rose shoot to stand the blasts and cold of winter like one hardened by age, rough winds, and sun.

Your sceptical correspondent offers some nuts to crack. Now, I will offer him one. Six years ago when in Wiltshire I put against a

wall having a south aspect a small Peach tree, over this I placed a glass roof, extending on iron supports 7 or 8 feet from the wall, open in front and at the sides. At the outer part I planted another Peach tree, training its branches on wire 6 inches away from the glass. The second year I had some fifteen or twenty fruits on the outer tree, and it also made good wood. The following year an abundance of fruit set, and I thinned tremendously, leaving over 100 Peaches on the tree, and these ripened, and were very acceptable. That autumn, large as the tree then was, I brought it down into Somersetshire, and it was planted exactly in the same way, excepting that the aspect is now south-east. The transplanting was well borne, and the tree has had a good crop every year. This season I thinned it by hundreds, but have had about 200 fruits, some of these fit for any dinner table.

On the other hand, the tree planted against the wall, being shaded by the foliage of the other under the glass, has never seemed to me to ripen its wood. The growth remains green and soft-looking, and though the tree blooms the fruit generally does not set, or the few blooms that have set have after a few weeks fallen. This year on an extreme branch, and where the wood has been more exposed to sun and wind, and, therefore, has enjoyed a greater chance of becoming matured, I have one single fruit coming to perfection. Well, then, seeing this, I have come to the conclusion that shaded from sun and the elements there is no prospect of my obtaining fruit from this tree in its present position with wood that I consider immature, and in November I purpose moving the tree to the outer portion of the glass, where it may obtain some sun and wind, and where, as I conceive, the wood may become ripened. Again, I ask, is the wood "A Sceptic" desires similar or different to what I want, and, if similar, what does he call it?—Y. B. A. Z.



GRAFTING.

To those who contemplate increasing their stock by the above method these few notes will be seasonable. Where stocks are used it is certainly the better plan to pot them early in October and plunge in a cool pit. New roots will be well at work by the middle and end of November, and although I do not care for the roots to be far advanced, we surely get a quicker flow of sap when the new roots are just on the break. This insures a more rapid union than if the sap was comparatively at a standstill.

But we can perform the operation of grafting much easier if the following plan be adopted:—Lift the stocks, lay them in a very light compost. In about a month they will be ready for use, and can be handled without breaking off the new roots just bursting through. Always have the graft as close to the crown of roots as possible, not only to keep the plant more dwarf, but as a great preventive against future suckers from the stock. We get a considerable help, too, in laying the stocks in a light compost for a short time, as embryo suckers will be pushing up their heads sufficiently to be discovered.

My plan for many seasons has been to lift the stocks from the open beds where the bud failed, trim off the best pieces of root, and then work on these after a brief stay in the light compost. The fear of future suckers is not only greatly lessened, but we save in cost, and can make use of what would otherwise be complete waste. If we cut our prepared stocks down to the root, why will not roots alone do equally well? I even find them an improvement, while the expense and labour saved in working a large number are considerable. It is not my intention to describe the operation fully, but I would like to call attention to the superiority of wood ripened under glass over that grown in the open. Not only is it better ripened and sounder, but it frequently happens that before grafting we have experienced a frost that affects the wood outside. I have found outside wood that has had a frost of only a few degrees does not join so well, nor respond to the gentle heat used nearly so quickly as that kept under protection.

A quick union, an early response of the foster roots without much heat, are two great essentials; but we must have good and sound wood to secure a perfect union and healthy future growth. A small scion, too, and one that has the eyes as closely on the roots as possible, is also a desideratum. A close and dark case with a temperature of 60° will do away with any necessity for grafting wax, moss, clay, or other material to keep the wounds air-tight. A practised operator will rapidly bind the raffia around the stock and graft in such a way that very little air could gain access. I have noticed that amateurs almost always cut off the stock with a considerable slant, and instead of grafting on the higher side of this and so avoiding any drip or moisture from running down the graft and stock where joined, use the lower side, and thus form a cup that holds any moisture which may be about.

As soon as the graft has joined and new Rose growth has advanced some 2 inches we must admit light gradually and at times give a little air. Sprinkling needs much care and judgment, and is oftener than not overdone. Let the grafts be sound and well ripened for winter working, and whether roots or stocks are used do not have them too coarse and

old. To dig up either and place in a temperature equivalent to stove heat is wrong. It is sure to excite the little sap in the graft and cause it to push out the eye long before sufficient can be obtained from the foster roots, and even before a union can be made. Make the cut upon your stock with a little thought given to the size of the scion, and also select the former with the same object in view. It is a very easy matter to pick out a few of various sizes, according to the growth of wood in use. —PRACTICE.

IN A SCOTTISH MANSE GARDEN.

THIS is a season which is much loved by the flowers. Never at any period within the range of my remembrance have those "stars of earth" been more beautiful in my garden. The venerable Apple trees, specially preserved for their purpose, are picturesque, with Eckford's Sweet Peas and Tropæolums climbing and flowering superbly to a height of 14 feet. The long borders are bright with Begonias, Roses, Violas, and Pelargoniums; the Chrysanthemums with their infinitely varied hues are producing nobly artistic effects.

The Oriental Lilies constitute pictures of marvellous beauty. One of my auratums, planted two years ago, has eighty-five flowers, all of which are opening with great facility. It has three flowering stems, which produced 230 buds, so it may be easily imagined how much the flowers that have been permitted to remain have grown in dimensions, likewise in healthiness, by such vigorous disbudding. I am quite as exacting with other flowers, especially Roses and Chrysanthemums. I have this autumn for the first time in bloom in my garden that uniquely coloured Lily *Lilium Henryi*, which is perhaps valuable for its distinct complexion, but does not bear comparison with other and more beautiful varieties by which it is environed on every side. Its position among other and more beautiful Eastern Lilies is something like that of *tigrinum splendens*, any importance it may possess being derived, not from the presence of remarkable beauty, but from its capability of artistic contrast. It has the merit of great vigorousness, surviving, as I can testify, the most crucial visitations of frost, and is very prolific when strongly established, but not till then. In this respect it may be said to resemble a much grander Lily, *Szovitzianum*, which seldom produces many flowers the first year.

Of the many existing varieties of *Lilium auratum*, the most brilliant is undoubtedly *platyphyllum macranthum*, which is successful here, where, unlike other species of this stately family, it grows stronger and more majestic in aspect year by year. I like it much better than *rubrovittatum*, the deep crimson substitution for golden rays not commending itself to my consciousness from an artistic point of view. I have no intention, nevertheless, of pronouncing a dogmatic opinion on the subject, for it is quite possible that I may be defective in taste. I find, however, that human opinion varies very greatly in this special direction; and undoubtedly it is better, even for the sake of what may be termed distinctiveness in our gardens, that such should be the case. One of my favourite Lilies is *Lilium speciosum Krætzleri*, which is among its contemporaries what The Bride is among Roses—the queen of the exquisite section to which it belongs.

No plants available for border ornamentation are comparable for a moment to bedding Begonias. Here they have been flowering without intermission for the last four months. Except in the special matter of fragrance they do not yield the supremacy to the Rose. The queen of the garden, so long left without a rival, has discovered one at last.—DAVID R. WILLIAMSON.

PARK PLACE.

How many and varied are the aspects of old Father Thames as the river rolls seaward! Standing on any of the famous London bridges with the murky waters flowing beneath, the puffing steamers and dingy barges passing slowly to and fro, the huge warehouses and magnificent public buildings lining the river's banks, what do we see in them all but a picture of England's trade? But what of Henley, peaceful Henley? How great is the contrast! There the waters are clear as crystal, and in place of the grimy colliers and steam tugs are gaily decorated house boats, launches, and numerous other holiday craft. Weeping Willows droop gracefully over the stream, lazy cows stand cooling themselves in the waters, and the patient fisher stands rod in hand waiting for a bite. The river itself, clear and limpid, moves slowly onward, seeming still, yet still in motion, as if reluctant to leave a place so peaceful to enter the polluting influences of the great city along its course. Henley with its smiling river, its fashionable regattas, its delightful scenery and quaint old-fashioned streets, surely in these and a hundred other aspects we have an ideal picture of England's holiday time.

Amid such surroundings one would expect to find many places of interest to the gardener, and nestling amongst the trees on a gentle wooded slope, which rises from the river's brink, may be seen the outline of a charming residence—that is Park Place, the picturesque home of Mrs. Noble, and the object of a recent journey by the writer to Henley. It would be difficult to imagine a more delightful spot for a residence, with a background of verdure, and in the front a panorama formed of the winding river, the straggling town and the hills stretching away for miles beyond. It was a happy inspiration that caused the late owner, Mr. Noble, some twenty-five years ago to purchase the estate and make it his home. True we have seen many residences more noble in outline and imposing in aspect, but never one more truly English, nor more

surrounded with that air of peaceful seclusion which is so distinctly and peculiarly connected with many of the stately homes of England. A single branch line from Twyford, on which they evidently do not go in for breaking records, brings the visitor to Henley, and after a few minutes the lodge gates of Park Place were reached.

Once within the precincts the character of the grounds were distinctly revealed. The carriage drive winding and irregular, in one place almost covered with dense foliage, with the banks on each side rising steep and abrupt, the bright flowers of *Euonymus latifolius*, the dark green of the Yews and Box, and the rich golden tints of *Ampelopsis Veitchii*, climbing luxuriantly over numerous tree stumps, all contrasted pleasingly. A little further on opened out a broad stretch of park scenery, broken only by the presence of magnificent Cedars of Lebanon, giant Elms, and other forest trees. Here and there were noticed younger specimens of ornamental Conifers, all the result, we afterwards learnt, of the late Mr. Noble's taste for arboriculture. Rustic seats, of which there are several hundreds, are dotted here and there, and in the warm sunshine of the perfect September we felt disposed to tarry awhile, and appreciate more contentedly the beauty of the woodland scenery all round. The knowledge, however, that there was much to see, with the day only short, forbade this, and it was not until the pleasantly situated residence of Mr. G. Stanton, the head gardener, was reached that we were fain to rest ere we made closer acquaintance with the many objects of interest connected with Park Place.

THE GLASS.

With the true characteristics of a gardener this was the first department of the establishment to receive attention, and hurried as the inspection had necessarily to be, it required but little observation to show that all was under the care of a master hand. All the houses are built on the most approved principles. What that means to a gardener it is quite unnecessary for me to add; indeed, Mr. Stanton, who took charge of the gardens when Mr. Noble came into possession, has been responsibly connected with the thorough renovation of the gardens, and the modern has almost everywhere superseded the ancient. As home decoration is a large item much space is devoted to growing plants for this purpose. Many pits and frames are occupied with Primulas, Cyclamen, Francoas, and other plants of this class; and plunged in ashes was noticed a fine group of Chrysanthemums, the majority of which are grown for the production of cut blooms. A peep into the Orchid houses displayed a useful collection of Cattleyas, *Cypripediums*, *Cœlogynes*, and *Odontoglossums*, the structure containing the latter being rendered particularly gay by the bell-shaped flowers of *Lapagerias alba* and *rosea* hanging in profusion from the roof. A pleasing feature in many of the houses was the entire absence of formality, the method of culture endeavouring to give an idea of what the plants would be like in their native climes. Creepers everywhere, trailing about in unrestrained luxuriance. The roof of one house looked a mass of the brightly coloured *Bougainvillea glabra*, with Palms, *Imantophyllums*, and Ferns underneath, while a large tank of water in which were Nymphæas and other aquatic plants gave the whole a truly tropical appearance. In another the showy flowers of *Allamanda Hendersoni* formed a canopy, and fine specimens of Bananas and other stove plants filled up the vacuum below.

Fruit is extensively grown under glass and in the several houses devoted to Peaches and Nectarines; though the fruit had of course disappeared, the foliage and wood gave evidence of that condition of health which all gardeners love to see. Tomatoes, too, the craze of the present age, were largely in evidence, and the abundance of the supply solicited some remark to that effect. "Ah, yes," said Mr. Stanton; "we have Tomatoes all the year round, and of nearly all sizes." With regard to the latter there was no lack of evidence, many being large and handsome, some Pear-shaped, and others small and Currant-shaped; the latter are of delicious flavour, and find much favour for salad and other purposes. Several houses are devoted entirely to Figs, and in these large trained trees of Brown Turkey and other popular varieties were carrying fine fruits, with numerous others in prospect. Grapes, too, looked well, the earliest houses of course having all been cleared; here again a constant supply is maintained, as in a well arranged Grape room the late keeping varieties are stored till the forced fruit is ready for table. Mrs. Pince seems to be a favourite variety, and large bunches good in colour (not a common thing with this Grape) were noticed, while such kinds as Lady Downe's Seedling, Black Alicante, Muscat of Alexandria, and Golden Queen, were represented by Vines carrying heavy crops of well finished bunches. Melons were practically over, only a few remaining, though fruit of all kinds bore plainly the brand of good culture. Attached to the mansion, which is built in French *château* style, is an interesting rustic fernery formed of Derbyshire spar with petrified stalactites hanging from the roof. Mirrors are fixed in positions, which give it the appearance of being considerably larger than it really is, and the presence of plants and Ferns give the whole a cool and refreshing appearance. The conservatory is also unique, being a mixture of greenhouse and drawing-room, flowering and foliage plants, with creepers trailing here and there, being indiscriminately mixed with chairs, tables, lounges, and other articles of furniture common to the drawing-room.

FRUIT, FLOWERS AND VEGETABLES.

Owing to the abundance of trees, and the magnificent crops of the present season, there appears to be no limit to the former, in fact the place affords quite a study in pomology, there being no less than seventy-three varieties of Pears grown, and one hundred and thirty Apples;

a complete register in book form is kept of these, so that in case of loss of labels or omission of memory reference can at once be made and misclassification averted. All the pages of my note-book might have been filled with enumerating the many varieties grown, which, with but few exceptions, were carrying heavy crops of fine highly coloured fruit. This, however, would have been to little purpose, so we were content with inquiring out of the whole of the Apples which had this year done the best. "Oh, Cox's Orange Pippin, without doubt," replied Mr. Stanton; and really on examination this was quite apparent, as the trees everywhere were laden with perfect samples of this fine Apple. Others, too, ran them very close, Peasgood's Nonesuch and Ecklinville Seedling of size enormous, Worcester Pearmain of rich colour, and many others too numerous to mention; all made the task of picking out one and calling it the best a difficult one, therefore it was given up.

Pears, too; well there seemed to be Pears everywhere, and all bearing fruit; to find any bare wall space would have been a thing impossible, and even the low brickwork of every greenhouse was furnished with its tree. The cordon system is the favoured one with Mr. Stanton for growing Pears, the size and quality of the fruit thoroughly justifying this; while most of the Apples are grown as bush and pyramid trees. Figs and Peaches are also grown on walls, and such Peaches too, large in size, rich in colour, and of that delicious melting flavour that renders this fruit unexcelled by none. Much has been said about the unsatisfaction of growing Peaches outdoors; but given a south aspect, suitable soil, and a favourable season, well, our contention is that no fruit is more deserving of culture. This argument is amply justified in a sight of the Park Place Peaches. Small fruits of all kinds occupy a considerable area, but these having been gathered the interest in them was of course lessened.

Turning from fruit, our attention was next occupied by the flowers, as bewildering in variety as they were extensive from a point of numbers, giving no small idea of what the cut flower department must be at this establishment. Only a few, however, can be here referred to, and amongst them the Sweet Peas claim priority. Mrs. Noble must be no less an enthusiast than her gardener where these flowers are concerned, as no less than seventy-four distinct varieties are grown, these including all the recent introductions. The sight of the rows, now long past their best, filled us with some regrets that our visit had not been made a few weeks earlier. Content, however, had we to be to admire the remnants, and even these were beautiful; seed-gathering was being carried on, as all is saved for future supplies. Dahlias were largely in evidence, the Cactus varieties chiefly being grown owing to their adaptability for decorative purposes. Amongst the numerous annuals of all kinds, long rows of the floriferous dwarf Marigold Legion of Honour claimed special attention. This is a compactly growing variety, its profusion in flowering and richness of colour recommending it as an extremely useful annual. A large area is devoted to Carnations, containing all the most recent and improved strains. A number of dwarf and sturdy Wall-flower plants elicited some acclamation of praise, and ever anxious to pick up a fresh "wrinkle," inquiries were made as to process of culture. We learnt that the seeds were sown in April and the seedlings transplanted by means of an iron bar into the hardest and apparently most neglected quarter in the kitchen garden. This treatment evidently suits them, as it has never been our lot to see a more healthy and sturdy collection of plants, just such as one would naturally choose for standing a hard winter and producing an abundance of flowers in the spring.

Vegetables, of course, occupy a large area, which appears to contain every requisite for the culinary department, and among other interesting occupants were noticed several rows of the Climbing French Bean, which has been the subject of recent controversy in the Journal pages. Mr. Stanton speaks very highly of it, and, indeed, he is quite justified in doing so, as in addition to an extremely heavy crop, the pods are medium in size and of quality that cannot fail to find favour in the kitchen. Being medium in height, the long stakes necessary for Scarlet Runners are dispensed with; this alone should recommend the Bean, especially to cottagers who often experience difficulty on this point, while as a cropper it is in no way behind. Large quarters of Brussels Sprouts and other winter vegetables were evidence that the future is provided for, while the absence of weeds and the general aspect of cleanliness proved that attention was not lacking.

THE GROUNDS.

Winding walks shaded by trees, long stretches of green turf studded here and there with giants of the forest, sequestered nooks and shady dells, flower beds in some places, woods all round, and a delightful view from everywhere, form the sum total of interesting features in the grounds; nay, not all, for passing through a subterranean passage, so deliciously cool, where the temperature never varies, and continuing our course down the Happy Valley—truly named if appearances go for anything—we came to the river, so clear, cool, and refreshing. In a sheltered creek almost hidden by trees is a sumptuously furnished boat house, and in it, amongst other river craft, we noticed a Venetian gondola, for the navigating of which an experienced gondolier from sunny Italy is annually engaged.

Back once more by another route our attention on the way was called to the Chinese Cottage, picturesquely situated in a deep ravine; it looked the essence of seclusion, and imagination wandered unconsciously to hermits and their retreats. A broad terrace extends along the front of the mansion, in the front of which is the bedding uniquely mixed with ornamental shrubs and surrounded by a broad Yew hedge.

Though the season was much advanced the beds looked bright and cheerful, giving ample proof of a favourable season.

ITEMS OF INTEREST.

So many indeed are these that space forbids mention of them all, though my notes would be incomplete without a few brief remarks on the management of this large establishment. In the first place the interest taken by Mrs. Noble in the employés on the estate is most praiseworthy—would that her example was followed in many other cases; in this her wishes are ably carried out by Mr. Stanton, who is sole manager of the estate. The quarters assigned to the eight young gardeners—a department often sadly neglected—are roomy and convenient, and connected with the bothy is a "Mutual Improvement Society," with Percy Noble, Esq., as President. Weekly meetings are held during the winter months, at which debates take place, papers are read, and discussions invited on popular questions. Great interest is taken in this Society, which cannot fail to prove both instructive and interesting, and we should like to see something of this character instituted in every large establishment in the kingdom, which would help to break the dull monotony which the writer knows from experience often exists in bothy life after the day's work is over. Surely head gardeners might do something in this direction, and in these days of advancement the suggestion is worth consideration.

No less is the interest taken in the cottage dwellers on the estate. Horticulture is especially encouraged, an annual show being held entirely supported by Mrs. Noble. Prizes are offered for the best cultivated gardens and the most effective window boxes, and we could only regret that we were not present at the last show, held in August, where we learnt the competition was excessively keen and the quality of the exhibits good, showing how ready the working classes are to respond to encouragement in gardening. Pomology, too, is in no way neglected, as Mrs. Noble undertakes to provide and plant trained fruit trees to cover the walls of every cottage on the estate, reserving the right in case of inattention on part of the occupier to step in and claim the trees. It was gratifying, however, to learn that in the majority of cases this is not necessary, and an inspection of several cottage walls proved that not only did the trees receive attention, but much taste was manifested in training, fine examples of fruit being the result.

My notes shall close with one other instance of the owner's munificence. Curiosity was raised as to what became of the surplus flowers, as it was easy to see the whole were not required in the mansion. We ventured to put the question, and were gratified, though not surprised, to learn that they were sent weekly to the London hospitals. A list of those institutions is kept, and each in its turn receives a consignment arranged in bunches ready for putting in the glasses. They are then placed in the wards, carrying with them a ray of cheerfulness to make more endurable the life of many a weary sufferer. In how many gardens are there flowers surplus, yea, and often wasted; could they not be so utilised in our infirmaries, workhouses, orphanages, and almshouses? It is these little acts of kindness that brighten the existence of those less fortunate in life.

It was with reluctance we left a spot so beautiful, so interesting, and many pleasant recollections of Park Place still linger in the mind of—
WANDERER.

BANBURY ONION SHOW.

MR. DEVERILL'S annual Onion show was held on the 19th ult. in the Corn Hill Seed Stores, his prizes as usual bringing together a fine exhibition of the famous pedigree Onions. The champion prize, which is offered for the heaviest and best finished six of any variety, was won by Mr. Bowerman with six Ailsa Craigs, weighing 17½ lbs. This is the heaviest, I believe, yet staged at Banbury; the heaviest bulb weighed 3 lbs. 1 oz., and another 3 lbs., but all were well finished.

In the class confined to twelve of either Ailsa Craig, Advancer, Cocoa Nut, or Excelsior, Mr. Bowerman was again well to the front with Ailsa Craig, weighing 30½ lbs., a very fine exhibit. Mr. A. G. Nicholls of Nuneham Park Gardens, Abingdon, was second with Ailsa Craig, weighing 26½ lbs., and Mr. N. Kneller of Malshanger Gardens, Basingstoke, third with the same variety, 23½ lbs. in weight.

Another class was confined to Rousham Park, Anglo-Spanish, The Lord Keeper, or Royal Jubilee. Here Mr. Kneller was first with twelve Anglo-Spanish, weighing 21½ lbs., Mr. Lye of Sydmonton Court Gardens, Newbury, second, and Mr. Waite of Glenhurst, Esher, third, each exhibit weighing 19 lbs. Mr. Lye was first for the Wroxton, his exhibit weighing 12 lbs.; Mr. Haines of Coleshill House Gardens, Highworth, second, and Mr. Geo. Pease of Swalcliffe Park Gardens, Banbury, third. The class open to Scotland and the northern counties produced a good competition, but not such large bulbs as their southern brethren, Mr. C. J. Fisher of York being first with Royal Jubilee; Mr. Miller, Stockton-on-Tees, second with same variety, and Mr. G. Coles, Torrisholme, Lancaster, third with Anglo-Spanish. Cottagers' classes were well contested, and some fine Onions were staged.

For a collection of vegetables, eight varieties, containing five of Mr. Deverill's introductions, Messrs. Lye and Waite staged two very fine exhibits, taking the prizes in the order named. Eight collections were staged in the amateurs' and cottagers' class for eight varieties of vegetables, and a most creditable show they made; Mr. B. Horton, Tyroe, first, and Mr. J. H. Viggers of Neithrop, Banbury, second. To encourage the growth of all his pedigree Onions it is Mr. Deverill's intention another year to offer two prizes for each variety, still retaining the champion class.—G. A. J.



FRUIT FORCING.

Peaches and Nectarines.—*Trees Ripening the Fruit in July.*—

The midseason varieties of Peaches and Nectarines started in February will be approaching the resting period and the foliage becoming sere. This must not be forcibly removed, but the trees or trellis may be shook and the leaves falling cleared away as a means of riddance of fungi and insects. Supply water to the border as required, to keep the soil moistened through to the drainage. If the wood is thoroughly ripened and the roof-lights are moveable, the trees will derive great benefit from exposure until the time arrives for starting and the need for watering will be done away with, whilst there is lessened danger of the buds dropping, but if the wood is not ripe it is unwise to expose the trees to heavy rains and snow. When the wood is strong and the points of the shoots are soft and retain the leaves in a green condition, form a trench about one-third the height of the trees from the stem and detach all roots down to the drainage, leaving the trench open for ten days or a fortnight, when it may be filled firmly. Young trees only require this, but older ones that have the wood very strong may be root-pruned and the roots wholly or partially lifted before the leaves have fallen. In the case of weakly trees remove the old soil from over and amongst the roots, supplying fresh, rather strong loam, with an addition of calcareous matter where the loam is not of that nature, making it firm, and following with a good soaking of liquid manure.

Trees Ripening the Fruit in August and September.—The foliage must be kept free from red spider and other insect pests in order to obtain proper maturation of the buds and wood, an occasional forcible syringing being all that is needed in most cases. If there is scale promptly apply an insecticide, also against brown aphides, which sometimes attack the younger parts of the wood in autumn, and can be destroyed by diluted tobacco juice. There must not be any lack of moisture at the roots, therefore apply water to the inside borders as necessary to prevent their becoming too dry. Afford abundant ventilation, and if the wood is not ripening well keep the house rather warm by day and throw the ventilators open at night, but a close, moist atmosphere must be avoided, as that would be more injurious than otherwise.

Late Trees.—When the fruit is gathered the trees will need to have the shoots thinned where too crowded, and those which have borne fruit and are not required for extension can be cut out to a successional shoot at the base; this, with free ventilation, will assist in ripening the growths, which is of primary importance as regards next year's bearing. In cold localities and the wood strong it may be necessary to employ gentle fire heat in dull weather. Avoid a dry condition of the border. The trees must not lack water at the roots, and yet drier condition of the soil is advisable whilst the fruit is ripening, but anything like distress to the foliage interferes with the formation and maturation of the buds, and may seriously prejudice their retention by the trees, which simply cast them because imperfect, or impaired in vitality from various causes.

Cherries.—No fruit is more interesting and useful, and also profitable when forced early under glass. Cherry houses, however, are not common, which is remarkable, as dishes of Cherries are always appreciated at dessert, especially from April to June, when fresh ripe fruits are not plentiful. Cherries do well in a light, well ventilated (both top and bottom), and efficiently heated house. For early forcing it should face due south, a three-quarter span-roof being the most desirable form; for later forcing the structure may be a span-roof, and have the ends facing north-east and south-west. The trees may be low or half-standard, so as to reach the base of the sloping roof, or rather trellis, which should be fixed about 12 inches from the glass, or the trees may be trained as bushes, pyramids, or low standards, and planted out.

In the case of permanent or planted-out trees the roof lights ought to be moveable, so that the trees can be fully exposed after the crops are gathered and the growth perfected. The borders should be entirely inside, and not made all at once. A 4 to 6-foot width of border is ample to commence with. It should be drained 9 to 12 inches deep, having proper drains and outlet for carrying off superfluous water. Nothing answers better than brickbats, with a 3-inch layer of old mortar rubbish over them. From 20 to 24 inches depth of soil is ample, but it must be deeper at first to allow for settling. Good turfy loam, inclined to be heavy rather than light, four parts; lime rubbish from an old building, one-fifth; and road scrapings, one-sixth; the loam chopped moderately small, the whole well incorporated, forms a suitable compost. The trees should be planted as soon as the leaves begin to fall. Those that have been trained to walls four to six years are most suitable, as they will be in a fruitful state and calculated to give a crop of fruit the first season, and having been lifted annually or in alternate years they can be moved safely. The borders ought to be put together compactly, the trees firmly planted, and a good watering given, mulching the roots with a couple of inches thickness of short but not soapy manure. Early Rivers, Governor Wood, and Black Tartarian are best varieties, producing large, handsome, delicious fruit abundantly, and keeping in good condition some time after being ripe.

Cherries are readily forced in pots. This is a very desirable method of cultivating this valuable fruit, either where a few trees only can be accommodated in a small house to give dishes of ripe Cherries from April to June, or where a long succession and varieties of fruit are in request. A house with hot-water pipes sufficient to exclude frost and started at the new year, only using fire heat to keep frost at bay, and to allow a rise to 50° in the daytime after trees come into leaf, with a circulation of air, will give ripe Cherries at the beginning of May and sometimes a fortnight or three weeks earlier, and a cool house supplies this desirable fruit from the end of May or early in June onwards. The culture of Cherries in pots is very simple, but it is necessary that the house be light and well ventilated, and the trees placed outdoors after the crops are removed and the wood sufficiently firm.

Trees for forcing should be secured at once. Established examples in a bearing state may be obtained from most fruit nurseries. If necessary they may be shifted into larger pots, disentangling the roots at the sides of the ball and cutting back any that are straggling and thick. Provide good drainage and ram the soil firmly. Trees that are in as large pots as desired need only have the drainage rectified and the surface dressed, or the old drainage may be cleared away, a few inches from the base removed, the roots shortened back, and fresh soil given as advised for border, with a fifth of the whole of well-decayed manure, removing also the loose surface soil and supplying fresh material. If the trees are not already in pots, bushes pyramids or low standards should be lifted when the leaves commence falling, have the roots trimmed and be potted firmly, allowing them to become established before subjecting them to forcing. The trees should be stood on a hard bottom impervious to worms, and surrounded with ashes to the rim, covering the pots with litter on the approach of frost. The trees must have a good watering after potting, or when the roots have been interfered with.

For forcing in pots Early Rivers, Empress Eugénie, Black Tartarian, Governor Wood, Black Eagle, and Elton are good. For a cool house the following are first-rate:—Compact growers—Belle d'Orleans, Early Rivers, Early Red Bigarreau, Empress Eugénie, Bigarreau de Schreker, Governor Wood, May Duke, Black Eagle, Archduke, Nouvelle Royale, Florence, and Late Duke; large growers—Early Jaboulay, Black Tartarian, Bohemian, Black Bigarreau, Elton, Reine Hortense, Bigarreau, Bigarreau de Mezel, Duchesse de Pallau, Bigarreau Napoleon, Belle Magnifique, Emperor Francis, and Tradescant's Heart.

Strawberries in Pots.—Autumn fruiteders are particularly fine this season, and their bright appearance renders them pleasing at dessert, indeed, relished more than any other fruit during the recent hot weather. All the varieties forced are not good autumn fruiteders, but early forcers, such as La Grosse Sucrée, Vicomtesse Hericart de Thury, and Sir Harry are most suitable through their quality being higher than the larger fruited varieties. Plants that have been shaken out after being forced, repotted, and grown on are excellent for autumn and early winter fruiting, either so grown or planted out, duly attended to and lifted at the end of September or when showing for bloom, and placed in a frame. After the fruit commences swelling they should be encouraged with weak liquid manure—guano water being suitable, and where the plants are weak they may have an occasional feeding with nitrate of soda, $\frac{1}{2}$ oz. to a gallon of water. Early autumn fruiteders with the fruit approaching maturity should be placed in frames with abundant ventilation, which will assist the fruit to ripen, improving its colour and quality considerably. Any plants not required to fruit for some time yet may be retarded by placing them on a north border, assigning them plenty of space on a hard bottom.

The earliest plants of this summer's runners intended for early forcing should now be selected, taking those with the most promising crowns, well developed and plumped, giving them ample space, so that they may become well matured in their growths, and before heavy rains place them in frames plunged in coal ashes to the rims of the pots and well up to the glass, which should be perfectly clean so that they will be assured plenty of light, and air must be admitted abundantly by keeping the lights tilted in rainy weather and withdrawn when the weather is mild and fair. The plants must not lack water at the roots. A loose surface for Strawberries in pots prevents the soil from leaving the sides, and admits of the water passing equally through the ball and moistening it thoroughly. A little horse droppings or cow manure dried, rubbed through a half-inch sieve, and applied to the surface will keep all right there.

Remove all runners as they appear, also weeds, and do not allow the plants to suffer through insufficient supplies of water. They should have full exposure to light and air by allowing abundance of space, so as to secure sturdy growth and plump well developed crowns. Late and weakly plants may be assisted with weak liquid manure, taking care not to make the soil sodden, or it will do more harm than good. Stimulants ought not to be given to strong leafy plants, or this may increase the grossness or cause them to push the flower buds, which if only partial splits up the crowns into a number of parts derogatory to a good show of trusses when placed in heat.

THE KITCHEN GARDEN.

Beet.—Crops of these are very irregular, some of the roots being excessively large, while only a small portion are of good medium size. Many of the very coarse roots are faulty in colour, and these should be unhesitatingly discarded. The medium-sized roots should be carefully drawn or forked up, and after these and the selected large ones have

had their tops cut or twisted off, they must be stored for the winter. The floor of a cool shed is a good position, the roots being packed in a cone-shaped heap, crown outwards, and surrounded by sand or fine soil. A clamp in a dry corner in the open would be preferable to storing loosely in dry warm places. Leave the undersized roots where they are. While the weather is mild they will continue to thicken, whereas if drawn and stored they will become smaller.

Carrots.—The time has arrived for lifting and storing the principal crops of these. If the ground is hard fork them up, and then sort over. Should they be plentiful the split and forked roots may well be thrown on one side for horses. All that are straight and good should be stored in sand or soil, much as advised in the case of Beet. Leave the unthinned and all late-sown rows where they are, drawing these for use as required throughout the winter. Mulch a portion of the bed or some of the rows with strawy litter, rendering it possible to draw them during the prevalence of a moderately severe frost. The storing of Parsnips must also have attention.

Chicory, Salsafy, and Scorzonera.—Chicory roots are quite hardy; they may, therefore, be left in the ground, digging as required, or later on they may be stored, crowns outwards, in heaps of soil. Salsafy and Scorzonera keep best where grown, but they may be lifted and stored as advised in the case of Chicory.

Potatoes.—Crops of late varieties have matured rather sooner than anticipated, and the weather has been very favourable to lifting. All ought to be sorted before storing. The smallest should be saved for the pigs, and the diseased tubers rendered innocuous by means of a dressing of newly slacked lime. Save rather more than are needed of medium sized tubers for planting purposes, and treat them very differently to the "ware" or tubers intended for eating. Store thinly in cool, light positions, protecting heavily only when severe frosts are imminent. Later on the Ashleaves should be placed sprout end uppermost in shallow trays. Cool, airy cellars are suitable for storing cooking Potatoes, as also are dark, dry sheds, generally having either mats, abundance of paper, or a heavy supply of strawy litter in readiness for covering when severe frosts are anticipated. Large quantities should be clamped. Newly dug Potatoes ought not to remain several hours on the surface of the ground, especially in dull, damp weather, not even with a view to greening them, as it is only inviting an attack of disease.

Dry Weather and Celery.—Leaf-mining maggots are numerous and most injurious, but are not wholly responsible for the slow growth of much Celery. Crushing the maggots with the finger and thumb is advisable, but in order to keep the Celery growing strongly the plants must, in many instances, have more water and liquid manure supplied to them at the roots. Even those moulded up are suffering for want of moisture, and if it can be supplied to them from the sides of the ridges good will be done. Any only partly soiled should have a thorough soaking of water or liquid manure. Unless this is attended to there is every likelihood of much Celery bolting early.

THE BEE-KEEPER.

APIARIAN NOTES.

PREPARING FOR 1896.

THE exceedingly fine weather we are now enjoying cheers us on with brighter hopes. Bees should not be allowed to crowd out or loiter at the entrance, or to build combs underneath their hive or wrappings. I mention wrappings here as being superior to double casing; the latter not being so healthful to bees on account of the damp it creates inside the hive, acting injuriously on the honey, pollen, and the bees.

When hives are of proper size, so that there is ample room for stores of every sort, and for the queen to deposit from 3000 to 4000 eggs daily, there is not the slightest occasion for the nadir. When hives are so constructed, and mostly filled with worker comb and crowded with bees, there remains but one thing for the apiarist to do. When honey is plentiful and the weather favourable, but not before, put on supers, beginning with the most advanced. Frequently have I had five tiers of supers completed on one hive.

All those who manage their hives on the lines I advise will readily perceive there ought not to be less than five tiers or supers on hand to get the advantages of a good season. There are few bee-keepers who cannot make their own supers or section crates. These ought to rest on the sides of the hive, so as to take the weight of the frames, and prevent bees escaping between hive and super protector. The last named is an absolute necessity to all hives, especially to those moved to and from the Heather. It keeps the hive at a uniform temperature, and, as the name implies, secures protection to the supers. Many an accident has occurred by moving bees from one place to another with the supers unprotected. When small supers are used be careful to have them all one depth, and the section crates rather deeper than the sections. Keeping the top edges of the crates level with the sections is perhaps good enough, but wood varies with the weather a great

deal, and when too neat it will happen at times the crates become too shallow, which gives the bees unnecessary labour in propolis, and allows the escape of heat.

I never use separators, and have very rarely bulged combs. I construct my crates with a hinged end, which when shut presses the sections square and holds them tight. Two brass screws make all rigid.

Much has been written from time to time on the best hive, but very often proper tests were not made, or if done, by someone not fully acquainted with the management of bees. This year has given ocular demonstration of what are the best hives, because if two or more lots of hives stand side by side, managed on different principles, and one gathers from 80 to 100 lbs., while the other gathers 10 to 12 lbs., then it becomes obvious there is something wanting with the latter. It is impossible to keep pace with the onward march of bee-keeping by using hives much smaller than Nature demands, for had we adopted the "standard" hive we would have been in the same position as those beside ours, which gave no honey, while ours did.—A LANARKSHIRE BEE-KEEPER.

SEASONABLE NOTES.

THE glorious weather experienced during the past fortnight is the all-absorbing topic amongst bee-keepers and others, as never in my experience have I known such a long spell of bright weather and the temperature as high so late in the season. For more than a week past the daily maximum shade temperature has ranged from 78° to 80°, the sun shining all day from an almost cloudless sky. To-day, September 28th, the atmosphere is clear and the temperature as high as any day during the past fortnight, and to all appearance the exceptional heat is likely to last for some days longer.

The bees are making the most of the fine weather, and are working freely on the Ivy, and as many of the autumn-flowering herbaceous plants and annuals are blooming profusely the bees return to their hives heavily laden with pollen, showing that breeding is going on apace. This will prove of great advantage to the various stocks provided they have abundance of stores to carry them through the winter. It is surprising how some people put off really necessary duties in connection with bee-keeping. Within the past few days I asked a bee-keeper who resided in another county if the season had been favourable for honey production in his district. He replied that he could not speak from experience, as he had not taken his supers off, although the honey flow had been over at least two months.

Had the bee-keepers in the Midland counties been favoured with similar weather during the latter part of June and early in July this would doubtless have been a record year, as at that time the bulk of the white Clover was in bloom, a great quantity of which is grown in this district for sheep grazing, and from which the finest sample of honey is procured. But then the weather was dull and showery, in marked contrast to that experienced in the southern counties.—AN ENGLISH BEE-KEEPER.



* * * All correspondence should be directed either to "THE EDITOR" or to "THE PUBLISHER." Letters addressed to Dr. Hogg or members of the staff often remain unopened unavoidably. We request that no one will write privately to any of our correspondents, as doing so subjects them to unjustifiable trouble and expense.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Bee subjects, and should never send more than two or three questions at once. All articles intended for insertion should be written on one side of the paper only. We cannot reply to questions through the post, and we do not undertake to return rejected communications.

Sweet Peas (W. S.).—The blooms sent represent a very fine strain of these charming flowers, and the number of blooms on the stalk proves excellent cultivation. It is not general to have so many blooms on a stalk as in your case, but they are sometimes seen.

Single Cactus Dahlias (No Name).—We have received a box containing a number of blooms of single Dahlias, but no letter in reference to them. Letters should always be placed in the packages with specimens, whether the senders write by post or not.

Melon Seeds Germinating in the Fruit (A. W.).—The circumstance of Melon seeds germinating and producing green cotyledons prior to the fruit being cut, though somewhat uncommon, is not by any means a rarity. We have had examples similar to yours from time to time. The requisite conditions for germination were present—namely, heat, moisture, and oxygen gas, this being an essential constituent of water, while sufficient light from bright sun passed through the thin rind and transparent flesh for the deposition of chlorophyll in the cotyledons.

White Specks on Vine Leaves (Hamboro).—There were no insects on either the lower or upper surfaces of the leaves. The white specks here and there are the cast skins or egg sacs of some minute insect passed into fungal-like threads. There is nothing the matter with the leaves but the warty growths, which are not caused by mites; they usually arise from a sudden check, as a current of cold air rushing on the foliage when ventilation is given so as to lower the temperature suddenly. The Vines seem in good health in other respects, the foliage being very fresh for the time of year.

Melon Plants Infested with Black Fly (A Reader of the Journal).—The leaf was in a bad state, and any like it will be of little service to the plant even after the aphides are destroyed. There is no better remedy than fumigation with tobacco smoke, the house, pit, or frame being filled on a calm evening, taking care to have the foliage dry. Deliver the smoke cool and not give an overdose. If you repeat the fumigation at break of day the following morning there will usually be an end of the aphides, and the structure can be ventilated in the usual manner, as the smoke will be gone before the sun acts powerfully on the glass. The name of the variegated-leaved plant is *Acalypha musaica*, and that of the white flowered one *Toxicophlœa spectabilis*.

Flies in Pear-room (F. A.).—The insects sent belong to a two-winged species of fly, in the great division which contains, amongst many other, the familiar house fly. This small species is *Sepsis cynipsea*, and it has the peculiarity of being fonder of running about than flying. At times these flies assemble numerously in sheds, summer houses, and other places, for no particular reason that we can see. In the instance given, it is doubtful whether they have any connection with the Pears except that of being attracted by the smell of the fruit, having managed somehow to gain access to the store-room. The larva or grub of this little fly is imperfectly known, but it is believed to be one of the scavengers that feed on and decompose manure. Still, it is a possible thing that they may have bred in some of the Pears, if any were undergoing decay.

Diseased French-named Gladioli (D. W.).—If, as we presume, the bulbs are affected to begin with, no application to the soil could possibly act as a disinfectant of them from the disease. Had you sent us some diseased plants with their corms intact, we might have been able to assist you to a preventive and remedy as regards infected roots. Both vegetable and animal micro-organisms are associated with the disease in Gladioli, not always the two together, but occurring separately, and it is necessary that we should make a careful examination of the affected plants before prescribing. Guano or Thomson's Vine manure, and other chemical manures, would assist the plants in their growth, and better enable them to outgrow and resist the malady, whether caused by fungi or animal parasites. If you send specimen, please pack carefully in damp (not wet) moss, so as to arrive in fresh condition for examination.

Tomato Fruits Cracking (A. F.).—The cracking arises from the plants having been stinted for water or nourishment both at the roots and in the atmosphere at some time when the fruits when in a green state, whereby the skin becomes hardened, and especially during a spell of bright, hot weather, so that when the fruit takes its last swelling for ripening, and under moister hygrometrical conditions it is unable to expand, and cracking occurs at the eye end, but sometimes at the shank. We know of no remedy, but it may be prevented by a more generous regimen during the swelling period, a free circulation of air after the fruit commences ripening or even when about to take the last swelling, admitting air both day and night, and in bad cases cutting the stems about half way through so as to arrest some of the sap from the roots. The deposition of moisture must also be prevented, as this is imperceptibly absorbed, on the principle of osmosis, and cracking follows.

New Potato (M. P.).—It is quite impossible for any person to judge from a solitary tuber as to the distinctness or otherwise of any variety of Potato. We could, no doubt, find tubers so closely resembling the fine one sent that it would be hard to recognise the difference between them; but still, when seen growing, also in essential characters, they might be quite dissimilar. The most complete test of the value of new varieties of Potatoes is to have them grown in the trial ground of the Royal Horticultural Society. About seventy varieties have been thus tested this season, only four or five of them obtaining certificates. Some Potatoes, however, succeed in certain soils and localities better than in others, and you might do well to submit samples to some of the expert growers in your district, such as Mr. Ismay Fisher of Sturton, and Mr. Brown of Appleby, whose names, perhaps, may not be unfamiliar to you. There is a good Potato in commerce under the name of M.P. If you were to send a dish of half a dozen tubers to the Vegetable Committee of the Royal Horticultural Society, it is not unlikely that the variety would be referred to Chiswick for trial. The Secretary of the Society, 117, Victoria Street, Westminster, would give you instructions for sending if desired to do so.

Rapid Potting (E. F. H.).—We cannot tell you what is "the quickest rate of potting on record." Potting a thousand plants in an hour is said to have been accomplished. We know of one earnest young gardener who tried to accomplish the feat, but failed by about fifty plants. They were Verbenas shaken from cutting pots and placed separately in small 60s. The work was properly done, and to the satisfaction of the head gardener, who was one of the best "plantmen" in the kingdom.

Nailing versus Wiring Walls for Fruit Trees (Cymro).—The old system of nailing to the wall with shreds is that which destroys the mortar, and makes numbers of holes and hiding places for predatory pests to harbour in, also inflicts most bruises on the shoots and branches in securing them to the wall. It is an old and bad practice, and ought not to be followed with new walls or those that are properly pointed and put in order for the suitable growing of fruit trees. Wiring the walls—which is not a French system, as we know one of the finest Pear walls in England, that was wired in in 1837, and is as good now as the day of putting up and affixing the wires—is far the better plan, the wires being affixed not more than half an inch from the wall, and the nearer they are the better, providing tarred string can be passed around them for securing the strong branches, the wires if properly affixed will last indefinitely. The varieties enumerated in the *Journal of Horticulture*, January 17th, 1895, page 63, commencing with and following "walls" are among the best of the respective fruits for such purpose.

Roses for Market—Stocks for Roses (A. F.).—We presume you want yellow Roses only, and in that case Perle des Jardins is by far the best of the clear straw yellows. If you have room for climbers select the climbing variety of this, or else Maréchal Niel. Madame Falcot always sells well, but is a deep apricot yellow; while if you can use a stronger grower, William Allen Richardson cannot be beaten as a deep orange yellow. Under glass this Rose is grand. It grows exceptionally strong, and never fails to produce a good crop on the long shoots. These are certainly the best four yellows for market work. Any nurseryman will supply dwarf Briar stocks; but why use stocks when pieces of root will answer the purpose equally well? An article on this style of propagation will be found on page 330. You are correct in purchasing a few pot plants for grafting wood, the growth on these being much sounder, besides free from any frost effects. Young grafted Roses are now so cheap that we doubt if you would not be doing better to purchase your stock outright. Plants in 48's or 32's would cost less than good bushes from the open, and if potted would give you grand plants the following season, far beyond any you could work for yourself.

Eucharis Failing (H. W. G.).—It is very difficult indeed to restore Eucharis that are attacked by the bulb mite from an unhealthy to a vigorous condition. Once the plants are in a similar condition to yours a good temperature, say 65° to 70°, is necessary to start them into growth. Shade is also necessary during the growth of the plant, especially until the foliage is well developed. When at rest a lower temperature, say 55°, may be given and less shade. Syringing during the period of growth may be practised twice daily and liberal supplies of water given. When plants have been repotted and lost all their foliage, as yours appear to have done, they must not be watered at stated intervals, and the syringe must be used with great discretion. When the soil is rendered too wet about plants in this condition they rarely start freely into growth. The best method of treatment is to plunge them where they can enjoy slight bottom heat, in a moist, close atmosphere, and be shaded from the sun. If the plunging material is kept moist and the plants dewed two or three times daily with the syringe they will practically fill their pots with roots before an application of water is needed. Healthy plants during the period of rest should not be dried off to such an extent that they lose their foliage. A lower temperature, more air, a drier condition of the atmosphere and the soil about their roots, never allowing the plants to flag, is the method of resting healthy, vigorous plants to insure abundance of fine blooms and retain the plants in perfect health.

Names of Fruits.—Notice.—We have pleasure in naming good typical fruits (when the names are discoverable) for the convenience of regular subscribers, who are the growers of such fruit, and not collectors of specimens from non-subscribers. This latter procedure is wholly irregular, and we trust that none of our readers will allow themselves to be made the mediums in infringing our rules. Special attention is directed to the following decision, the object of which is to discourage the growth of inferior and promote the culture of superior varieties. In consequence of the large number of worthless Apples and Pears sent to this office to be named, it has been decided to name only specimens and varieties of approved merit, and to reject the inferior, which are not worth sending or growing. The names and addresses of senders of fruit to be named must in all cases be enclosed with the specimens, whether letters referring to the fruit are sent by post or not. The names are not necessarily required for publication, initials sufficing for that. Only six specimens can be named at once, and any beyond that number cannot be preserved. They should be sent on the first indication of change towards ripening. Dessert Pears cannot be named in a hard green state. (H. W.).—1, Annie Elizabeth; 2, Ribston Pippin, very fine; 3, Beauty of Hants; 4, Warner's King; 6, Cellini; 7, Blenheim Pippin. (Berks.).—8, Northern Greening; 9, Cox's Pomona; 10, Cobham; 13, Cox's Orange Pippin; 14, Marie Louise; 15, Doyenné du Comice. (S. B.).—16, Beurré Diel; 17, Worcester Pearmain; 21, Court Pendu Plat. (A. R.).—1, Waltham Abbey Seedling; 2, a local kind of the type of the Sussex Forge; 3, Cellini. (H. C.).—1, Aston Town; 2, Glou Morceau; 3, Knight's Monarch;

4, Cox's Pomona. (R. C.).—We cannot say positively from a single specimen, but after close examination we find it more nearly resembles Gloucestershire Costard than any other variety. (G. B.).—1, Irish Peach; 2, Devonshire Queen; 3, Cox's Pomona; 4, Kerry Pippin; 5, not known; 6, Hawthornden. (E. R. W.).—1, Glory of Kent; 2, not known, worthless; 3, Bedfordshire Foundling; 4, local; the Pear is Napoleon. (W. C.).—1, Not known, inferior; 2, Beurré Clairgeau; 3, Fondante d'Automne; 4, Wyken Pippin; 5, Alexander; 6, unrecognisable, worthless. (Regular Reader).—Pears.—1, Flemish Beauty; 2, not known, and not good. Apples.—1, Lemon Pippin; 2, Kerry Pippin. (J. S.).—1, Norfolk Stone Pippin; 2, Manks Codlin; 3, Nonesuch; 4, Bedfordshire Foundling; 5, Blenheim Pippin; 6, Beurré Sterckmans. (Burbach).—1, Not known, worthless; 2, Hall Door.

Names of Plants.—We only undertake to name species of plants, not varieties that have originated from seeds and termed florists' flowers. Flowering specimens are necessary of flowering plants, and Fern fronds should bear spores. Specimens should arrive in a fresh state in firm boxes. Slightly damp moss, soft green grass, or leaves form the best packing, dry wool the worst. Not more than six specimens can be named at once, and the numbers should be visible without untying the ligatures, it being often difficult to separate them when the paper is damp. (J. G.).—The Ferns reached these offices in a very withered state, so much so as to render positive identification impossible. 3 and 5, possibly forms of *Lastrea filix-fœmina*; 4, probably *Adiantum macrophyllum*; 6, *Lastrea filix-mas*. The berried plant was *Pyrus terminalis*. (Ross-shire).—1, *Lychnis viscaria flore-pleno*; 2, *Aster Ericoides Clio*; 3, *A. horizontalis*; 4, *Novæ-Belgæ densus*; 5, A dwarf form of *Calluna vulgaris*; 6, *Serratula tinctoria*.

TRADE CATALOGUES RECEIVED.

J. E. Barnes, 9, Exchange Street, Norwich.—*Dutch Bulbs*.
Wm. Clibran & Son, Altrincham.—*Shrub and Tree Catalogue*.
W. Fromow & Sons, Chiswick.—*Plant Catalogue*.
Laing & Mather, Kelso, N.B.—*Carnations*.
J. R. Pearson & Sons, Chilwell, Notts.—*Wholesale List of Fruit Trees*.
J. Walters, Worford Road, Exeter.—*Catalogue of Roses*.

COVENT GARDEN MARKET.—OCTOBER 2ND.

FRUIT.

	s.	d.	s.	d.		s.	d.	s.	d.
Apples, per bushel	1	3	0	0	Filberts, per 100 lbs. ..	35	0	0	0
„ Nova Scotia, per barrel	0	0	0	0	Grapes, per lb.	0	6	1	6
„ Tasmanian, per case	0	0	0	0	Lemons, case	10	0	15	0
Cobs, per 100 lbs.	35	0	40	0	Peaches, per dozen ..	1	0	9	0
					Plums, per half sieve ..	2	6	4	6
					St. Michael Pines, each ..	2	0	6	0

VEGETABLES.

	s.	d.	s.	d.		s.	d.	s.	d.
Beans, per bushel	1	0	0	0	Mustard and Cress, punnet	0	2	0	0
Beet, Red, dozen	1	0	0	0	Onions, bushel	3	6	4	0
Carrots, bunch	0	3	0	4	Parsley, dozen bunches ..	2	0	3	0
Cauliflowers, dozen	3	0	6	0	Parsnips, dozen	1	0	0	6
Celery, bundle	1	0	1	3	Potatoes, per cwt.	2	0	4	0
Coleworts, dozen bunches	2	0	4	0	Salsafy, bundle	1	0	1	6
Cucumbers, dozen	0	9	1	6	Seakale, per basket	0	0	0	0
Endive, dozen	1	3	1	6	Scorzoneria, bundle	1	6	0	0
Herbs, bunch	0	3	0	0	Shallots, per lb.	0	3	0	0
Leeks, bunch	0	2	0	0	Spinach, bushel	1	0	1	6
Lettuce, dozen	0	9	1	6	Tomatoes, per lb.	0	3	0	4
Mushrooms, punnet	0	9	1	0	Turnips, bunch	0	3	0	6

AVERAGE WHOLESALE PRICES.—OUT FLOWERS.—Orchid Blooms in variety.

	s.	d.	s.	d.		s.	d.	s.	d.
Arum Lilies, 12 blooms ..	3	0	4	0	Marguerites, 12 bunches ..	1	6	3	0
Asparagus Fern, per bunch	2	0	4	0	Orchids, various, dozen				
Asters (English) doz. bchs.	2	0	4	0	blooms	1	6	18	0
Bouvardias, bunch	0	6	1	0	Pansies, various, dozen				
Carnations, 12 blooms ..	1	0	3	0	bunches	1	0	2	0
dozen bunches	4	0	8	0	Peas, Sweet, doz. bunches ..	1	6	3	0
Chrysanthemum, dozen					Pelargoniums, 12 bunches	4	0	9	0
blooms	1	0	2	0	Primula (double), doz. spys.	0	6	1	0
doz. bunches	3	0	6	0	Roses (indoor), dozen ..	1	0	2	0
Dahlias, dozen bunches ..	2	0	4	0	Tea, white, dozen	1	0	2	0
Eucharis, dozen	1	6	2	6	Yellow, dozen (Niels)	3	0	6	0
Gaillardias, doz. bunches ..	1	0	2	0	Safrano (English),				
Gardenias, dozen	2	0	3	0	dozen	1	0	2	0
Geranium, scarlet, doz.					Yellow, dozen blooms	0	6	0	9
bunches	4	0	6	0	Red, dozen blooms ..	1	0	1	6
Lilium lancifolium, twelve					various, doz. bunches	3	0	6	0
blooms	1	6	2	6	Smilax, per bunch	2	6	4	0
longiflorum, 12 blooms	3	6	4	0	Stephanotis, dozen sprays	2	0	4	0
Lily of the Valley, dozen					Sunflowers (small) dozen				
sprays	1	0	2	0	bunches	2	0	3	0
Maidenhair Fern, dozen					Tuberose, 12 blooms ..	0	2	0	4
bunches	4	0	6	0	Violets, dozen bunches ..	1	6	2	0

PLANTS IN POTS.

	s.	d.	s.	d.		s.	d.	s.	d.
Arbor Vitæ (golden) dozen	6	0	12	0	Ficus elastica, each	1	0	7	0
Aspidistra, dozen	18	0	36	0	Foliage plants, var. each	2	0	10	0
Aspidistra, specimen plant	5	0	10	6	Heliotrope, per dozen ..	4	0	6	0
Chrysanthemums, per doz.	6	0	18	0	Lilium lancifolium, 12 pots	12	0	18	0
Coleus, per doz.	2	6	4	0	Lycopodiums, dozen	3	0	4	0
Dracæna, various, dozen ..	12	0	30	0	Marguerite Daisy, dozen ..	6	0	9	0
Dracæna viridis, dozen ..	9	0	18	0	Yellow	9	0	18	0
Euonymus, var., dozen ..	6	0	18	0	Myrtles, dozen	6	0	9	0
Evergreens, in var., dozen	6	0	24	0	Palms, in var. each	1	0	15	0
Ferns in variety, dozen ..	4	0	18	0	(specimens)	21	0	63	0
Ferns (small) per hundred	4	0	6	0	Pelargoniums, scarlets, doz.	3	0	6	0



PROFITABLE CROPS.

No! our title this week is not intended to be satirical, but is an outcome of a mental survey of the agricultural outlook for another season, a weighing of possibilities, and a resolution to have nothing more to do with crops which, under the test of market returns, cannot be expected to pay a fair interest on the expenditure which sound cultivation involves. Mark the term, for it points clearly to an avoidance of any extreme or fanciful practice, yet of work well done, an end, an aim, well in view—well within the bounds of possibility. We take it, that if this were done by every farmer at Michaelmas there must be a general improvement, and much less difficulty in “meeting the times,” even though it points to a radical change of practice.

The matter is surely simple enough. If the price of corn has fallen so low that it cannot answer to sow Wheat or other corn to sell on market, avoid doing so, but also avoid rushing into extremes. We cannot agree that the alternative for all corn is all permanent pasture on a farm. Very much more to the purpose is temporary pasture, and an eight-years shift, under which about an eighth part of the farm is ploughed each year in strict rotation, and as regularly laid down to grass again after serving its turn for the year's crops of corn, roots, and special green crops, all grown for home use, or for a ready and profitable market.

The relief which the adoption of this system affords to a corn farmer is immense. No longer is he crippled by his labour bill, the troop of men and horses which were a necessity for an arable farm can be wonderfully reduced in numbers when seven-eighths of it are brought under grass. We have had farms in our hands in East Anglia with 300 acres in plough, and only 30 acres in grass, and right dearly bought was the experience gained in our endeavour to manage them profitably, under stress of a steadily downward tendency in value of a large per-centage of crops which from mere custom were still kept on the land. The only objectionable feature of the change is the painful necessity for the dismissal of the labourers. But a farmer cannot afford to adopt the rôle of a philanthropist, his very existence as a farmer depends on the economical management of his farm. “Every superfluous man must go,” says stern necessity, and go he does from farms where such changes have to be made.

It is obvious that in thus bringing a farm under this system the land may or may not be laid down to temporary pasture with a corn crop. In most instances a corn crop would be taken, and wherever it can be managed we would give preference to Winter Oats, sown now, harvested next July, and so leaving the new pasture “seeds” clear of corn soon enough to afford much useful herbage next autumn. We have had this even with Spring Oats, but very much better with our favourite Winter Oat, for which we would have the land in good heart; and if there is a doubt of fertility 1 cwt. sulphate of ammonia and 2 cwt. mineral superphosphate per acre should be drilled in with the corn. After several changes Mr. Primrose McConnell, of Ongar, says he settled down to the following kinds and quantities of seeds per acre for temporary pasture—Perennial Rye Grass 13 lbs., Italian Rye Grass 5 lbs., Cocksfoot 5 lbs., Timothy 3 lbs., Meadow Foftail 2 lbs., Broad Red Clover 3 lbs., Broad Perennial Clover 3 lbs., White Clover 2 lbs., Alsike Clover 2 lbs., Trefoil (or Lucerne) 2 lbs.—total 40 lbs. The “seeds” are mown for hay, or grazed with milk cows, sheep or bullocks, just as it happens to suit.

Live stock there must be, and of a class that will render profit possible. It need not be pedigree stock, any of it, but it must be well bred, well fed, well sheltered, for it to answer. What stock to have must be very much a local matter as regards proportion. If near a town there would be milk, if far from a town there may be cheese, and there will be butter when we get co-operative butter factories; in any case there would be some store cattle, a flock of sheep and some pigs. In all this we have the ordinary farmer in view; the extraordinary farmer, the man of resource, energy and enterprise, would probably strike out a line for himself, but even for him we have intimated a basis, a point of departure which he must find useful.

With so much of the land in grass, the farmer has plenty of time at his disposal for the live stock, which often requires more attention than it gets for the maintenance of healthy condition. Sheep folding, too, should take a leading position at the proper season on such a farm, and the whole of the pasture land have its fertility fully sustained by annual dressings of chemical manure wherever there are no sheep folds.

WORK ON THE HOME FARM.

The only corn thrashing we have done was a field of Oats reaped early as the straw was wanted for chaff, and as the Oats were not quite so ripe as to render them safe for keeping, they were placed in an airy granary and turned over occasionally to prevent heating. This field came in hand last Lady Day in such very foul condition that it should have had a summer fallow, but Oats were wanted, and we had to make the best of it by sowing the corn thickly, drilling in chemical manure with the Oats. The result was a useful crop which will serve our purpose, and the field has had a lively time of it since harvest, both with the cultivator, harrows, and hand forks. This thorough autumn tillage will leave it in very different condition for next spring, when it will have another thick crop of Oats, which we hope will smother what little Couch Grass is left in the soil.

Most favourable has the weather been for all work on the land, which we never knew in better condition both for autumn tillage and for sowing. Our seed time is practically over, as we have only another sowing of Tares to do, and then we shall be ready for the root crops, all of which have made such marvellous progress lately that the much talked-of scarcity of roots next winter will hardly be realised. Late sowings in the north must be a light crop, but herbage is so exceptionally abundant that the Swedes will not be wanted till much later than usual. Mangolds are good everywhere, and are fast gaining weight now. We have met with more Mangolds run to seed in our frequent long journeys by rail than we ever saw in a single season before, and we take it as a satisfactory sign of the more general early sowing of this useful crop.

With early April sowings there always will be “bolters” among Mangolds, just as there will be some mildew among May-sown Swedes, but the per-centage of both is so low compared with the bulk of fine large heavy sound roots, as to be unworthy of notice. Potatoes are being lifted in splendid condition, and we hope an exceptionally heavy crop will enable growers to meet low prices without loss. We have seen several interesting trials of this crop with farmyard manure and chemical manure side by side this season, and hope to have something to say about results later on.

METEOROLOGICAL OBSERVATIONS.

OAMDEN SQUARE, LONDON.

Lat. 51° 32' 40" N.; Long. 0° 8' 0" W.; Altitude 111 feet.

DATE.		9 A.M.				IN THE DAY.				Rain, Inchs.	
1895. September.		Barometer at 32° and Sea Level.	Hygrometer.		Direc- tion of Wind.	Temp. of soil at 1 foot.	Shade Tem- perature.		Radiation Temperature		
			Dry.	Wet.			Max.	Min.	In Sun.		On Grass.
		Inchs.	deg.	deg.		deg.	deg.	deg.	deg.	Inchs.	
Sunday	.. 22	30.366	54.7	53.0	E.	56.1	70.4	42.6	103.4	33.5	
Monday	.. 23	30.277	53.8	53.3	N.E.	51.1	73.3	45.9	98.3	38.5	
Tuesday	.. 24	30.221	65.6	60.7	E.	56.3	82.8	50.8	113.0	45.4	
Wednesday	.. 25	30.220	60.6	60.3	E.	57.5	80.6	56.3	117.7	49.6	
Thursday	.. 26	30.307	64.9	63.0	N.E.	53.4	82.4	56.2	112.8	49.8	
Friday	.. 27	30.241	66.8	63.1	N.E.	59.3	82.6	56.7	110.9	48.3	
Saturday	.. 28	30.253	64.6	60.9	E.	59.7	79.2	55.0	113.8	46.5	
		30.270	61.6	59.2		56.9	78.8	51.9	110.0	44.5	

REMARKS.

22nd.—Bright sunshine throughout.
 23rd.—Sunny and warm, but hazy and rather oppressive in the morning.
 24th.—Faint sunshine through haze or mist till noon; clear later, with very distant lightning in evening.
 25th.—Foggy early; brilliant after 10 A.M.
 26th.—Bright sunshine throughout.
 27th.—Almost cloudless throughout.
 28th.—Almost cloudless throughout.
 A very fine and exceptionally, if not unprecedentedly hot week for the time of year.
 —G. J. SIMONS.

Fruit Trees and Vines.



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CLOVES Raby Castle, Redbraes, Salisbury, Reynolds Hole, Ger-
mania, and Mrs. Muir, all at 3s. 6d. per dozen. Malmaison (Blush)
and Uriah Pike, 6s. per dozen. All post free. Cash with order.

The Silver Medals of the Gardening and Forces Exhibition
and of the Royal Horticultural Society have been awarded to
me for Carnations in Pots.

J. Walborn, *Court Florist,* "Cedars Nursery," West Kensington, W.

To Nurserymen, Builders, Local Boards, Vestries, and
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We have just received an exceptionally fine consignment
of the popular

BERMUDA EASTER LILY
(L. HARRISSI),

and can offer, so long as the supply lasts, MAGNIFICENT
BULBS, price 18/- per dozen, 2/- each; FINE BULBS, 10/6
per dozen, 1/- each; SMALLER BULBS, as usually adver-
tised, price 5/- per dozen.

CHINESE SACRED NARCISSUS

The Bulbs of this variety are largely grown by the Chinese
in fancy bowls, and its presence in the house is considered
an emblem of good luck. For invalids and others in-
terested in watching the growth of a plant from day to
day, we know of nothing that affords such a great
amount of pleasure. FINE BULBS price 6d. each, 5/- per
dozen. JAPANESE BOWLS for 1 bulb, 1/-; 2 bulbs, 1/6;
3 bulbs, 2/-; 4 bulbs, 2/9. All Parcels Carriage Free.

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Journal of Horticulture.

THURSDAY, OCTOBER 10, 1895.

AUTUMN THOUGHTS.

AT no particular season of the year is time
afforded for a complete rest from Love's
labours in the gardener's department; yet I
think that it is at this period we arrive at the
nearest approach to it. Busy workers, as a rule,
do not look for a cessation of work, such would
not mean rest to them; but there are many,
very many of the present day, who from the
vernal start of vegetation to its autumnal
decline find it so hard to keep pace with the
necessary work conducive to success that not
until the season arrives which is now with us
does anxiety give place to a more reposeful
feeling.

True, winter is the season of rest with
vegetation, but not, I think, with the gardener,
who is then to be found prudently taking Time
by the forelock and recommencing by anticipa-
tion another round of duty while Nature sleeps.
Any way, the last season of the year (winter)
does not present to the observant eye such
beauty as that we are now entering upon, and
with men who are so much in communion with
Nature as we are there is real enjoyment, for a
brief spell only perhaps, of what appears to me
to be our especial prerogative.

It may not be until now that the highest
degree of tidiness, so dear to the heart of the
man of method, is obtained. Such is the case
in some important gardens that I am acquainted
with, and doubtless others have similar ex-
perience. Especially is this the case where
circumstances demand that some help should
be contributed by the garden to the farm, and
the already overtaxed staff have had to throw
down spade or hoe to take up the fork and hay
rake. If this is only during a spell of inclement
weather for the saving of that important crop,
it comes at a time when the hours are most
precious in the garden, and generally results in
a fight to keep matters fairly straight until
vegetation receives that check which autumn
gives; then, and perhaps only then, is breathing
time permitted to the man at the helm, and he
can look back and look on ere he again looks
forward.

Autumn thoughts are not now confined to
the garden, yet here we seek for and are noting

the fruition of forethought and the energy which has been applied in carrying it out. Those who have aimed highest, if they have not reached their mark, have at least gone nearer to it than less ambitious ones. Even the latter class cannot but extract profitable lessons from failure, for past failure is a sharp spur to future success. Yet considerable allowance must be made for the many persons who are heavily handicapped, especially during such a season as the past, which has, to say the least, been peculiar.

We, of the garden, who live under the dual sceptre of Flora and Pomona, have probably more reason for self-congratulation than those who pay homage to Ceres, for to the farmer the latter has been most unkind, yet even she has—I gather from various reports (“Inspector’s” articles for one) and personal observation—smiled on those who have been most anxious to propitiate her. So, doubtless, it is the case in our own particular department, and the index finger of the press points the moral to its readers that high culture is the safe road to travel on, particularly in abnormal seasons. “No use praying here; this field wants manure,” said the good Swiss pastor on his annual visit to invoke the blessing of Providence on the crops. So this old, old earth of ours must be constantly re-invigorated with the elixir of life in some form or other, or we see such results as are past praying for. If cultivators would but grasp this fact and act up to it, results both in farm and garden would be far more creditable to all concerned.

Even in some places where conscientious work has been carried out on sound theory the past season shows divergent results, and for philosophic minds there is no dearth of mysteries yet to be fathomed. There are, indeed, things yet undreamt of in our philosophy. Why is it that in some localities where all conditions, even those of treatment, are similar, such variable results are now noticeable? In one garden excellent Pears are to be seen whilst Apples are but poorly represented; in a neighbouring garden these conditions are reversed; and still again, and with good horticulturists too, the fruit report is in the one case “good” in the other “Bad” (with a big B).

A pleasant autumn task is that of gathering and storing good specimens of Apples and Pears, as the discerning eye notes the propitious time for each variety. That noble autumn Apple—Ecklinville—is now in perfection on the fruit-room shelves, and, kitchen Apple as it is, there is not, to my mind, any dessert variety more palatable than its mellow flesh and sub-acid flavour during a spell of tropical heat. And how satisfactory it was in having the finest of weather for lifting the Potato crops; and how sound, large, and clean the tubers revealed themselves as the work went on.

But we must go to the woods to note the rich colours; and who could tire during the short-lived season of wandering through Nature’s picture gallery? Could all the skill or art of man reproduce under glass with the richest of foliage plants aught that can rival this lavish wealth of colour? Here is a Beech with old gold streamers pendent through, yet unchanged, branches of green; hundreds of fine Beech, yet search them through and this one is unique; Chestnuts of fiery red leafage, which the first breeze will bring to the ground at one fell swoop. Scarlet and gold, and green above, with soft fleecy bobbing tails of grey below, as the bunnies scamper off in alarm on hearing but the faintest sound of man or dog.

Just such sights as are common now through our native land. Common and uncommon, for the old hand (of Nature), so skilful in getting up these fine effects, will never reproduce them on exactly the same lines, and apart from sentiment pertaining to autumn thoughts we—gardeners—may perhaps note the possibilities of contributing at planting time such objects as the great painter will seize on to work her sovereign will at this season of the year, and so heighten or prolong its inimitable beauty.—THE GARDENER.

WINTER CUCUMBERS.

DURING the summer months Cucumbers can be grown in almost any structure with success, but this is not the case when a supply has to be maintained during the winter. The best of conveniences are essential to success. They cannot be satisfactorily grown with other plants beneath them as may be done during the more favourable months of the year. The structure for this purpose must be of the lightest description, with plenty of bottom and top heat at command. A temperature of from 60° to 70° at night must be maintained, with a rise of 5° by day at the least. This should be obtained without having to over-heat the pipes. Nothing is more detrimental to the well-being of these plants than making the pipes burning hot, as the foliage is certain to be attacked by red spider. If the temperature cannot be readily maintained without over-heating the pipes it is almost useless to attempt the culture of Cucumbers in the winter.

Applications of insecticides and other strong measures would soon destroy them; in fact, if the syringe be used frequently enough to keep the red spider in check it would do more harm than good; the plants at the most trying period of the season would be certain to fail. Under any circumstances the temperature must be regulated by external conditions. When the weather proves severe the lowest named only should be maintained; in fact, if the thermometer reads 60° early in the morning and then rises it will be more suitable to the plants than a higher degree. On mild occasions, when it is 45° to 50° outside, the highest figures may be kept up with beneficial results to the plants. The supply of bottom heat is equally as important as the top, and should range from 75° to 80°, the same conditions being observed as advised for the top.

The manner in which the bottom heat is applied is also important. It is a great mistake to have the pipes any great depth below the base of the soil, and it is equally bad, if not worse, to have them arranged so that they unduly dry the soil. In the arrangement of a house for this purpose preference would be given to a plan whereby the pipes could be utilised for both top and bottom heat. They would not be confined, but slates half an inch thick, or nearly, could be laid practically on the top of them; in fact, they would be arranged so that the flanges of the pipes were just clear. A space of 2 or 3 inches would be left near the outer walls of the house, or even the width space of a 4-inch pipe. This insures the whole of the soil in which the plants are growing being of a uniform temperature. However much piping may be employed for bottom heat, if the soil is against the outer walls it is damp the whole season, and many degrees colder than that nearer the inner walls of the house.

Such arrangements materially lower the temperature of the soil throughout, and have a very detrimental effect on the plants. If the bottom heat pipes are enclosed within the bed the chamber for them should be covered with earth, not filled in with rubble as too often is done. There should also be room between the outer wall and that of the bed for one or more top heat pipes. Slates absorb heat quickly, and it is imparted to the soil without having that drying effect which is the case when the pipes are merely covered with loose rubble. When a coating of dry material is formed over the rubble the heat fails to pass through to the soil above. If slates are used it is not wise to lay the soil directly upon them, for they hold water by this means to an extent that cannot fail to be serious. This evil is overcome by placing on the slates about 2 inches of drainage, which allows superfluous water to pass away readily.

There can be no doubt that a lean-to structure facing south, with a shed or other building behind it, is the best for winter Cucumbers, being much warmer than a span-roofed house in any position, although they can be grown in the latter if it runs north and south. If it runs east and west those on the south side may do well, while those on the north will not succeed. It is a general custom to arrange the wires on which to train the plants 14 or 16 inches from the glass, thinking that the nearer to the glass the better they are. This is the case with those grown during the spring and summer, provided the foliage has room to develop itself. But for winter culture the case is different. The wires should be 20 inches from the glass, and it would be better for the plants if they were 2 feet away. The footstalks of the leaves are very liable to grow longer during the winter than when they can enjoy plenty of light and air through the summer. When planted at only the ordinary distance from the glass they are apt to crowd themselves against it and hold too much moisture. Another advantage, and the principal one, is that they are much warmer than when close to the glass, and not so liable to injury from cold.

Those who intend growing Cucumbers through the winter should plant the whole, or part of their early house, in June or the beginning of the next month, so that they can insure a supply

of fruit until the end of November. Many winter Cucumbers fail towards the close of the year, or before, by cropping them too early in the season. Early cropping, whether the plants are intended for spring, summer, autumn, or winter, is one of the gravest mistakes. It is a general custom, and a very bad one, for it practically destroys the vigour of the plant for a long time. With winter Cucumbers this practice must be strictly avoided. The plants should cover a good portion of the trellis before they are allowed to fruit. If this is done, and the fruits that appear are removed until the middle of November, they will with moderate cropping afterwards yield a supply during the winter.

To give the plants every chance of doing well sturdy examples in 5-inch pots must be placed out at once. If plants are not raised seed may be sown at once, but no attempt should be made to fruit them before the middle of December, though temporary plants may be placed amongst them to yield a few fruits until the others gain strength. For winter work the plants should not be placed nearer than 3 feet, and allowed to extend up the trellis about 4 feet before they are pinched. Every attention must be paid to them from the time they are planted, so that the growth they make is short-jointed and of the sturdiest description. This can be accomplished by ventilating liberally whenever the weather is fine.

A moist close atmosphere that will encourage soft quick growth must be avoided from the first. If this is done they will attain considerable strength by the time the leader is pinched. The laterals should be removed to the lowest wire, and then allowed to extend until they meet, when the points of the shoots should be removed, the laterals being at least 16 inches apart, so that ample room will be left for training the sub-laterals on which the fruit is to be taken. It will be necessary as these are laid in to remove some of the main leaves to give the foliage of the sub-laterals room to develop. As a rule they will show fruit at the first joint, and should be pinched one joint beyond, all the fruits being removed but one. Some of the sub-laterals will need removing to prevent crowding, and this is best done as soon as they start from the laterals. All growths afterwards may be pinched at the fruit, and not one joint beyond. By this means the wood can be removed from time to time as the fruit is cut, and thus afford ample room for fresh fruiting shoots. After the plants commence fruiting they must not be overcropped. If too many fruits show remove them directly it can be ascertained that the required number will swell. It must be remembered that each fruit takes more than double the length of time to swell than is the case during genial weather. It is often necessary during bad weather to fertilise the flowers, and if this takes place the strain on the plants is very much increased.

The soil for winter Cucumbers is important. In the summer they are not particular, but in the winter the soil must be of such a nature as to avoid a quick soft growth. It should be composed chiefly, if not entirely, of good fibry loam. This depends on its fertility. If it is rich it may be used alone; if not, one-seventh of manure may be added. Some loams are poor, and such that we are in the habit of getting must be enriched with manure for Cucumbers both during the summer or winter. The soil must be well warmed before planting; and here it may be mentioned that the structure used must be thoroughly cleaned. This is not only necessary at the commencement, but those residing in the neighbourhood of towns will find it requisite to wash the glass outside frequently. Winter Cucumbers do not need so much soil as might be given with safety during the spring or summer. Two bushels for each plant will be ample, with attention to top-dressing them from time to time as they need it. Frequent top-dressing is infinitely better for winter Cucumbers than having to resort to feeding. After the plants commence fruiting a little Clay's fertiliser sprinkled on the surface of the soil will be found better than stimulants in a liquid state.

The amount of water needed during the winter is considerably less than during the more genial months of the year. They must be kept as near as possible in an intermediate condition. Great care must be exercised in this matter; too much water is as detrimental as too little. Do not supply water at a lower temperature than that at which the bottom heat is maintained. The syringe may be used freely at first on all fine occasions, but it must be gradually discontinued, and may be needed only on bright days during the months of November and December. It is not difficult to keep plenty of moisture in the atmosphere during these months without reverting to the syringe, which one is often tempted to use after bright sunshine, but if it is not done early in the day, or is followed by sunless weather, the operation does more harm than good. The atmosphere can be kept moist by damping available spaces, but too much moisture in the air during the winter will soon prove as ruinous to the plants as cold. In an atmosphere overcharged with moisture the plants soon fail, they give very little warning; first they flag under bright sunshine, and

if they are examined the tissues will be found to be in a state of decay.

The house should be liberally ventilated at first to insure a sturdy growth, and as the season advances air must be admitted with great care and caution. No ventilation would be needed after the end of October if it was not for the condensed moisture that becomes deposited at night on the glass and wood of the house. A "chink" of ventilation early in the day quickly dispels the moisture that hangs about the woodwork, which is much better for the plants than being subjected to a constant drip throughout the greater part of the day. If the rafters are grooved, or even have a strip of zinc on them, this condensed moisture can be carried away without subjecting the plants to a shower bath daily. It is a good plan to supply the house with canvas blinds, which keep the house many degrees warmer, and prevent to a very large extent the condensation of moisture that would otherwise take place.

Telegraph, Cardiff Castle, and All The Year Round are good for winter growing. A cross between the first and Paragon results in a good useful variety for the winter. It is questionable if any surpass Telegraph for this purpose.—W. B.

FLOWERS IN SEASON.

How time flies! We seem hardly able to keep pace with it, and the seasons appear all too short to perform the many and complicated duties connected with the gardener's occupation. It seems but yesterday since the Journal pages were devoted to gems of the spring, and in writing about the flowers of the early months of the year there appears to be something fresh, hopeful, invigorating; perhaps it is because we have the whole season before us. There is freshness about spring flowers because they come in their simple beauty after months of dreariness and stagnation; and so it is with the pen that describes, and endeavours—often with futile results—to paint in black and white their many charms and virtues. The writers, like the flowers, are fresh and eager after the dreary season, so that the earliest beautifiers of the earth are sometimes apt to receive a larger share of attention than those which follow in greater variety and abundance later on.

But stay; surely that gem of the summer, the queenly Rose, is by no means neglected. Certainly not, as never was it so popular as at the present day. In spite of this, there are scores of others all adding their share to the summer's display; some old perhaps, others more recent; but often—yea, too often—"born to blush unseen." With many enthusiasts of the flower garden autumn specimens seem to receive more admiration than those which bloom at an earlier date. Why is it? Well, it seems to me that it is because they are the last of the year, and any morning now we may expect to find them black and woe-begone through the ravages of frost. Is it not the knowledge that soon all will be over that endears our affection so much to the flowers of the autumn? Again, how they help to shorten the dreary season, when Nature is kind enough to withhold frost till late; November for instance. Seasons might be recorded when a sharp night in September or early October has laid waste the flower garden. How drear the prospect then, and how long the winter seems.

Every reader will doubtless know what it is to walk through the gardens on the morning after the first frost, even though we may have been expecting it for some weeks. Dahlias and other flowers that but yesterday were bright and cheerful hang their heads, and the whole scene seems surrounded by an air of dreary emptiness, with nothing more to look on or hope for until spring's bright days come round again. It is such thoughts as these that make us cling so tenaciously to autumn flowers, and while they are still with us a few notes concerning them may not be out of place.

Those who dwell in the country with gardens at their doors have no difficulty in studying flowers of all kinds and at all seasons, and thanks to modern enterprise Londoners are not much worse off in that respect, for have they not spacious parks—the people's gardens—in every district where flowers of many kinds may be seen blooming in their several seasons by anyone who cares to take the trouble to go and look? Some critics are saying that London parks are overdone with flowers, but that is a point on which I do not intend to argue, beyond adding that the thousands who daily go to see and admire them prove that they are appreciated. North, east, south, or west, no matter what locality, each is possessed of one or more of these public gardens, and it was to get a glimpse of the autumn flowers that the writer recently wandered into Dulwich Park, situated in a southern suburb just outside the canopy of London smoke. Famous for its superb collection of rock plants and alpine, spring is perhaps the time to see Dulwich Park to perfection, though visitors will readily admit that it is by no means the only season of interest.

Summer flowers were certainly almost gone, though here and there were noticed beds of *Heliotrope*, still gay and sweet; clumps of *Nicotiana affinis*, *Begonias*, not yet over; *Abutilon Thompsoni*, still bright; and annuals of many kinds flowering in profusion, all the result of the almost unprecedented sunshine of September. Turning to the autumn flowers, the early blooming *Chrysanthemums* were very gay, having taken the place of earlier occupants of many of the flower beds; for this purpose they are indeed useful, and assist in prolonging the display over a much longer period than would otherwise be the case. At Dulwich long stretches of green turf and wooded glades, noticeable in other parks, are conspicuous by their absence, and being cultivated throughout, in fact, quite in garden style, a large display of flowers is seen to advantage. Being of recent plantation, the trees and shrubs on the mounds are yet small, so that Dahlias and perennial Asters dotted amongst them give the idea of flowers everywhere, while in several more sequestered positions the modest flowers of the Autumn Crocus were seen peeping out of the grass.

Towering up above the bushes were to be seen the giant heads of *Helianthus Soleil d'Or*, certainly not elegant, but showy and effective. On beds close by were noticed a few straggling *Roses*—the last of the summer—of varieties *Mrs. John Laing* and *La France*, which the able superintendent, Mr. Bailey, asserted had been a mass of bloom throughout the whole of the summer. Dulwich is certainly not the place to see carpet bedding, as the only one is a unique arrangement, being a fac-simile of the coat of arms of the famous Dulwich College, and has this year been the centre of much attraction. As already stated, Dahlias were a feature at the time of my visit, and were composed entirely of Cactus, single and Pompon varieties. These are planted in clumps at conspicuous points, their brightness and variety of colours making them most effective. In choosing the kinds Mr. Bailey has done well to secure those which throw their flowers well above the foliage, as the blooms of many varieties are so hidden in a mass of leaves that it is a puzzle to find them.

Amongst others the brilliant flowers of the old *Juarezi* shone out conspicuously, while the rich yellow blooms of *William Pearce* were no less effective, *Mrs. Hawkins* sending up a profusion of sulphur coloured flowers looked charming, as also did the dazzling brightness of *Fire King*. Included in the collection are *Sir Trevor Lawrence*, light scarlet; *Empress of India*, rich crimson; *King of the Cactus*, reddish crimson; *Beauty of Brentwood*, purple, and many others. Turning to the Pompon section, so much admired by all *Dahlia* lovers, were noticed *Brilliant*, rightly named from its bright scarlet flowers; *Little Prince*, a crimson tipped with white; *Catherine*, yellow; *Cupid*, white and rose; *Isabel*, orange scarlet; *Golden Gem*, golden yellow; and *Crimson Beauty*, whose bright crimson hue is responsible for its name. The selection at Dulwich is doubtless a good one, and mixed indiscriminately together without any attempts at classification they looked all the more showy and effective.

Amongst autumn flowers I know of none more pleasing than the simple and unassuming perennial *Asters*, which may be now obtained in such variety as to add no small share of beauty to the herbaceous border. At Dulwich they are in themselves a feature, as here there and everywhere their star-like flowers were noticed peeping out. The kinds are many, varying in size and shades of colour. *A. Chapmani*, *discolor*, *Lindleyanus*, *versicolor*, *cordifolius*, *dumosus*, and *polyphyllus*, were conspicuous. Hardy, floriferous, and readily increased, too much praise cannot well be accorded to these simple gems of the autumn. On several large bushes of *Rosa rugosa* the bright yellow seed pods seemed to complete the season of beauty that their showy flowers commenced early in the summer. The future is also being provided for, as some 5000 *Carnations* have been this season layered, whilst *Violas* and *Pentstemons* are being propagated by the thousand.

Spring, summer, and autumn, Dulwich always appears gay, first with the bulbous plants and Alpines, then the summer bedding, followed by the flowers of the fading year. It is hard to say which one likes most, as each has its own particular charms; but the last mentioned, and the last to flower, do not receive the least share of admiration from—WANDERER.

SUPPORTING FRUIT TREES—LIQUID MANURE.

It may seem somewhat of a misnomer to write, at this season of the year, about watering to any great extent some of the many plants and crops growing in the open air, but our climate— proverbial for its capriciousness—has this year supplied such a continuous succession of bright sunny days, as to render England, for the time being, a second Africa in brightness. Under these circumstances special attention ought to be given to watering in every department of gardens, so that we may derive full benefit

from the welcome sunshine, instead of allowing it to act injuriously on trees and crops.

Some of the first things to require attention in this direction are fruit trees on walls. No matter whether they be Pears, Plums, Peaches, Cherries, or Apples, undue dryness at the roots will largely influence the character, if not the quantity of next year's crop. At the present juncture, when buds are passing through the last stage of maturity, it is obvious that a check in any way must have disastrous results. True, we have had rain, and may have more, and this thought will perhaps prevent many from resorting to artificial watering. It should, however, be borne in mind that the benefits to be derived from watering depend to a great extent upon the time at which the operation is performed. Especially is this so now, just before the fall of the leaf. Where abundance of liquid manure is at command it should by all means be used in a dilute state for the fruit trees, as such heavy crops have this year been produced, that unless high feeding is resorted to good crops can scarcely be expected next year.

Peach trees growing in houses or on walls in the open air ought to have special attention given to prevent dryness at the roots, for many of the complaints about bud-dropping in spring would not be heard if this matter was more regularly attended to, and I shall not be surprised if complaints are not unusually numerous next year. Given borders abounding in healthy fibrous roots, it is surprising how much water is needed till the fall of leaf, and even after that stage is reached it is necessary to examine them occasionally to see that the soil does not become too dry; but as plants are often placed on the borders, it is not often that watering is required after the fall of leaf until the trees have been pruned. Apples and Pears on dwarf stocks will also derive immense benefit from timely applications of liquid manure, now that the soil and atmosphere is hot and dry. Quite recently I saw remarkable results in the shape of grand fruits hanging on young standard trees. On inquiry I found these had been freely watered, notwithstanding the fact that they were growing in a heavy moisture-holding soil. Much valuable sewage from towns, private mansions, and adjacent stables is annually wasted for want of a proper system of disposing of it by distribution among farm and garden crops.

The poor hungry soil, in which vegetation so soon shows signs of distress on the approach of drought, shows conclusively how great is the need for improvement in this direction. In many of our largest and best managed gardens, how little provision is made for the regular distribution of the liquid manure at command. Hand water carts are generally in use, and excellent they are in innumerable ways; but in addition, every large garden ought to possess horse carts, capable of holding from 80 to 100 gallons of liquid, so that the invaluable fertiliser, which so often becomes a nuisance, may be carted directly to orchards, fruit gardens, and vacant ground in an expeditious way, and add in a large degree to the soil's fertility.—D. W.

FLORAL FACTS AND FANCIES.—13.

In a recent article on the *Fuchsia*, a contributor to our Journal expresses regret that this flower seems to have lost some of the popularity it once possessed; if so, I am inclined to think this may shortly be regained. Many persons take hints from the display of flowers made in the metropolitan parks, and about several of these some *Fuchsias* of good height and growth are to be seen this September, notably in St. James' Park. The *Fuchsia*, more particularly the scarlet variety, is said to be a symbol of "good taste," but the variegated are supposed to tell of "disappointed ambition." Did old James Lee, as the story goes, discover by chance in a window at Wapping the first *Fuchsia* known in England, and, buying it of the sailor's wife, succeeded soon after in getting a rapid sale for his young plants at a guinea each as a beautiful novelty? Doubt has been thrown on the tale, though the evidence is tolerably conclusive that the *Fuchsia* was introduced to the public from Lee's nursery at Hammersmith, which had a fame for specialities. *Ericas* is another instance of a tribe of plants to which Lee, old James, devoted expense and trouble when they were little known as garden flowers.

Our native species of *Heath* grew freely in the olden time on large tracts of land, whence they have now disappeared, and the familiar purple *Erica cinerea*, with others of like colour, linked themselves to the idea of "solitude" centuries ago, as tenants of lonely places, but a piece of white *Heather* is a token of "good luck" to its discoverer. As most people know, the Highland clans each adopted some floral badge or token to aid recognition, and the *Heath* was taken by the Macdonalds and Macalisters, though to every Scotsman the plant is of interest whenever he meets it, because it reminds him of the "land of brown *Heath* and

shaggy wood," where the wild species are more abundant than in the south. Evidently the name of Heath or Heather came from the Anglo-Saxon *hoeth*, a waste or open moor, the plants being designated by the locality where they chiefly flourish.

The Latin one of *Erica*, meaning "to break," refers to an old belief in the virtues of such plants as solvents or removers of obstructions in the human frame, but modern herbalists have not placed the Heaths on their lists. Still, a special value is attached to the dark Heather honey, and honey of itself has certainly medicinal powers. All the *Ericas* secrete large quantities of nectar, hence the eagerness with which bees, flies, and various insects resort to their flowers. There is a mutual benefit, indeed, fertilisation being effected by an arrangement resembling that found amongst the *Violas*. A bee that visits an *Erica*, when inserting its trunk to obtain the honey, can hardly fail to strike its head against the ring of anthers, by which act some pollen is dislodged and adheres to its forehead. Entering another flower, as the bee pushes in, this pollen is removed, falling on the stigma.

Poppies still linger with us, both in fields and gardens, their falling petals reminding us these autumn days of Burns' comparison between them and life's pleasures; but in floral language the Poppy represents "consolation," because it relieves pain and induces sleep. Very general is the fancy that the smell of the wild flower causes headache, yet 'tis but a fancy, nor does the odour even of the garden *Papaver somniferum*, which contains more narcotic, cause drowsiness. I do not know that the upspringing of Poppies on land is, as some say, a proof that the soil is good; it is certainly a curious circumstance that when a new railway cutting passes through a gravel bed, the slopes are often speedily covered with a crop of the Corn Poppy, though we may be unable to explain how the seeds got there. One of the sacred flowers this, dedicated to the goddess Ceres, her figure being adorned with a Poppy chaplet; some suppose *P. Rhæas* was named after Rhea or Cybele, mother of the gods. In some country places the Poppy used to be called "Thunderflower," from a notion, it is stated, that the blooms make an extra display before or during a thunderstorm. "Papaver," the generic name, has been supposed to allude to the Eastern practice of mixing the seeds with bread or pap, but one author thinks that the nurses of old Greece discovered the method of stilling a too noisy and restless infant with Poppy juice, hence the parental name. The so-called Californian Poppy, or *Echscholtzia*, has its separate significance, its golden blooms say "Do not refuse," advice which may be good or bad; the expanding petals of this autumn flower lift off the calyx entirely as it separates from below. This annual caused quite a sensation amongst gardeners at its introduction.

Not quite superseded by the Chrysanthemum, its pioneer, the Michaelmas Daisy is now prominent in some gardens of the old style, opening when flowers have mostly ceased to bloom, our predecessors called "Flora's Afterthought." The goddess was taking farewell, and added one flower more. Since then she has been much more liberal in her gifts of autumn species, and of this plant we have new types from China, Germany, and elsewhere. One of the tribe that flowers early is the Goldilocks (*Aster linoxyris*), with yellow flowers and wand-like in growth; and the taller, pinkish white, *A. Tradescanti*, keeps in memory the worthy naturalist and gardener of village Lambeth.

Before the more showy North American species of *Solidago* were known here, gardeners cultivated the Golden Rod of our woods, *S. virgaurea*, greatly valued for its healing powers as well as for its beauty, which is, rather singularly, a symbol of "precaution." Tokens of "unceasing remembrance" are the *Gnaphaliums* or Everlasting Flowers, some of which are called *Helichrysums*, serviceable for decoration from their unfading quality. Some wild species are known as Cudweeds; perhaps Cottonweeds was the original form of the name. The Pearly Everlasting (*G. margaritaceum*) is an old favourite. It grows seemingly wild in Wales. A low-growing remarkable species, flowering in summer, is *G. Leontopodium*. The heads are thought to resemble the feet of a lion. The old botanists gave to the common Cudweed the odd name of *Herba Impia*, because the side stalks growing above the main stem suggested the idea of children domineering over their parents.

Another reminder of the gardener of Charles I. we have in the Spiderworts (*Tradescantia*), several varieties of which keep in flower till the end of autumn. His son brought the first from Virginia about 1650. Emblems of "brief felicity," they say, are these pretty border plants. Tall and spreading are the Willow Herbs or *Epilobiums*, taking their Latin name from the long and usually downy seed vessels, fitting representatives of "pretentiousness." The familiar *E. angustifolium* is also possessor of the name of Rose Bay, the paler *E. hirsutum* obtained from its odour that of "Codlins and Cream." The Alpine is another elegant but dwarf species.—J. R. S. C.

AGAPETES BUXIFOLIA.

WHEN seen at its best *Agapetes buxifolia* (fig. 55) is a beautiful plant, and it is surprising that it is not more generally known. It is a relative of *Vacciniums*, and under good management will produce immense quantities of rich scarlet tubular flowers, which are very attractive. Its culture is not difficult, though, like the *Erica* family, it requires careful attention. A compost of good peat, a little turfy loam, and sand suits it admirably if the pots are thoroughly drained. Watering must be carefully performed, never allowing the soil to become too



FIG. 55.—AGAPETES BUXIFOLIA.

dry, or, on the other hand, excessively saturated, either being fatal to the plant. Having a tendency to grow somewhat straggling, a little pruning is sometimes necessary to keep the plant in shape.

ZONAL AND IVY-LEAVED PELARGONIUMS FOR EXHIBITION.

IN replying to "Subscriber's" inquiry on this subject I will deal with Zonals first. Exhibitors usually insert a number of cuttings in August for the express purpose of working up a stock of sturdy plants suitable for growing into early specimens. With the best of treatment it would take two years to produce a sturdy, well-furnished specimen from 3 to 4 feet in diameter.

I will, assume, however, that "Subscriber" has at the present time good plants in 5-inch pots, with several short-jointed shoots resulting from the removal of the points of the young plants shortly after the cuttings were rooted. Plants answering to this description will now be in the right condition for shifting into 7-inch pots, which should as a matter of course be well drained and the crocks covered with fibrous turf. The compost employed should be as follows:—Three parts fibrous loam (which has been stacked at least six months), one part horse droppings prepared as for a Mushroom bed and passed through a half-inch sieve, a 5-inch potful of Clay's fertiliser to a barrowload of soil, a little sharp sand being also added. Pot firmly, and water through a rose a day or two after that operation has been performed. Winter the plants on a shelf close to the glass in a greenhouse or other light span-

roofed house or pit, in which a night temperature ranging between 45° and 50° is maintained, air, of course, being given on all favourable occasions.

With this treatment steady progress will be made all through the winter. By the beginning of March the soil should be permeated with roots. The plants should then be transferred to pots 9 inches in diameter, using a compost similar to that already described, with the addition of a 6-inch potful of bonemeal to a bushel of soil. Extra care should be taken to ram the soil very firmly, as it is highly important to secure short-jointed growth. At this potting the shoots ought to be tied out as widely apart as their length will admit, and the points removed when they have commenced to grow freely. One other stopping will be sufficient during the first season, but the shoots must be tied out and distributed evenly as they advance in length.

To accomplish this it is a good plan to fasten a wire under the rim of the pot, and gradually bring the outer shoots down to it. In this way a well-shaped plant is easily secured. In forming large specimens there is too great a tendency to produce wide flat examples, instead of plants whose height in the centre is proportionate to their width at the base. For instance, a specimen 4 or 4½ feet through, and 2 or 2½ feet high, with good foliage and large trusses, is better than one 6 feet across and a foot or so in height, with perhaps only small leaves and trusses. To avoid this error of flatness it is therefore necessary (when the stage above indicated is reached) to see that several strong shoots are thinly disposed near the centre of the plant. During all their stages of growth the plants must be kept in light houses, where they receive abundance of sunshine at all times, till the flowers begin to open, then a light shade for a few hours during bright days is beneficial. It is a good plan to arrange them on inverted pots, so that they stand well above other plants in the same house.

During the summer months, as soon as the pots are filled with roots, chemical manure ought to be given once a fortnight and weak liquid manure two or three times weekly. If these directions are carefully attended to specimens 2½ feet over may be obtained by the middle of August. All flower buds must of course be removed in the early stages of growth, till about six weeks before the show, and those visible then be left to develop. When the flowers begin to open, if the points are removed from each shoot, the size of the trusses will be increased.

After flowering place in the open air and keep rather dry for a time, then shorten each shoot back to a point where young ones have already been formed. A week after this turn out of the pots, reduce the ball, and repot in 7-inch pots. Give the same course of winter treatment, and shift on as required. The plants should be ready for the first shift early in January, and the final one by the end of March, at this stage using pots 11 or 12 inches in diameter. In these good specimens upwards of 4 feet across ought to be obtained the same season.

The following varieties are well adapted for specimens:—Scarlet or crimson shades (single): Charles Mason, Cannell's Favourite, and Lord Salisbury; purple, Mrs. W. Wright; pink, Constance, Mrs. French; salmon, Beauty of Kent, Kate Farmer; white, Swanley White. Doubles: F. V. Raspail (Improved), H. M. Stanley, Goldfinder, Lord Derby, Magenta King, James Vick, Swanley Double White.

In dealing with the Ivy-leaved section the above remarks in regard to soil, situation, and temperature will be equally applicable, but training and potting must be conducted on a different method. On account of their trailing habit and quick growth these plants adapt themselves to almost any style of training, but the great point to aim at is to adopt a method which lends itself to a certain amount of looseness in training, so that when in flower the characteristic informality natural to all trailing plants may be displayed. Pillar-shaped plants afford the best means of securing these conditions. This was amply demonstrated by the grand specimens shown at York a few years ago. Some of the plants were 6 feet high and 3 feet through, profusely flowered all over, and yet trained in a somewhat loose and natural manner.

The system of gradually shifting into larger pots cannot conveniently be practised with this section of Pelargoniums, because it is necessary to form a trellis before a great amount of growth has been made. I generally like to place the plants in their flowering pots in August, so that the roots begin to push freely into the soil before winter, and then have the spring and early summer months to cover the trellis with growth. As "Subscriber's" inquiry comes too late to adopt this plan, the following one will answer well, though, of course, time is lost. Most gardeners have a good stock of plants on hand which they have flowered in the early summer months, and then placed in the open air. These at the present time have strong shoots, 1 or 2 feet in length, and are now in 6 or 7-inch pots. Such will answer

admirably for growing quickly into specimens, as a little freedom in growth is no great drawback, seeing that the shoots can be twisted in all directions.

Plants of this description ought at once be shifted into pots two sizes larger. Sticks should then be placed round the sides of the pot and one in the centre, each shoot being trained upright to a stick. This will ensure full exposure and a steady yet progressive growth. Place these in their flowering pots early in the spring, when the soil is well permeated with roots. The pots may be 10, 12, or 14-inch, according to the size of the specimens required; 12-inch will, however, be large enough to produce examples 5 feet in height and 2½ feet through. After potting, the next point to set about is the construction of the trellis. This can be made on exactly the same principle as pyramidal-shaped ones so much in vogue for Azaleas, but with this important alteration—the outline must vary but little in diameter for two-thirds of its height, so as to do away with the objectionable pointed circle. This is by no means difficult to accomplish. Commence by driving a stout stake into the soil quite in the centre of the pot, next fasten a strong wire ring under the rim, then place a couple of laths half an inch in thickness across the pot, so that they form a right angle close to the central stake, fasten these securely with wire to the ring underneath the rim.

A strong iron ring 2½ feet in diameter must then be fastened to these cross pieces of wood, taking care that it forms an equidistant circle round the rim of the pot. Two other rings will be required, one 2 feet from the bottom one and the other 1 foot from the top of the stake; each of these should be 6 inches less in diameter than the one below it. Vertical wires 6 inches apart at the base should then be strained and fastened to each of the rings and also to a screw placed in the top of the central stake. A column or outline will thus be obtained well adapted for displaying the beauty of these free growing plants.

The shoots should next be untied from the stakes and twisted about in various directions and fastened to the wires. This tying-in must, of course, be continued at intervals as the growth extends, the last tying taking place when the flowers begin to open. This should be done in such a way as to leave the points of the shoots from 3 to 6 inches in length hanging loosely; then with the little they grow while the flowers are expanding nothing approaching tight lacing will be observed. I ought to have previously mentioned that after potting, the plants may with advantage be placed in a temperature ranging from 55° to 60° by night. A sharp look out must, however, be kept for green fly, and an occasional syringing be given in bright weather. After a month's sojourn in this warmer temperature return them again to an ordinary greenhouse one.

Good varieties for the purpose are Comte Horace de Choiseul, salmon pink; Madame Crousse, delicate rose; Mrs. Charles Turner, rose; Ryecroft Surprise, salmon pink; Flambeau, scarlet; Jeanne d'Arc, blush white; Percy Surman, magenta; and Madame Mongeat.—EXHIBITOR.

FRUIT AND HEALTH.

THE past summer and the present autumn will long be remembered for their great heat and drought, and the abundance of Apples and Plums. In accordance with the ancient notions of bygone days, sickness, cholera, and other ills would be sure to follow, but this does not appear to be the case. During this abundant fruit season, with so high a temperature and such little rain, is it not rather remarkable that we have been unusually healthy as a nation? I think so. The question arises, Is there a cause or reason to account for this highly satisfactory state of things? I think there is.

Plums at ½d. per lb., and Apples at 3 lbs. for 1d. in nearly all large towns and cities, at once make it plain that an enormous quantity must have been partaken of everywhere with excellent results. The question is, Have we not gained greatly by all this fruit eating? If any of your correspondents could throw any light on the very important advantages of eating fruit to make us more safe from epidemics it would be solving a great question indeed for our future sustenance and guidance. I myself have eaten considerably more than usual, and thus required less to drink; nor have I in the least felt a desire for the usual fluids, I believe in consequence, during the hottest weather, and never felt better. In my opinion this general partaking of fruit has caused people to be much more satisfied, the young in particular; they have been far less acutely thirsty.

Is it not more likely freely partaking of popular kinds of drinks often disagrees with many? These drinks apparently contain ingredients which rather sharpen the parched feeling more and more, and many innocently over-indulge. But when the thirsty

appetite is satisfied with fruit an agreeable and pleasant refreshment is experienced; and again, by eating sound ripe fruit it stimulates and invigorates the body, and we feel more cheerful in consequence. I have noticed stewed fruit of some kind or other is seen on nearly every table, and this is becoming more general every season.

I know many are great meat eaters, and of course find it difficult to change or alter daily diets, yet the question is, If we are wise, and wish to keep in good health at all times, whether it would not be advisable to partake more of fruit food generally than that of a harder indigestible character, and live more in accordance with the natural productions provided for us?

I believe fresh, juicy fruit has rather a tendency to keep the body from the ills and diseases it was formerly said to cause during such seasons as the one we have just passed through. I rejoice to see fruit and even vegetables are becoming more the daily diet of people every year.—HENRY CANNELL, *Swanley*.

APPLE NOTES.

PRICES OF APPLES.

WE may expect to hear many more of such extraordinary stories as that reported in last week's Journal respecting a ton of west country Apples. It seems in some directions to be almost as great a misfortune to have too big a crop as to have a poor one. But there can be no doubt we have a heaviest on record crop of Apples this year, and only first-class samples can find a profitable market. But then crops up the question, What sort of a sample was this Somersetshire consignment, and why was it sent to London? If the sample could not find a market in the western towns, why did the grower expect to find one in London? To a large extent London is one of the worst markets to which to send fruit when it is very abundant, but especially is it so when the sample is poor or even moderate. Did this consigner stop to inquire before sending how the market stood for Apples, what the demand and supply? Also did he send along a sample first that practical advice might be taken ere sending so large a quantity.

We have seen from Mr. S. T. Wright's statement that he could obtain capital returns from northern markets for his fruit, but then that was of the finest and cleanest, and carefully selected and graded. Need I assume but that it was carefully picked and packed also? In ordinary orchards, how much of the fruit is fine, clean, picked with the greatest care, graded, and packed? Not in one in fifty. Mr. Wright's prize paper largely reiterated what we have been preaching for a long time in connection with marketing of fruit.

No doubt this Somersetshire case will be quoted all over the kingdom, as evidencing the folly of market Apple culture, and nothing will be said of the stupidity which leads to such results. Still further, Mr. Wright's Hereford result will not be widely told of. It will be a long time, I fear, before those great and imperative reforms in our methods of marketing fruit come that are so needed. Conversion to better things is a difficulty with the average Britisher, as with the Heathen Chinese.

APPLES AT "MY GARDEN."

Whilst the late Mr. Alfred Smee was so enthusiastic a lover of picturesque and beautiful gardening it is now very obvious that he had some regard also for that which is utilitarian, although lovers of the beautiful may well plead that exceeding charm is furnished apart from the useful elements in an Apple or Pear tree carrying a good crop of rich coloured fruit.

Now at The Grange, the local titular term of the famous "My Garden," there is a large plantation of Apple and Pear trees, and the crop this year has been generally a fine as well as a heavy one. Most of the trees are somewhat hard pruned or repressed, but the mode of culture seems to suit the Hackbridge soil, which is not rich, although water is near, and very abundant. Probably here as in some other places it is found better to have trees on soil that does not naturally conduce to the making of coarse growth, because when the crop or other causes operate it is so easy to feed the soil from the surface, giving the trees just what they require and no more.

Mr. G. W. Cummins, who is Mr. A. H. Smee's capable gardener, usually exhibits Apples largely at the Crystal Palace show, but this year he was absent because of a recent domestic affliction. When I called on him unexpectedly the other day I found him still busy getting in Apples, for a storm had just previously prevailed, and the necessity for securing the fruit for the storing seemed great. When I referred to the non-appearance of his fruit at the Crystal Palace, Mr. Cummins remarked that it was not because he had none to show, as I might see by a look into the fruit-room. There were found Apples in exceeding abundance, and in all cases wonderfully fine. It was evident that had these been presented at the Palace some other successful exhibitors might have had to stand down, so good, clean, and finely coloured were the Hackbridge specimens.

I am hoping that there may be no obstacle to the setting up of some forty or fifty dishes at the special local fruit and county Potato show to be held at Carshalton on the 16th and 17th inst., especially that some of our leading trade growers will put in an appearance, and it will be interesting to note how the fruit from the established and limited number of trees in "My Garden" compares with the product of thousands of trees in the nursery quarters.

The following comprise some of the varieties now on the store shelves, and all superb samples. Lord Suffield, Lord Grosvenor, Lord Derby, Lane's Prince Albert, Burr Knot, Gloria Mundi, Beauty of Kent, Warner's King, Bismarck, Emperor Alexander, Red Betingheimer, Hollandbury, Hoary Morning, Old Hawthornden, New Hawthornden, The Queen, Schoolmaster, Cox's Pomona, Sandringham, Peasgood's Nonesuch, Wadhurst Pippin, Stirling Castle, Mère de Ménage, Remborough (recently certificated), Annie Elizabeth, Red Costard, Blenheim Pippin, and Bramley's Seedling. Many more might have been added. These were of the cooking section; whilst of dessert varieties, very fine indeed were Ribston, Cox's Orange, and Sturmer Pippins, King of the Pippins, Court of Wick, Court Pendu Plat, Adams' Pearmain, Scarlet Nonpareil, Rosemary Russet, Duke of Devonshire, Worcester Pearmain, and others. Pears were less abundant. Louise Bonne was giving wonderful colour, but here as elsewhere November Pears seem likely to be all over in a month.—A. D.

APPLE ROSEMARY RUSSET.

THIS fine dessert variety appears to be very imperfectly known, as I noticed the class for it at the recent Crystal Palace Fruit Show contained several other kinds of Russet, shown by mistake for the true variety. It is one of the very best for dessert use, keeping well into March, and few of the other kinds surpass it in flavour. A fruit before me now, grown here under ordinary orchard culture on a standard tree, measures 3½ inches in diameter, and 3 inches in height; it is therefore free from the objection of "small size," from which many dessert varieties suffer. Although the above fruit was an exceptional one; the variety is thus described in "The Fruit Manual." "Fruit below medium size, ovate, broadest at the base, and narrowing obtusely towards the apex, a good deal of the shape of a Scarlet Nonpareil; skin yellow, tinged with green on the shaded side, but flushed with faint red on the side exposed to the sun and covered with thin pale brown russet, particularly round the eye and the stalk. Eye small and closed, or half open, with erect segments, set in a narrow, round, and even basin. Stamens marginal or median; tube conical or funnel shaped. Stalk very long, inserted in a round and wide cavity. Flesh yellowish, crisp, tender, very juicy, brisk and sugary, and charged with a peculiarly rich and highly aromatic flavour; cells obovate, axile. A most delicious and valuable dessert Apple of the very first quality; it is in use from December till February."—W. H. DIVERS, *Belvoir Castle Gardens, Grantham*.

GLADIOLUS COLVILLI ALBA.

WHERE choice flowers are in constant demand for cutting during the spring and early summer months the above should be grown in large quantities and brought into flower in succession as required. The flowers being pure white, they are most useful in a cut state when wired for bouquets, or the whole spikes are admirably adapted for associating with other flowers. Independent of its use and beauty in a cut state, it is invaluable when grown in 5-inch pots for the embellishment of the conservatory or greenhouse. When in flower and freely associated with other dwarf plants they have a choice and conspicuous appearance. The bulbs of this variety can be obtained any time next month, and should then for early flowering be potted without delay. In places where bulbs which were forced into flower last spring have been judiciously treated since, and are strong, potting should be done at once. This will secure a month at the start, which is a great advantage when these flowers are required as early as possible. Drain the pots liberally, and place four or five bulbs in each, and if strong they will produce at least seven or eight spikes of bloom. If the flowers are grown solely for cutting, pots of any size can be used. The bulbs should be covered with from half to one inch of soil. If the soil at potting time is moderately moist do not supply water until they commence rooting. Almost any soil will grow them providing it is rich. We have found good loam, a seventh of decayed manure, and coarse sand to suit them well.

After potting place them in a temperature of 50° to 55°, and if possible plunge the pots in cocoa-nut fibre refuse or other material, merely covering the rims. Where this can be done no water will be needed until the growths make their appearance through the material in which they are plunged. A good plan is to plunge them until they commence growing in slight bottom heat derived from leaves or other fermenting material. A bed can be made in a cold frame and the plants placed into it, and the frame kept close until their shoots can be observed, when they should be taken out and given the temperature mentioned above. When allowed to start under cool conditions time is lost, and forcing is needed during their latter stages of development. This is a great mistake, as they should be allowed time when fairly well developed, and allowed to expand under as natural conditions as possible.

After growth has well advanced they must have a light position, and should be kept as near the glass as possible. While growing abundance of water should be given; in fact, they should never be allowed to suffer by the want of it. As soon as they commence showing their flower spikes weak stimulants should be given every time water is needed. After the plants have flowered they must be gradually hardened and then plunged outside, well supplying them with water and stimulants until they ripen naturally. Bulbs treated as described will be in grand condition for forcing the following season.

It is only necessary to make two pottings of bulbs, as some can be pushed forward and others brought on under cool treatment and retarded to suit the requirements of different cultivators.—S.



WEATHER IN LONDON.—Dull, showery weather has predominated in the metropolis throughout the past week. The sun, though seen on several days for a short time, has been chiefly conspicuous by its absence, the sky being grey and leaden, and the atmosphere raw and cold.

— **ROYAL HORTICULTURAL SOCIETY.**—The next fruit and floral meeting of the Royal Horticultural Society will be held on Tuesday, October 15th, in the Drill Hall, James Street, Westminster. The Committees will meet as usual at twelve o'clock, and at 3 P.M. a lecture on "Nut Culture in England" will be given by Mr. J. Omer Cooper.

— **UNITED HORTICULTURAL PROVIDENT AND BENEFIT SOCIETY.**—We understand that James H. Veitch, Esq., will preside on the occasion of the annual dinner of the members and friends of this admirable Institution on the 17th ult. It is hoped a large company will assemble, and the "United" be still further strengthened in consequence. Tickets may be had from Mr. W. Collins, 9, Martindale Road, Balham, London.

— **SHIRLEY GARDENERS' ASSOCIATION.**—The first of a series of lectures contributed to the above Society by the Hants County Council was given by Mr. E. Molyneux, Swanmore Park Gardens, on the 3rd inst. at St. Denys Parish Room, Southampton, Capt. E. Gibbs presiding over a fair attendance. Mr. E. Molyneux dealt with his subject, "Vegetable and Flower Gardening for Cottagers," in a most interesting and instructive manner. This part of the district abounds with gardens of fair size, and the lecture should give an impetus to their cultivation. Town gardens of a small size are often neglected, when by care they might be made at least a source of much pleasure by the growth of suitable flowers.

— **SPLENDID ONIONS.**—At the recent Banbury Onion show that was reported in the Journal of October 3rd (page 332) reference was made to some superb specimens of Ailsa Craig Onions, staged by Mr. J. Bowerman, The Gardens, Hackwood Park, Basingstoke. This master of the art of Onion culture now writes:—"Referring to the largest bulb of Ailsa Craig Onion, which weighed at the show 3 lbs. 1 oz., I may say that when first lifted the scale was turned at 3 lbs. 6 ozs., but I find they lose 3 or 4 ozs. the first week they are out of the ground. The bulb was 20½ in circumference. My heaviest dozen of this variety weighed at the time of lifting 37½ lbs., or over 3 lbs. apiece." Onions like these are a credit to any man, as every practical grower is well aware that such results could not be attained to except by the most thorough and intelligent cultivation.—H.

— **THE LATE MR. PETER GRIEVE.**—Apropos of your worthy tribute to the memory of this prince amongst gardeners, it may be additionally interesting to some of your readers to learn, in reference to his deceased daughter and the Pear named after her, that Dr. Hogg, in his history of the Pear Lucy Grieve in the "Fruit Manual," says, "The seed was sown in a flower pot by a little girl, the daughter of Mr. Peter Grieve, at Culford Hall, near Bury St. Edmunds, merely for her childish amusement. She carefully tended the plants till they were large enough to be planted in the open ground, but ere the first of them bore fruit in 1873 the little maid was in her grave. Her father sent me the first fruit the tree produced and I named it Lucy Grieve, as a memorial of the raiser."—W. D.

— **WEATHER IN SOUTH WALES.**—Mr. W. Mabbott, Dowlais, Glamorgan, writes:—The following is a summary of the weather here for the past month. Total rainfall, 1.96 inch; maximum, 1.07 inch on the 10th; minimum, 0.01 on the 25th; rain fell on nine days. Total sunshine, 199¼ hours; there were only two sunless days. The wind was in the S.E. and E. on seventeen days, and in the N.W. on nine days. A very dry sunny month, especially since the 11th, as from then until the 30th only 0.05 of rain had been registered, but from the 30th to the 5th October inclusive we have had a rainfall of 2.49 inches, with very strong gales. Total rainfall for the past quarter 14.43 inches; sunshine for the same period 483 hours 55 minutes. Totals for the same period in 1894—rainfall 12.18 inches; sunshine 208¼ hours.

— **GARDENERS' ROYAL BENEVOLENT INSTITUTION.**—Mr. F. Miller, gardener to J. T. Friend, Esq., of Northdown House, Margate, has forwarded to this Institution the sum of £10 10s., being the proceeds of an exhibition of two large American Aloes or Agaves.

— **SNOW AFTER THE HEAT.**—After several days of excessive heat, the weather has suddenly changed in Scotland, and in the districts of Rannoch and Lochaber there has been a heavy fall of snow. A gale, accompanied by blinding snow drifts, prevailed on Ben Nevis, and on the summit snow lies to a depth of 7 inches.

— **INDEX KEWENSIS.**—The fourth and last volume of this important work reaches us as we are going to press. We can only at present record our acknowledgments, and congratulate the authors on the completion of the most valuable work on plant nomenclature in our possession, and which, for public or private botanical and horticultural libraries, we regard as indispensable.

— **SUSSEX RAINFALL.**—"R. I." writes:—"The total rainfall at Abbot's Leigh, Haywards Heath, Sussex, for the past month, was 0.29 inch, being 2.84 inches below the average. This is the smallest amount for September in our record of the past sixteen years. The nearest approach to it was that of 1890, when the amount was 0.82 inch. The heaviest fall was 0.15 inch on the 10th. Rain fell on two days. The maximum temperature was 81° on the 26th and 27th; the minimum, 39° on the 14th. Mean maximum, 72.10°; mean minimum, 49°. Mean temperature, 60.55°, being 3.86° above the average."

— **DISTRIBUTION OF PLANTS.**—We are informed that arrangements have been made by the Parks Department of the County Council for the distribution to the public on the days named of any surplus bedding plants there may be at the following places:—At Dulwich Park on the 14th inst., Ravenscourt Park on the 15th inst., Finsbury Park, Myatt's Fields, Victoria Embankment Gardens and Southwark Park on the 16th inst., Battersea Park on the 18th inst., Royal Victoria Gardens (North Woolwich) on the 21st inst., Waterlow Park on the 22nd inst., Kennington Park on the 23rd inst. At Brockwell Park there are no surplus plants this year.

— **BULBS IN PARKS.**—After a very instructive lecture on "Holland and the Bulb Growers," by Mr. R. B. Ker, at Birkenhead, the Chairman suggested that the Corporation of Birkenhead were very much behind the times from a horticultural point of view. Surely, he said, it was not too much to ask the Birkenhead Corporation to spend a few pounds in bulbs for planting in the parks and prominent parts of the town, as they were now very cheap. He would suggest that those of his hearers who were ratepayers should urge upon the Town Councillor during the November election the advisability of being more liberal from an artistic point of view. The lecturer had shown some most beautiful Hyacinths and Tulips, which were well adapted for town cultivation, and could now be had so cheaply, not to mention the brightness and beauty they would add to the parks and streets. The Chairman is quite right. Bulbs rank amongst the brightest and best of town plants, and no doubt half a million will soon be planted in the London parks for making them sweet and beautiful in the spring.

— **WAKEFIELD PAXTON SOCIETY.**—At a meeting of the members of the above Society, held on September 21st, Lieutenant Goodyear presided and Mr. B. Whiteley occupied the vice-chair. There was a large and excellent exhibition of autumn leaves and fruits, on which subject an admirable essay was given by Mr. George Parkin, a well-known naturalist, botanist, and Paxtonian. The exhibition included specimens from friends in many parts of the country, from Carlisle on the one hand to Spalding and Shrewsbury on the other. Some of the members of the Society had, notwithstanding the oppressive weather, taken rambles in the afternoon in the district around Castleford and succeeded in obtaining a large and varied collection of autumn foliage, fruits, and berries. Several persons in the immediate neighbourhood also sent specimens of many kinds, and the display was both extensive and interesting. Mr. Parkin's essay was an exceedingly interesting one, and it was most attentively listened to. A warm lover of Nature, a careful observer, and a Rambler who keeps his eyes and ears open, Mr. Parkin graphically and beautifully described the appearance of the country in its autumn garb, and gave many useful hints and interesting details with reference to autumn foliage, wild fruits, and berries. Suitable quotations of poetry were introduced into the essay, and all who listened to it seemed much pleased with Mr. Parkin's efforts. A short discussion ensued, and a hearty vote of thanks was given to Mr. Parkin for his essay and to the exhibitors of specimens.

— **HECKFIELD.**—Mr. Maxim, who has been head gardener at Heckfield since the death of the late Mr. Wildsmith, has been engaged to continue in the same capacity by the new owner, Colonel Horace Walpole. It is hoped the old glories of Heckfield will be resuscitated; it is far too beautiful a place to be allowed to relapse into mediocrity.

— **THE HESSLE GARDENERS' MUTUAL IMPROVEMENT SOCIETY.**—The first meeting of the session was held in the parish schoolroom on Tuesday, October 1st, when a paper was read on "Strawberries and Their Cultivation," by Mr. G. Picker, gardener to F. R. Pease, Esq., Hesselwood. The essayist gave a brief history of the Strawberry from the date of its introduction into this country to the present time. The propagation from seed or runners, the preparation of soils and composts both for outside cultivation and forcing in pots, with their treatment from first to last, were admirably given. A discussion followed the reading of this paper, and a vote of thanks to the essayist concluded the meeting.—F. L. T.

— **KEEPING GRAPES.**—A new method of keeping Grapes and other fruit is reported by Mr. Petit, a French horticulturist. He placed the fruit in a chamber of brick and cement, with a wooden door that was not air-tight. With the fruit he also placed a bottle of alcohol, which was left open and allowed to evaporate. At the end of two months Grapes thus kept were firm and in a perfect state of preservation, the stalks being green and the fruit similar to Grapes fresh cut. The report gives no particulars as to the other fruit experimented with. It is quite possible that the evaporation of alcohol prevented the tendency of most cut Grapes to mould when exposed to the air. The cellar in which the fruit was kept was a very damp one. This of itself would prevent the Grapes from becoming shrivelled. It is not a difficult matter to keep Grapes in good condition as long as two months after gathering. To show that the new process has value the experiment should have continued three or four months longer.

— **DEVON AND EXETER GARDENERS' ASSOCIATION.**—The annual meeting of this Association was held at Exeter Guildhall on Wednesday, the Right Worshipful the Mayor (Mr. Alderman Alfred S. Perkins) presiding. The Committee, in its report on the session of 1894-5 stated that when so many excellent societies in the city and neighbourhood are at present in a languishing state, it is a cause for much thankfulness on the part of the Committee that it is able to present a most favourable report of the work of the Association for the past year. The number of members at present on the roll is eighty-nine, and the balance in hand £29 16s. 2d., showing that numerically and financially the Association is in a highly satisfactory condition. That the Association has justified its creation is fully admitted by those qualified to judge, and the summary of the work done during the last session shows the wide scope of the subjects dealt with. An evening was set apart for short papers by younger members of the Association, and this proved to be a wise departure, for not only were the short essays themselves of considerable merit, but the interest thus given to the juniors in the profession had a most salutary effect on the Association as a whole. The Association having decided to affiliate with the Royal Horticultural Society, are now associated with that illustrious horticultural body, and receive all the privileges which membership conveys—namely, copies of the proceedings of the Society as published to its Fellows, a transferable ticket admitting to all its meetings and exhibitions, and the privilege of nominating one of its members to be ranked as a Fellow of the Society. By resolution Mr. Andrew Hope was nominated and elected to represent the Association. The Committee wish again to express gratitude to the Right Worshipful the Mayor of Exeter for his kindness in allowing the meetings to be held in so convenient a place and so comfortable a room as the Council Chamber of the Guildhall, this concession tending much to the success which has followed the Association since its formation. The Mayor has, the Committee is pleased to report, renewed the privilege for the coming session. To the local and the gardening Press, also, the best thanks of the Association are due for their great assistance and attention to its welfare in publishing lengthy reports of its proceedings and in various ways furthering its success. Having arranged an excellent syllabus for the autumn session, the Association enters upon its fifth year of existence with every prospect of continued success. The Mayor moved the adoption of the report, and alluded to the prosperous condition of the Association. Mr. Veitch, in seconding the motion, congratulated the members upon the wonderful progress of the Association during the four years of its existence, and remarked that one of its primary objects was the education of young gardeners. The report was adopted unanimously.

— **THE NATURAL HISTORY OF PLANTS.**—This publication of Messrs. Blackie & Sons, which we have noticed on the occasion of the appearance of each of the sixteen numbers, is now concluded. The last number is of a merely complementary character, and is made up chiefly of a glossary and comprehensive index, which are admirable in their way, and form a fitting conclusion to such an important work.

— **WAGES OF KEW EMPLOYÉS.**—On the recommendation of the First Commissioner of Her Majesty's Works and Public Buildings, the Treasury has agreed to the minimum wage at Kew being raised to 21s. In addition to this both labourers and gardeners receive gratuitous medical attendance during sickness, sick pay according to length of service, and extra pay when employed on Sundays. On the other hand, retirement at sixty is compulsory, and pensions in the shape of "compassionate allowances" are abolished by the Superannuation Act, 1887, which only allows a gratuity of one week's pay for each year of service.—("Kew Bulletin.")

— **RETIREMENT OF A WELL-KNOWN INDIAN BOTANIST.**—Mr. M. Lawson, the Superintendent of the Government Gardens and Cinchona Plantation on the Nilgiris, recently retired from the service. Mr. Lawson, who was formerly Professor of Botany at Oxford, and in charge of the exquisite garden which stretches along the bank of the Cherwell, which Macaulay described in a beautiful passage, came out to India in 1883 at the instance of Sir M. E. Grant Duff. Since then he has done wonders for the gardens at Ooty, and established and worked, unaided by any expert assistance, the Quinine Factory which now does such good work for Government.—("Madras Times.")

— **PRESERVING ORANGES.**—A new method of preserving Oranges has been discovered. The plan of burying Oranges with 3 or 4 inches deep of soil above them is a decided advance in simplicity on the ordinary methods of keeping this favourite fruit. The inventor of this method is Mr. John Carson of Clutha, Kew, whose reputation as an experienced grower of fruits is a guarantee of the efficiency of the new plan. The spot chosen for the experiment was on the shady side of a tall Pine tree, to which the sun had access only for a time after rising. The Oranges were buried as described on September 25th, 1894, and they were lifted on Tuesday, April 9th. They were quite ripe and perfectly sound and sweet when submitted to examination.—("Tropical Agriculturist.")

— **MESSRS. DOBBIE & CO.'S ONION SHOW.**—This firm held a vegetable exhibition on its own account recently. The first prize Onions measured 19 inches in circumference, and four bulbs, weighing 10 lbs., were staged by Mr. J. Bannerman, Basingstoke. The second and third prize stands were not far behind these grand specimens. The climate of England has always been considered better suited for growing Onions to a large size than that of Scotland, and the result of Messrs. Dobbie's exhibition more than confirms this opinion. They propose next year to offer prizes confined to Scotch growers, as well as open prizes similar to this year's. The Leeks, which were all Dobbie's Champion variety, were remarkable for their fine quality, the first prize ones shown by Mr. L. Collins, West Wylam, being models in every way. They measured 12 inches long by 6½ inches in circumference, and all the four specimens were practically identical. On a large side table Messrs. Dobbie had on exhibition 100 large bunches of Dablias, Michaelmas Daisies, and other seasonable flowers, which were much admired by the visitors.

— **PINK ERNEST LADHAMS.**—From various inquiries amongst my amateur gardening friends I can but think that the claims of the above to such universal adoption as it deserves are not sufficiently known, and this is my excuse for writing. I first saw this Pink at the Royal Horticultural Society's show last year, and in the autumn ordered a few plants from a nurseryman. When the young plants arrived they looked most miserable, but as soon as spring came they improved wonderfully, and in due course bore crops of charming blossoms, many of them as large as Malmaison Carnations. So far so good; but when attending the Carnation show at the Crystal Palace in July last I was talking to the salesman at Mr. Ladhams' stall about his Pinks, when he said, "You will be still better pleased with them later on when they get their second crop of blooms." I am afraid that I took this statement with a large discount, but after all he was right and I was wrong, for at the present time (September 28th), and for some weeks past, the plants have been putting forth a second full crop of perfect blooms. Can as much be said for any other Pink? If so, I shall be delighted to hear it.—W. A. MASTERMAN, *Torquay*.

— **THE RESTORATION OF SOILS.**—Humus, or vegetable mould, plays a most important part in this process. This substance is formed by the action of the air on solid animal or vegetable matter. The common earthworm also aids in bringing about the desired result. The capacity of the soil for absorbing and retaining moisture is largely due to the amount of humus it contains. The constant aim should therefore be to increase the quantity of it. This can best be done by ploughing under green crops, or partly feeding them down late in summer.

— **FROSTS IN FLORIDA.**—The severe frosts during the winter of 1894-5 did a vast amount of damage to the Orange trees, and killed large numbers of insects injurious to the Orange and other fruits, but it has left the trees in such a weak condition that they are falling a prey to many other insects, which, in ordinary seasons, have not to be reckoned with. Several sorts of wood-borers are busy among the plantations riddling the trunks badly, and yet it is difficult to stop their ravages, as the use of an insecticide sufficiently strong to kill the tiny beetles would probably kill the trees.

— **THE WEATHER LAST MONTH.**—September was remarkably dry, with a greater quantity of sunshine than usual, and the highest mean daily maximum temperature of the year. All grass land in this neighbourhood is dried up, and the cattle have scarcely anything to eat. Autumn fruits are ripening well, but have probably lost a certain amount in size, owing to the drought. The wind was in a southerly direction twenty days. Total rainfall, 0.48 inch, which fell on nine days, the greatest daily fall being 0.12 inch on the 6th and the 10th. Barometer highest reading, 30.210 on the 20th at 9 A.M.; lowest, 29.450 on the 11th at 9 A.M. Thermometer, highest in the shade, 83° on the 25th; lowest, 35° on the 22nd. Mean of daily maxima, 73.00°. Mean of daily minima, 49.06°. Mean temperature of the month, 61.03°; lowest on the grass, 30° on the 22nd; highest in the sun, 137° on the 2nd. Mean temperature of the earth at 3 feet, 58.76°. Total sunshine, 221 hours 30 min.—W. H. DIVERS, *Belvoir Castle Gardens, Grantham.*

— **SEPTEMBER WEATHER AT BROUGHTY FERRY.**—The weather of the past month has been very pleasant throughout, the wind being from S.W. to W. all the month, and light and balmy, except on two days—11th and 18th—when it blew pretty strong. The mean temperature of the month has been 3° above the average, and the rainfall 1½ inch below the average. There was no frost recorded this month, the lowest temperature being on the morning of the 21st, when the thermometer on the grass stood at 33°, and in the air, 4 feet above ground, 36°. Toward the end of the month we had heavy dews. The mean temperature of the month was 57.2°, the average of the last twenty years being 54.1°. On looking back I find that in the years 1880 and 1890 the temperature of September was still warmer than that of the present year, the mean of the former being 57.8° and that of the latter 58.2°. The rainfall for the month was 0.73 inch, being 1.75 inch below the average of twenty years, but still nearly five times as much as last year, when only 0.15 inch fell.—J. MACHAR, *Corona Gardens, Broughty Ferry.*

— **PARIS GREEN IN AMERICA.**—It is estimated that more than 2000 tons of Paris green are annually used as an insecticide in the United States, since it is the most rapid and effective of the arsenical preparations used for this purpose. The chief difficulty in using it is the readiness with which it settles to the bottom of the tank of spraying apparatuses. This is because it is less finely divided than London purple, a point in which the latter compound has a certain advantage. In the last number of "Insect Life" Dr. C. L. Marlatt explains that there is no reason for this coarseness of grain in Paris green, except that the market has demanded a dark coloured article, and the darker colour is due to the larger size of the crystals. Paris green would be much more satisfactory as an insecticide if it were reduced to a fine powder, but it would then lose its intensity of colour and become whitish, which, in popular estimation, would indicate adulteration. In testing Paris green when reduced to fine powder, Dr. Marlatt found that it remained in suspension three times as long as the ordinary product did, while, undoubtedly, the fineness in division made it more effective against insects. The last step in the process of manufacturing Paris green is the combination with acetic acid. When, however, this acid is omitted, an impalpable powder, instead of a crystalline product, is secured, and this will remain in suspension almost perfectly for many hours. Experiments are now in progress to ascertain whether this can be used as a substitute for Paris green, to which it is so superior in fineness, while it costs only half as much.

— **RESTIO SUBVERTICILLATA.**—This is a showy plant which is rarely seen in greenhouse collections. Its scarcity is probably due to the fact that it is of slow growth and difficult to propagate. In its native country it is known as the Rope Grass Plant. The thin, wiry stems are covered with an immense number of long grass-like spikelets, which give to it a graceful feathery appearance. It grows about 8 feet high, and is considered by many quite as ornamental as *Papyrus antiquorum*. Unlike the latter plant, however, it only needs a temperature in winter sufficient to keep out frost. This *Restio* is sometimes met with under the name of *Willdenovia teres*, an entirely different thing.

— **DEATH OF PROFESSOR CHARLES V. RILEY.**—It is, says the "American Cultivator," a national loss that has been sustained in the death of Prof. Charles V. Riley, who is known throughout the country as one of the foremost entomologists in the world. He was only fifty-three years old, but for many years had been the leader in entomological research in this country. His work was especially valuable to farmers and fruit growers. The worst enemies that they have to contend with are insects. Within the years that Prof. Riley has been investigating them the numbers of destructive insects have greatly increased. Mr. Riley's death was sudden, occasioned by a fall from the bicycle which he was riding.

— **BROWALLIA ELATA.**—One of the most useful half-hardy annuals for decorative purposes is *Browallia elata*. Its light habit and pleasing blue colour is so well adapted for mixing in with almost any flowers that the wonder to me is that such a plant should be so comparatively little known. It is now, and has been since July, flowering profusely in the flower borders, and is the admiration of all who see it. Another point in its favour is its easy culture. We sow the seeds in pans or boxes in March, and place in a gentle hotbed. After germination we grow the young plants in a cool frame or house from which frost is excluded. They are placed in their flowering quarters from the seed pan at the latter end of April or beginning of May. The plants attain to a height 1½ foot to 2 feet. There is also a white variety, *Browallia elata alba*, but it is not so vigorous or free-flowering as the type.—W. H. Y.

— **THE PERKIN SYSTEM OF CARRYING FRUIT.**—This, as practised in the Southern United States, has much to recommend it. The difficulty of conveying fruit over long distances, and placing it on the market in first-rate condition after the journey, has been overcome, says a contemporary, by this system, which is as follows:—Attached to the locomotive is an air compressor, in which the pressure of air reaches over 80 lbs. per square inch. Air compressed to this extent becomes heated to such a degree that the germinal life it contains is destroyed. The sterilised air is passed into a receiver, where it is cooled, and then forced into an air-tight car into which the fruit is placed. The germ-laden air is in turn forced out of the car, and the fruit is carried to its destination in perfectly pure air. With but little loss of power to the engine, this process is kept up during the entire journey. Where only pure air reaches the fruit, the process of decomposition is arrested for a long time. There is also a great saving effected by dispensing with the ice in the car, thus saving its cost and allowing more room for fruit.

— **CULTIVATION OF PLANTAINS IN BRITISH GUIANA.**—In the report on the agricultural work in the Botanical Gardens at Georgetown for the year 1890, it is stated that "Plantains being the staple food of the Creole population, the cultivation is a firmly established minor industry," those who follow it being called "farmers" as distinct from "planters" who cultivate the Sugar Cane. Plantains are said to "delight in the stiff newly empoldered clay lands of the colony, not objecting to the slightly saline element found where the sea or river has invaded the place periodically at spring tides . . . Such lands yield heavily, but the crop is liable so suffer, if the seasons prove very wet, from the Plantain disease of the Colony." From the report in the Blue Book for 1893-4, published in the "Colonial Reports," No. 133, British Guiana, page 13, it appears that the cultivation is dying out. "The cultivation of Plantains on sugar estates becomes less year by year, and there are now only 1917 acres in Plantains, and although many Plantain farms of which there is no official record still exist, this vegetable has practically ceased, from its comparative scarcity, to be the staple food of the African population." This change, says the "Kew Bulletin," cannot fail to prove detrimental to the interests of the Colony. More money will necessarily have to be spent on imported rice and flour, while valuable lands will be left uncultivated capable of yielding large crops of food.

— **COARSE VEGETABLES.**—Noting the correspondence anent the judging at Shrewsbury I am reminded of a glaring instance of coarseness at one of the Birmingham Chrysanthemum shows. In the first prize collection of vegetables shown by a gardener in Shropshire were three heads of red Celery, gigantic, but with every leafstalk as hollow as a "keck," and the heart hardly blanched—in fact, they were bad enough to disqualify the collection.—AN OLD SHOWMAN.

— **KEEPING PEARS.**—If Pears are wanted, says a writer in an American publication, for late autumn and winter eating, pick them early and handle as carefully as possible. Get a package of paper and wrap each Pear separately. Then pack the fruit in shallow boxes and store in a cool, dark, dry place. The nearer the temperature can be kept to the freezing point the longer the Pears will keep. By wrapping in paper the flavour is not lost as it is when Pears are kept in cold storage. Early picking and perfectly sound specimens are essential.

— **FRUIT-GROWING IN AMERICA.**—Some idea may be gained of the scale on which fruit farming is carried on in America from the operations of one establishment alone, the Hale Orchard Company, which in 1891 planted 100,000 Peach trees in Georgia. During April and May this year fifty men were occupied all day in removing excess fruits in order to allow the rest to have room to develop. They began to come to maturity in June, and from the 20th of that month 350 men, aided by fifty mules, were engaged every day gathering and carting away, filling 4000 baskets in the twenty-four hours. Imperfect, bruised, and scratched fruits, separated from that in prime condition, amounted to 300 bushels a day. It took from 525 to 600 baskets to fill a railway refrigerator van, and each vanload represented a value, including cost of gathering, packing, and transport, of £100. From this single orchard eighty vanloads were sent away this year. In Houston County Peach cultivation gives employment to 3000 people.—("Echo.")

— **THE "THOROUGHFARE" TREE.**—The gigantic Oaks of Sherwood Forest are remarkable for various peculiarities. The Greendale Oak, which we have here designated the "Thoroughfare" tree, has a roadway through its trunk. This was cut in 1724, and was wide enough for a carriage and four to be driven through it. This was actually done by the Earl of Clare, who laid a heavy bet that he could perform the feat, and he won the wager. The dimensions of this archway are noteworthy. Its height is 10 feet 3 inches, and its width 6 feet 3 inches; the circumference of the tree in a line with the crown of the arch was 35 feet. The tree is reckoned to be at least 1500 years old, and it is now propped up and braced together with chains. There are many other giant trees in this forest, such as the Major Oak, which is 30 feet in circumference. The spread of this tree's branches overshadowed a space 240 feet across from side to side. There is a hollow in its trunk big enough to hold a dozen persons standing close together.—("The People.")

VEGETABLE JUDGING AT SHREWSBURY.

YOUR correspondent, "One of the Shrewsbury Judges," it is so evident not only writhes under criticism, but is so weak-minded as to let all the world see that he does so. It is unfortunate for any man who undertakes public work, done in the fierce light of to-day, such as judging at flower shows, to be so thin-skinned and so irritable under comment, seeing that comment on judgment is an ordeal which all men who undertake public duty of that kind should be prepared to face. If he is not, then he should forego the duty. When in the face of adverse criticism men prefer to shelter themselves behind the tradition that being "eminent" gardeners they can do no wrong, and are as judges infallible, then does the world of lookers-on but smile. Shrewsbury is not the first show by scores at which your reporter has indulged in criticism. One of the forms in which his assumed inexperience and "incompetence" was recognised was his selection by the Council of the Royal Horticultural Society as a member of its code of Judging Committee, not merely to be constructively as well as critically helpful, but also specially to take charge of the vegetable code department, a very onerous position indeed. True, it might have been filled by more "eminent" men, but then the Committee needs men of wide practical experience on specific subjects. As to judging capacity, I have been at that sort of function for the past thirty years, and have yet two other considerable shows to tackle this season. Being in other directions so very busy I apologise for further discussion with a disappointed judge.—YOUR SHREWSBURY VEGETABLE REPORTER.

YES, Mr. Editor, you are quite right in stating in the editorial footnote (page 324), under the above heading in last week's *Journal of Horticulture*, that "One of the Judges" has not always kept silent when other judges have not pleased him as an exhibitor." But there not having been any dissatisfied exhibitors to be dealt with at the last nor previous shows—vegetable (open) classes—held at Shrewsbury, the reference to this point is foreign to the question at issue.

If the awards made in some of the vegetable classes at Shrewsbury were not quite in accordance with your reporter's ideal standard of excellence, he would have been acting within his right to have pointed this out when noting the position of the exhibits in these classes; but he certainly was not justified in condemning in the way he did the awards made by two sets of judges.

There has been no question in the minds of the vegetable judges at Shrewsbury as to "whether it is right or wrong that 'size' or 'quality' should be the predominating factor in determining the awards." The Shrewsbury judges having always been influenced by size, shape and quality combined—quality being in every case the guiding star in determining the awards. I am quite ready to admit, having had a chef to deal with during the last twenty-four years, that medium sized Cauliflowers, requiring no skill to produce, are preferable to large ones for table, but at shows we must have high quality with size as displaying superior cultivation.—ONE OF THE JUDGES.

[We are inclined to think that this subject has been sufficiently ventilated. Our reporter, it seems, laid himself open to castigation, and—feeling sure it would not hurt him—we allowed him to be castigated by a judge who confesses to have indulged in a practice which, as applied to himself, he condemns. We know very well that all the Shrewsbury judges are competent men, also we know that our reporter is as competent as any of them as a judge of vegetables. It is a question of "views" in respect to the standard of excellence, by which judges should be guided in awarding prizes for exhibited produce.]

At a show in the south of England, where the size of the products, it was thought, gradually degenerated into coarseness, a class was formed in which high quality of produce was imperative, size a secondary consideration, provided that all the products were large enough to be generally useful. The judging had to be done by points throughout the collections, and these points published, the prizes being divided *pro rata* in accordance with the numbers attained by the best six exhibitors. Our reporter has assisted in the adjudications. In results, the contest has year by year given complete satisfaction to the show authorities, exhibitors, and visitors.

Could not an interesting feature of the same nature, including the exhibition of all the points of merit awarded, be added to the splendid show at Shrewsbury? The same exhibitors might be eligible to compete in this "special" as well as in the general classes, and there would need no change in the judges; but as the pointing takes time a little further assistance might be needed—at least, it was found to be so at the excellent southern show at which the plan originated. It is not in the least likely to be changed, as apart from the beautiful vegetables exhibited enormous interest is manifested in the posting up of the points.

As to the hasty suggestion that our reporter desired to supplant any one of the Shrewsbury judges, the idea is preposterous. He is quite old enough to know that if such had been his object he resorted to the best of all possible ways of defeating it. He is fully aware that the Shrewsbury officials are gentlemen in the best sense of that honourable appellation, with almost unrivalled experience of the idiosyncracies of individuals, and they extended to him and to all who shared in reporting their last great show the utmost courtesy.]

JUDGMENT WITHOUT LAW.

UNDER this heading your correspondent, "Invicta" (page 326) very amiably and without prejudice discusses a subject of exceeding interest. It is undoubtedly a fact—one which few have stopped to think about—that exhibitors at flower shows are all subject to judgments without law. All judgments are assumedly based on recognised requirements in the products; but, all the same, these are liable to various interpretations just as they are administered by various persons. Thus, a mere whim, a blunder, or bias may in one case punish an exhibitor who should be rewarded, by refusing him a money prize, which goes to someone else perhaps not deserving.

Practically, flower show judging is full of uncertainty, and entirely dependent on the whim or fancy of the judges. Now in civil life all our actions are controlled by a recognised code of laws. If we do wrong—that is, violate any of the provisions of that code—we know that punishment comes not from any judge's personal whim or bias, but because the law requires it.

How can we in flower show judging create law that shall be in its provisions inexorable, and compel righteous judgments? Practically such a thing is impossible. It may interest "Invicta" to learn that the Royal Horticultural Society is at the present moment engaged in preparing a code of judging applicable, so far as is possible, to all flower show exhibits, and it is hoped will be published in a few weeks. Still, though a work of long and careful deliberation and of inquiry, yet its provisions cannot be in any case enforced because the R.H.S. cannot command or compel it.

The most that can be done is to induce all flower show committees to adopt its provisions, and require from judges that they not only possess a copy of the code but shall faithfully make awards in all cases on the basis the code prescribes. "Invicta" will find that so far as vegetables are concerned what he suggests in relation to a consultative conference has already been done, and the code so far has received practically unanimous sanction from many leading growers and exhibitors. If unanimous judging at all shows cannot be secured at least an effort will have been made to insure it.—A. D.

CAN FRUIT GROWING PAY?

AT the monthly meeting of Dundee Horticultural Association held recently in the Technical Institute a lecture was delivered by Dr. Robert Robertson, Errol, on "Does Fruit Growing Pay?" There was a fairly large attendance, and Mr. Grant, Fern Hall Gardens, West Ferry, presided.

[AFFIRMATIVE.]

Dr. ROBERTSON argued that fruit growing in this country would pay, and pay well, if carried out in a businesslike and scientific manner. This he endeavoured to prove by the continually extending fruit area in this country, the greatly increased demand for good fruit, as well as the importations from other countries, which, he said, might be greatly prevented if in this country they would set themselves to cultivate a better class of fruit than they did at present. He held that, according to the experience and opinions of others, some of whom had devoted a lifetime to the fruit business, it was more through the want of cultural care than climate that fruit growing did not pay. After referring to the wholesomeness of fruit for dietetic purposes, he gave some statistics as to the increase in the quantities of fruit which had been imported during recent years. With reference to the Tomato, which he said was often called a vegetable, while in reality it was a fruit, he had been told by shopkeepers in Dundee that they now sold as many tons as they did stones six or eight years ago. Passing on to speak of the question from the landlord's point of view, he said that land at Blairgowrie and Coupar Angus, which used to let at about 30s. per acre, now brought £6 and £8 as orchard ground. With fair seasons and

A LITTLE MORE SKILL AND ENERGY

they would to a great measure drive their Continental and American competitors out of the market. The late Mr. Reid, Ballindean, advocated the cultivation of the larger fruits, and said that he could always get a ready market for them. The lecturer was of opinion that where it did not pay it was for the want of energy more than on account of their "confoundedly bad land laws." He then referred to a visit he paid to a number of orchards in the Carse of Gowrie in company with Mr. Dunn, Dalkeith, who was astonished at the quality of the fruit that was grown there with comparatively little attention to the trees. As to the money question, he said that the rent for Megginch orchard, which was from 7 to 8 acres, averaged in the five years from 1886 to 1890 £4 per acre; Seaside orchard, with from 20 to 25 acres, in the four years from 1887 to 1890 averaged £3 per acre; and Seggieden, with 25 or 30 acres, for the five years from 1886 to 1890 from £7 to £8 per acre. He would leave it to themselves to say whether that paid the landlord. In concluding, he urged on head gardeners to use their influence with their employers to induce them to let ground at reasonable rates for building small houses with orchards, and thus encourage an industry which was calculated to pay landlords and tenants in the end.

[NEGATIVE.]

Mr. DAVID CROLL, nurseryman, while admitting that Strawberries and small fruits could be grown profitably in this country, did not think Apples and Pears could be made to pay. As to the rents quoted by Dr. Robertson, they must remember that the grazing on orchard ground was not to be compared in value with grass grown by itself, and if they deducted the value of the grass there was very little profit left; therefore, he was not astonished that fruit growing in the Carse was to a large extent decreasing. The fact remained that, notwithstanding all that had been said about the profit to be got out of fruit growing and that they could get land in England almost if they only paid the taxes, nobody tried it.

Mr. JAMES LAIRD, nurseryman, said he was quite convinced that if the trees had more attention than at present the results would be much better; but he was inclined to think with Mr. Croll that Apples and Pears would not pay. While in England lately he had seen a great many orchards with magnificent fruit, and he was assured by growers that they would not pay for the labour of picking. He thought, however, that the fruit was not always sent to the market in the best way, and if it were graded better as to quality it would bring higher prices.

The CHAIRMAN thought Mr. Laird was not far wrong. He noticed in the "Evening Telegraph" the other week that a Surrey grower had sent twenty baskets of Pears to London and got 7d. per ton returned to him.

Mr. ALEXANDER CAMERON, Binrock, said nineteen or twenty years ago he had some experience of fruit growing for a profit, and the money received for the Apples would scarcely pay the carriage. Curiously enough, however, Apples, Pears, Apricots, and Peaches grown on walls paid handsomely.

Mr. CLARK, Scotsraig, said the difficulty was not the growing of the fruit, but the marketing of it profitably.

UNWHOLESOME FRUIT.

Mr. DUNCAN, Ivergowie, referred to the large quantities of unwholesome fruit that were sold in the streets, and thought something should be done to put a stop to it.

Mr. BUTCHART, Elmslea, asked where could they get a better Apple than Winter Strawberry, as it was called, and which was grown on a standard tree, or a better cooking Apple than Tower of Glamis? He thought what was required was a place for storing the fruit till it could be profitably marketed.

Dr. ROBERTSON, in replying to the general discussion, said he sent 112 lbs. of Pears to Dundee this week, and got 2½d. per lb. for them, not a great price, but one that would pay for growing. He held that the profit went to the middleman, and it would be better if there was a fruit market in Dundee. He knew that the party who bought his Pears sold them to another party in Errol for 6d. and 8d. per lb.

A hearty vote of thanks was awarded to Dr. Robertson for his lecture. A number of specimen fruits was shown, and a dish of Pears belonging to Mr. Andrew Smith, Taymount, Broughty Ferry, was awarded a first-class cultural certificate.



CŒLOGYNE CRISTATA.

EXAMPLES of excellence in cultivation, whether of fruits, flowers or vegetables, are always interesting to members of the gardening community, and as coming under this category the representation, fig. 56, engraved from a photograph of a *Cœlogyne cristata* that carried 100 spikes, will be looked on with pleasure. Some of our readers will doubtless have seen this magnificent plant when it was at the zenith of its beauty at Floors Castle, and they will agree it was worthy of some special recognition such as that accorded to it. Specimens of this Orchid are frequently seen with extraordinary numbers of flowers expanded at the same time, and the one under notice was really a sight worth going many miles to see. We cannot say how many blooms the plant actually produced on its 100 spikes, nor can we say what particular method of cultivation was adopted to attain to such splendid results, but perhaps Mr. C. Street, the excellent gardener at this establishment, will be good enough to favour us at some convenient time with these particulars. They would be read with interest by old growers, and could not but prove of the utmost value to those young gardeners who are, perhaps, undertaking the sole management of Orchids for the first time.

VANDA SANDERIANA.

THIS is certainly a charming Orchid, and I quite agree with what Mr. Bedford says about it on page 300. I can, however, tell him that it flowered here two years ago. I am sorry it is a slow grower, and consequently a shy bloomer. If it deserves the name of King of Vandas I think that most delicate Orchid *Vanda cœrulea* is entitled to the term Queen of Vandas. I have a small plant with a large spike bearing fifteen splendid blooms at the present time.—HERBERT MAY, *Markree Gardens, Collooney, Sligo*.

COOL ORCHIDS IN AUTUMN.

THE autumn months are always anxious ones for the Orchid grower, not only on account of the warm house kinds that are now finishing their season's growth, but especially in the cool house. Here the majority of the plants can hardly be said to have a resting season, and certainly not a ripening one, as the term is understood in reference to *Dendrobiums* and such kinds. Still, there is a time with even the cooler kinds when the atmospheric moisture must be lessened and a little more sunlight allowed in order to harden the pseudo-bulbs and consolidate the leafy system of the plants. If all finished their growth at, or near the same time, this would be comparatively easy, but many of the plants will be starting to grow at a time when others are nearly or quite finished.

It is impossible to treat each plant exactly as it should be, but if all are grouped in order, keeping those that have completed their growth at the cooler and yet lighter part of the house, it will be a distinct gain. The latter will not require much diminution of water to the roots, but less damping should be done in their vicinity in order that the spikes may have time to form before the plants begin to grow. This has been a very troublesome matter this season, for with the outside temperature higher than it was at midsummer, it has been quite impossible to keep the houses cool enough without very frequent dampings, and the effect of this is to start the plants into growth. This is very annoying, for they are thrown out of their annual routine, so to speak, and if the spikes are produced they are bound to be smaller than would have been the case had the growths remained dormant, the strength going to the growth at the expense of the spikes, or *vice versa*.

This irregular habit of growth, however, is principally confined to a few species, among which are such well-known kinds as *Odontoglossum crispum*, *O. luteo-purpureum*, *O. Pescatorei*, and

O. Halli, while several of the cool *Oncidiums*, such as *O. tigrinum*, *O. concolor*, and others may also be instanced, while other nearly related kinds keep to their annual routine with more certainty. *O. triumphans* has not varied a month in its flowering time for several years, while *O. pardinum*, *O. nævium*, *O. blandum*, *O. Cervantesi*, and one or two more may be mentioned in the same category. These all seem to fall naturally into a habit of growing, resting, and flowering in due season, and are on this account among the easiest and most satisfactory of cool species to cultivate.

The amount of water these and kindred sorts require during the growing season soon soddens and sours the best of composts,

progress during the summer that the pots are filled with roots, and these are still growing freely, sending up nutriment to the rapidly swelling pseudo-bulbs.

The point to consider, then, is whether there is enough compost and this in good enough condition to last the plant through the winter. If so, I would not disturb the plant on any account, but let it remain until the spring. On taking another it may be found that the peat has become sour, possibly owing to inefficient drainage, while the half-formed growth has not as yet produced a single new root. Here, then, is a case for a new pot, fresh compost, and a renewal of the drainage.



FIG. 56.—CŒLOGYNE CRISTATA.

and in consequence the plants must be frequently examined and supplied with new if this is necessary. I always look on the autumn as the best time to repot these cool house kinds, for in a properly constructed house with a suitable aspect the summer is the more trying season of the two for the plants, and any that are disturbed much in early spring have not time to re-establish themselves before the heat of summer is on them.

There is, moreover, from many kinds a good flush of roots in the autumn and early winter, and these soon bring back to the plants any little they may have lost from disturbance consequent on repotting. At the same time it is not wise to repot all because a few require it, or even to top-dress them. In looking through a collection many will be found to have made such good

Not many of the old roots will probably be of much account, but enough should be left on to steady the plant in its new position, and then as the fresh grown roots are emitted from the young growth they will have a sweet and well aerated run, ramifying in all directions among the compost and drainage, and collecting the moisture so necessary to the building up of good healthy bulbs. The compost and mode of potting these beautiful Orchids has been frequently discussed in the *Journal of Horticulture*, so it will not be necessary to again go into this. Suffice it to say that the smaller the pots are the better, providing the plants can be conveniently placed, and the make up of the compost should be such that the water does not silt through gradually, but quickly, so that the roots are soon dry again.—H. R. R.

LIVERPOOL NOTES.

WOOLTON GARDENERS' MUTUAL IMPROVEMENT SOCIETY.

THE present session of the above Society was opened with a floral concert on the 25th in the Church Hall, Woolton. For many years the floral decorations have been of great beauty, and this year formed no exception to the rule, only that perhaps more originality of design has been introduced. A wreath of evergreens overhung the stage, sombreness being relieved by the blending of bright flowers. A giant horseshoe of the same material came in for a great share of favourable comment. A fine bank of Adiantums, Asparagus, with sprays of Allamandas, Chrysanthemums, Hibiscus, Gladioli, and other flowers, was arranged at the front of the stage. This portion of the work was most willingly undertaken by members of the Committee, the musical portion, which afforded the greatest possible pleasure, being carried out by the Treasurer, Mr. R. G. Waterman, and the Secretary, Mr. G. H. Webster. The proceeds are in aid of a fund for providing lectures in horticulture, the success of which would be assured by the large and enthusiastic attendance of the public.

COURT HEY, BROAD GREEN.

Whilst paying a flying visit to Mr. Elsworthy, the able gardener to A. R. Gladstone, Esq., I could not fail to notice the splendid condition of everything under his charge. Although the gardens are given up almost exclusively to the cultivation of fruits and vegetables, there are one or two houses which contain some admirably grown Dendrobiums and Saccolabiums, many of which are just plumping up remarkable growths. The flower garden is of imposing size. Zonal Pelargoniums form the leading feature; but especial mention must be made of two very large carpet beds, striking in design and at present gorgeous in colour. Outdoor fruit is in abundance, the long wall of cordon Pears being a thorough lesson in this particular mode of fruit culture. The Peaches, too, have been of the finest description, whilst Grapes are of the best quality. Many of the Vines are planted in outside borders, but on my putting the question to Mr. Elsworthy as to which he preferred, he pointed with evident pride to some growing in the inside border. Having late varieties of Grapes ripened early is the rule followed by Mr. Elsworthy, and no sounder advice could be followed. If proof is wanting I need only refer to the handsome bunches staged by him at the Liverpool spring show this year, and which were unanimously granted a special prize.

RUNNER BEANS.

One might look back over a considerable number of years and not be able to record such an abundance of Runner Beans as we have at the present time. The two best this year are Sutton's Al and Hill's Scarlet, the former sufficiently known by many, whilst the latter is a fine handsome Bean, and does not seed so quickly as many sorts. Among the so-called climbing French Beans Sutton's Tender and True and Veitch's Climbing are identical, and the Chiswick Committee could not do otherwise than determine them as such.

Whilst on this subject I cannot allow the opportunity to pass and not pay due tribute to Sutton's Epicure, which I have tried for the first time this season. Though not such a vigorous grower as the two latter, its cropping properties are prodigious, the stems being literally roped with pale green pods, in texture much like the Butter Beans. It is excellent in flavour and of fine colour, but what I most fancy it for is that when the pods might to all intents be considered old, they retain their crisp properties and show very little of the toughness found in other varieties. It is worthy of being remembered.—R. P. R.

RIPENED WOOD.

I DID not reply sooner to my critics, because I suspected all available space in your last issue would be required for reports of that splendid, nay, extraordinary, display of fruit witnessed recently at Sydenham; fruit, be it remembered, produced by wood "ripened," "matured," or whatever your correspondents like to call it, during the wet and sunless season of 1894.

Before proceeding to deal with my critics I should like to comment on your editorial note (page 302) respecting the autumn of 1894, where you say, "that from August 26th to November 26th the total rainfall did not exceed 2½ inches." I have not Symons' tables by me, but the "Meteorological Record" gives 18 days' rain last October at Regent's Park, totalling 4.51 inches, and November 17 days with 3.00 inches, or 7.51 inches for those two months alone, exclusive of September. During this period the hours of sunshine at the same station were forty-one hours in October and forty-two hours in November. In Ireland during October 3 inches fell at Londonderry (eighteen days), 4.57 inches at Ardglillan (fourteen days), 3.97 inches at Dublin (twenty days), and 6.53 at Killarney (sixteen days). I cannot see, therefore, how "E. D'O." can have considered October of last year "fine" even for Ireland.

I do not know whether you or your readers have seen a very interesting article respecting recent weather in the "Morning Post" for 5th inst. It is well worthy of attention; 112½ hours are there given as the Westminster sunshine record for September. This is, however, less than the Greenwich record of 1893, which was 129 hours. The writer of the article referred to states that "of the total duration of sunshine for the past nine months Westminster has registered 1261 hours." But in 1893 1292 hours were recorded at Greenwich, and 935 only in 1894 for the same period. The natural inference therefore is that wood could

not have been "ripened" last year owing to the deficiency of bright sunlight.

This brings me to "Y. B. A. Z.'s" nut to crack. He wishes to know how I "like to see the wood of my Peach trees appear at the end of October." That is not the point. I would rather alter his question, and inquire which kind of wood gives the best results. I will tell your correspondent.

In the autumn of 1893 the wood of my Peach and Nectarines glowed with a rich and ruddy glow, and last summer I got no fruit worth mentioning. In the autumn of 1894 the wood of these same trees was as green as grass, and this summer I had a splendid crop. Moreover, my case was not in any way exceptional. How does "Y. B. A. Z." get away from facts like these?

He will, I hope, excuse me if I fail entirely to grasp the meaning of his description of two trees under glass. One was taken (to Somersetshire) and the other left; yet, as far as I can make out, the stay-at-home did no better after than before, while the prodigal—like many another prodigal—flourished exceedingly.

I cannot conclude without once again crossing swords or penholders with Mr. Pettinger, who accuses me of thinking myself "the proud victor" because gardeners do not argue with me. That is not my view at all, but I do believe that horticulturists are just now painfully conscious that facts are unpleasantly against their favourite theory, therefore consider a discreet silence the better part of valour.

With regard to Stephanotis, I will pass that with the question, How does Mr. Pettinger get bloom from the old wood if he cuts it away? Your esteemed correspondent then gets a trifle mixed between ripening and resting, two very different things, or rather produced by very different atmospheric conditions.

By a curious coincidence my inquiry respecting the Vines at Cardiff Castle was answered in the same number of the *Journal of Horticulture* as my letter appeared. From the account therein appearing I was pleased to find that my conjecture was correct, and that the Vines are doing very well this season. Another nail in the coffin of fallacious theory.—THE SCEPTIC.

[Our correspondent writes admirably from his point of view, and we hasten to inform him that a week was omitted in our reference to October, and it was, of course, a wet week. The October rainfall in London last year was practically 4½ inches.]

A SEPTEMBER DAY AT LANGLEY.

TRAVELLING recently up the Great Western Railway I was much struck with the beauty of the Langley branch of Messrs. Jas. Veitch and Sons, as well from a pomological as a floral point of view. The fruit trees, as the train glided along, looking remarkably healthy, but naturally the most attractive effect was produced by the flowers. These formed, and doubtless still do so, a picture such as no artist could reproduce on his canvas, the colours being too subtle, too diversified, to permit of a thorough mental grasp being made of the whole. Some owed their beauty to the simplicity of shape, others to the colour of their inflorescence, and others again to the leafage. From the iron road there was presented a feast such as would gladden the palate equally with the eyesight, and ere Langley was left far behind the determination to seek and grasp the first opportunity of returning for the purpose of making a closer and more minute inspection was arrived at.

To make all necessary arrangements it was essential that a visit be paid to Chelsea, where the matter was very soon decided with Mr. Smith, the manager, that the following Monday should be the day. It was one of those hot days when the heat rose to the 80's in the shade, so that the task of walking all over those great nurseries could not be termed an easy one. Fortunately at Slough station a trap was found, and we were soon running between thousands of fruit trees of all sorts, some carrying fruit while others had been cleared. On past large beds of flowers until we are on the road again, over a branch of the Grand Junction Canal, and we reached another entrance adjacent to which is the home of the resident manager, Mr. J. Scott, by whom we were received with the most hearty geniality. A few moments' chat led to the object of the visit. "You would like to see the fruit trees, would you?" and an acknowledgment of such having been given, we immediately proceed to search for Mr. Morle, who we learn is down for the day from his home at Southfields, Fulham, where he is usually to be found.

Having now come under the guiding hands of Mr. Morle and his excellent assistant, Mr. Allgrove, a move is made towards the trees, for this purpose the canal being again crossed. Let it not be understood that there are fruit trees only on what may be termed the railway side of the nursery, for such an idea would be erroneous. For the benefit of those visitors who have not a very great amount of time on their hands, the firm has planted on each side of a long walk small trees of almost all the recognised sorts of Apples and Pears, besides several of the later introductions. Here then, one may with little trouble compare the different varieties, both with regard to their habit of growth, freedom of bearing, and shapes and peculiarities of the fruit itself. If this were not done it would be necessary to tramp much greater distances to achieve these objects, and the chances are that not nearly so much would be learnt, as it would be necessary that so many points should be carried in the mind for the sake of comparison. Such being the case, a system of this nature cannot prove other than a great boon, and it is certain that all visitors will thoroughly appreciate it. All the trees are numbered but under such experienced guidance no book containing the names of

the varieties is required, as the name of any is given by a glance at the fruit, or by the growth of the tree if it is not in bearing, without even any reference to the numbered labels.

Let us first look over the trees to ascertain which combine with excellence of quality the highest free bearing propensities, not, of course, endeavouring to name all, but simply those that strike us as being of the best. A few words as to the condition of the trees will be of interest to many readers, and so primary attention shall be given to this point. As has been said, they are planted by the side of a long nursery road, three trees of each being seen in the majority of cases, though occasionally there may be more or less; ranging in height from 4 to 6 feet, they are all pictures of health and good management. The training has evidently been with the object of keeping the trees open to permit of the easy penetration of light and air, the advantages of which are readily perceptible in the fine shoots and the tough leathery texture of the dark green leafage. Each branch has abundance of room for development, and grown in such a manner trees of this form may be termed ideal ones for the garden of limited area. Obviously their fruiting depends on the open training, as if they were allowed to become nothing less than a tangled mass of useless spray they could not possibly bring to perfection such crops as they produce yearly.

Considerable variation is noticeable in the weight of the crops, but every tree had on it a fair number of fruits. Periodical liftings are accorded the trees, thus to a great extent, at any rate, insuring their safe removal for the fulfilment of the orders. Many persons visiting the great fruit show at the Crystal Palace recently would perceive and admire the beautiful fruits staged by this firm, and doubtless they will be glad to know that several of these were gathered from the trees to which special attention is now being called, proof that will be amply sufficient to show the treatment given is of the best and the most suited to the well-being of the trees. This season, as is well known to gardeners and fruit growers, has been conducive of very rich colouration of fruits, especially, perhaps, of Apples, and those at Langley are no exception to the rule, for rarely have they, taken as a whole, been seen better in this respect—indeed, some kinds that can boast of scarcely any colour in other years have this time put on so much as to render them almost unrecognisable. It is surely needless to say that no vestige of insect pest is observable throughout, which is another point in favour of the health of the trees. Wasps, it was noticed, had been hard at work on the best fruits all over the ground, and it had been necessary to net all such as it was thought desirable should be saved. Thousands of wasps had been killed, but thousands yet remained, and war was constantly being waged for their extermination.

Turning now to the varieties, we have not gone many steps ere we stop before a tree loaded with yellow fruits of fair size, and which on tasting we find of splendid flavour. Every year it carries fine crops, and is known by the name of Barton's Incomparable. No other description than that it is a grand improvement on the well-known Golden Pippin will be needed by readers of the *Journal of Horticulture*. As a keeper Barnack Beauty is in high favour with the manager of the Veitchian fruit museum as it may be had in excellent condition until May, and is moreover suitable alike for dessert or cooking. Another that has the same attributes except Christmas is about the end of its tether, is Calville Bois Bunel, which is of exceedingly beautiful appearance, and evidently of very great merit. Though large, Belle de Boskoop is a dessert variety belonging to the first rank, and the same may be said of Mrs. Barron. Conspicuous for its handsomeness is Baumann's Red Reinette. This, however, is not its only good point; on the contrary it is of good flavour, and in addition may be kept in good condition until May. A variety named, Christian Manson was prominent on account of its fine habit. In addition it keeps well, and is of good flavour. Though Alfriston has been grown for generations it is nevertheless a splendid Apple, and seldom has it been seen to better advantage than this year. Not so well known, and deserving of much attention, is St. Edmund's Pippin, a free cropping Apple of great merit; King Harry being another of which the same may be said. Reinette d'Amazon is of taking appearance, and fine for dessert, as well as being a good keeper. With the latter attribute is Fraise de Hoffinger, but this is a culinary variety. The crimson cheeked fruits of this are very pleasing. Others not very extensively cultivated are Rouleau Rouge, Passom de France, Akeria, and Beauty of Stoke, all of which ought to be noted for future planting.

Besides those mentioned in the preceding paragraph there are very large numbers of others, and mostly much better known to the majority of growers. These include Gold Medal (said to be a grand Apple for the Midlands), Seaton House (one of the best), American Motber, Manchester Pippin, Bramley's Seedling, Blenheim Pippin (magnificent), Sandringham, Peasgood's Nonesuch, Potts' Seedling, Cox's Orange Pippin (this cropping in a marvellous manner under all forms of training), Lane's Prince Albert, Madderley, Cornish Aromatic, King of Tomkin's County, Gascoigne's Scarlet Seedling, Dr. Harvey, Lady Henniker, and King of Pippins. Sufficient will now have been named to show the extent and diversity of this border of fruit trees in relation to Apples, so now a move may with advantage be made to see the other kinds.

If Pears are not so numerous as Apples, they are nevertheless of very fine quality, though the specimen trees do not look so well as the Apples. This is, however, easily explained by the fact that all the trees were lifted very late in the spring of the present year, and have not yet, in appearance, at any rate, quite recovered from the effects. Not that it seems to have affected their crops of fruit, as all are in splendid condition in this respect. Scores of varieties are grown, and amongst them were noticed Beurré Fouquieray, Louise Bonne of Jersey, Brockworth

Park, Flemish Beauty, Doyenné Boussoch, Triomphe de Vienne, Gansel's Bergamotte, and Fondante d'Automne, these, of course, being but a moiety of the whole. The fruits ranged above the average in size, of fine colour, and excellent flavour. Thousands of young trees of different varieties were seen at intervals, some only about 2 or 3 feet in height, but each was carrying its burden of fruits that were more conspicuous for their size and beauty than for numbers, though of course from such young stock none could expect big crops.

So much time was spent amongst the Apples and Pears that Plums could receive but scant attention, not nearly so much, indeed, as their superb condition deserved. Taking into consideration the fact that it was getting somewhat late for Plums when the pilgrimage was undertaken, the show of fruits was really a highly creditable and a splendid lesson as to which varieties are the best for late fruiting purposes. Though late and not in large numbers the quality was wonderful, and one or two of the luscious fruits proved very refreshing about noon of what was an almost tropical day. Included amongst the best were Belle de Septembre, Pond's Seedling, Late Transparent Gage, Coe's Golden Drop, Brahy's Gage, Bryanston Gage, and Blue Impératrice. Damsons, too, as might naturally be expected, receive a very large share of attention, it being essential that extensive numbers be grown to meet the yearly demand. Despite the constant murmurings that fruit growing cannot pay in this country, more and more trees are being planted every year, plainly proving that some persons at any rate have faith in the industry. The splendid trees grown by this firm thoroughly entitle them to the high position they hold in the fruit world, and after a visit to Langley one cannot be surprised in learning that more trees are required every year to insure the proper fulfilment of the many orders received during the autumn and spring months.

Passing now from the trees in fruit we come to those from which all crops have been gathered, and that have been prepared for sale this season. They are numbered by the thousand, and comprise all kinds of hardy fruits. There are trees for walls trained in espalier, fan, cordon, and other styles, bush trees, half and full standards; in fact, all shapes that are now in vogue. One might continue walking through these trees for hours and be always meeting something fresh, so much so that the interest has no time to flag, and the mind is continually storing knowledge that cannot fail to be of use in future practice. To particularise here all the forms that are grown would be an impossibility, unless the whole of the pages were commissioned for the purpose, so it must suffice to say that all are grown well, make splendid wood and buds, and that none is allowed to leave the nursery unless to all appearances in a perfect state of health, and such as is likely to give every satisfaction to the purchaser. At the Southfields Nurseries, Fulham, where, as previously mentioned, Mr. Morle is located, are to be seen some of the finest examples of trained trees to be found anywhere, more especially, perhaps, of stone fruits, and those alone are worth a journey to see.

In commencing these notes it was the intention of the writer to make references to the Orchids under the charge of that veteran hybridist Mr. Seden, and to the perennial and other plants that are so well grown and known by Mr. Hanley, but the fruit demanded so much attention that they cannot be properly dealt with now. Such being the case, we must postpone a chat about these until after a future visit, simply saying that in both departments the plants are in that splendid condition which denotes a thorough understanding of their particular wants. The afternoon was rapidly drawing to a close ere we had made the rounds, and then it was found that several acres had been missed, but these, with those mentioned in the earlier portion of this paragraph, must stand over. The day had been an enjoyable one, replete with instruction and interest; and the next visit will be looked forward to with the greatest pleasure by—SCRUTATOR.

CARDIFF CASTLE.

I WAS pleased to read the interesting remarks on the gardens of this well-known place, which lately appeared in the pages of the *Journal of Horticulture* from the fluent pen of "Nomad." Since those lines appeared in print another stranger has visited the gardens for the first time, who had often heard of the splendid examples of Apple and Pear tree culture, but was not prepared to see such perfect specimens of good culture, and all in the best of health. Imagine Pear trees grown in a natural state in bush form, 30 feet or more in height, every branch being loaded with fruit almost as thick, and certainly larger, than the traces of Onions I afterwards saw being sold in the streets of Cardiff. The trees are so heavily laden with fruit that several large poles have to be placed round each tree, and ropes fastened round them to prevent the branches being broken off by the great weight of fruit.

There are two things in connection with these trees to which I would draw attention. First, as regards the stocks on which the Apples and Pears are worked. I found, with the exception of one Pear tree, which was worked on the Quince, all are on the free stock, a living proof, if one were needed, that it is the best in suitable land. Another practical lesson most ably taught is the system of grafting. Some of the trees originally planted were not suitable varieties, so were headed down and grafted with good varieties, not, as some writers advocate, one graft to a tree, but probably forty would be nearer the mark, with the result that in two or three years they were again well furnished trees, carrying heavy crops. Many tons of fruit are gathered annually, of both Apples and Pears. The trees are comparatively young, having been planted as maidens by Mr. Pettigrew about twenty years ago. May he tend to their wants for many years to come is the wish of—A YORKSHIREMAN.



SOUTHWARK PARK.

WE are informed that the large conservatory at the above Park will be opened to the public on Saturday, the 12th inst., for the annual display of Chrysanthemums.

CHRYSANTHEMUM M. R. BAHUANT.

I SHALL be glad to have a few hints on the culture of this Chrysanthemum. This is the third year I have grown it, and it nearly always comes reflexed instead of incurved. The plants are strong, and have been obtained from different sources. I have not given them too much liquid manure. The blooms are grown from crown buds, and have been kept partly shaded since they began to open. Some of the plants were raised in January and others in February. Perhaps Mr. E. Molyneux, or some other large grower who contributes to your valuable paper, will reply?—J. E. OSBORNE.

NATIONAL CHRYSANTHEMUM SOCIETY.

A MEETING of the Floral Committee was held on the first day of the October show at the Royal Aquarium, Mr. T. Bevan presiding. There was a very full attendance of members, and some excellent exhibits staged, although owing to the hasty manner in which the tables were cleared immediately the Committee rose we were unable to take any notes excepting in the case of the varieties certificated.

First-class certificates were awarded as follows:—

President Armand.—A very large Japanese incurved with heavily grooved florets; a massive flower. Inside crimson-chestnut with reverse of deep brassy yellow. Shown by Mr. J. French, gardener to Mrs. Berkeley, Ambleside, Wimbledon.

Phæbus.—A new Japanese bearing an old name. Colour deep golden yellow, very rich and pure. Shown by Mr. H. Shoesmith.

Mons. C. Molin.—A large Japanese with broad flat florets; a beautiful shade of yellow tinged carmine on the outer row. Exhibited by Mr. Godfrey.

Boule d'Or.—A grand incurved Japanese of good size and very solid. The florets are deeply grooved, and the flower may be described as an amber Louise. The inside is chestnut, but scarcely visible, and the reverse is a soft shade of buff or amber. This came from Mr. Wells, and is distinct from the variety usually met with under the same name.

Madame Auguste de Lacvivier.—Another Japanese incurved, broad grooved florets, inside crimson-cerise, reverse rich golden rose. Sent by Mr. H. J. Jones.

Lady Randolph.—A very globular Japanese, closely built and compact, medium size, colour rich purple amaranth.

Madame Marie Massé.—A decorative early flowering Japanese, described in our report of the last meeting. From Mr. D. B. Crane.

Lady Esther Smith.—This is a Japanese incurved, having very long grooved florets, solid and large; colour white. Mr. R. Owen was the exhibitor.

Yellow Gem.—A pretty little yellow Pompon of a clear shade of yellow, with the tips of the florets lacinated. Also from Mr. Owen.

A vote of thanks was awarded for an exhibit of twelve cut blooms of a new white Japanese called Emily Spilsbury. Mr. Briscoe Ironside exhibited a new rotary stand for the exhibition of large show blooms or for ordinary decorative effect. It was highly commended, and a small silver medal awarded to the exhibitor. A. H. Fewkes, an American yellow Japanese, was commended; and there were several other meritorious novelties staged.

CHRYSANTHEMUM PROSPECTS.

THE tropical weather experienced during September caused many of the forward blooms to burst open, and in some cases to show colour of petal. Past experience has taught us that if left outside after this stage the work of destruction will soon commence, and that no after care can save the blooms from damping. Therefore, on the 24th of September, in a temperature of 84° in the shade, we transferred our plants to their quarters under glass, and at once put on a heavy shade with Russian mats to help to keep down the temperature, and even now there is evidence that the work was too long delayed, as some of the earliest and best blooms are lost, a season's work being thereby thrown away. Early flowers being better than none at all, I would impress on all the importance of shifting the plants under cover directly there is the least colour of petal.

Having so far put my favourites safe from the scorching sun by day and the damaging fogs and dews at night, I sauntered forth to learn how "Mums" in general were likely to be for the 1895 campaign, and after a sixty mile run through the pretty county of Devon, found myself face to face with Mr. W. G. Godfrey of Exmouth, an enthusiastic grower, with 8000 plants in pots on the orthodox plan of taking three blooms from a plant. Here were congregated together varieties from every imaginable source, French, American, and English grower and raisers being well represented, and when I mention that stock has been purchased from the following Frenchmen—viz., MM. Calvat, Delaux, Crozier, La Croix, Boucharlat, and Bruant, and from Americans such as

Messrs. Walz, Hill, Smith, Bock, and Spalding, one would naturally expect to find something likely to be sensational, so towards what has been termed "the largest Chrysanthemum show house in Europe" advance was made. A grand house certainly, being a span-roofed structure of lofty dimensions, and measuring 155 by 27 feet, erected last year at a cost of £400. Many plants were housed, and the remainder were being pushed in as fast as possible, a big and costly job, as each plant was laid on its side and syringed with Mr. Molyneux's mixture of lime and sulphur to eradicate any trace of mildew on its way in.

The earliest and most precocious varieties were at their best at the time of my visit, but the majority were just commencing to unfold. The plants were pictures of health, with hard, well-ripened, hazel-like wood, carrying dark green and bronzy foliage of thick leathery texture, surmounted with great fat bulbs; some of which I measured were 2 inches across and quite hard. Judging from this collection the prospect this season is indeed a grand one. Three varieties called for special notice, two of which were in a half-expanded state, and all are seedlings of Exmouth origin. Exmouth Yellow is very promising, being a grand bloom of deep canary yellow, and should its habit and constitution be all right, will probably be a rival, and become as popular as that old favourite, Sunflower. It has long drooping curly petals of great substance. Next comes Vicar of Exmouth, in colour and form something like Edwin Molyneux, but still quite distinct, being more globular, and with petals of greater width. The other of the trio is named Pride of Devon. This was not forward enough to describe, but in a bud state looked very promising, and I was assured would be equal to some of the best at present in cultivation.—G. H. COPP, *Holnest Park*.

DEAF CHRYSANTHEMUM BUDS.

I SHOULD be very glad if you could give any information as to the cause of the Chrysanthemum buds dying off the same as those enclosed. I was inclined to think they had got bruised while being housed, but having visited several Chrysanthemum growing friends I have found that they have lost many buds in the same way. I shall be very pleased if you can give any information as to the cause. The deaf buds are on plants grown for large blooms, and the plants look in the best of health. The owners of the other collections are readers of the *Journal of Horticulture*, and all of us will be grateful for any information on the subject. One grower had used sulphate of ammonia and lost buds at the rate of 20 per cent., but as regards my plants they have never received any, and one bud will die while the others will remain fresh and healthy.—G. HART.

[Evidently the plants have been well grown, and it is grievous to see the collapse of buds that must have appeared so promising only a short time ago. The cause of the buds going wrong is mites, and is very common this season; indeed, it is a bud-mite year, the Hazels in the hedgerows having the buds now as prominent as peas, and some larger, through the attacks of mites. The mite (*Phytotus chrysanthemi*) attacks the buds from June to August, living on the interior parts and completely eating away what would be the florets, and they become "blind" or "deaf" wholly or in part according to the work of the mites, for there are several in a bud. The mite was first discovered by Mr. G. Abbey in 1893, and described and figured in the *Journal of Horticulture* of September 28th, 1893 (page 291). It is the largest of British bud-mites, and, unlike bud-mites generally, does not produce galls; consequently, is not noticed until long after the mischief is done, and the mites have then gone nobody knows where. The cause of the evil is often attributed to a fungus, also present in such buds. The stems are very stout and free from any invading micro-organisms. The mite, and that only, is the cause of the "deaf" buds, and it seems to like them the better the richer they are in nitrogen, giving preference to plants that have been fed with ammonia compounds and nitrates. They invariably select the crown bud, or if that is nipped off the most promising of the others. It is in dry and hot seasons that the mites chiefly attack Chrysanthemums, and seldom those that have been dressed with sulphur to keep down mildew, all mites having an abhorrence of sulphur. This or some substance containing sulphur applied before the buds form and continuing it for some time after they are "taken," is the only preventive we can suggest.]

NATIONAL CHRYSANTHEMUM SHOW.

OCTOBER 8TH, 9TH, AND 10TH.

THE second show of the National Chrysanthemum Society was held in the Royal Aquarium on the above dates, and in all a grand display was brought together. The competitive classes were not, as a rule, particularly well filled, though there were several entries in the classes for twenty-four and twelve Japanese. If not numerous, Chrysanthemums were of really good quality, some of the blooms indeed being very fine. Miscellaneous exhibits, however, were the predominating feature of the exhibition, and some superb flowers and fruits were staged by the various nurserymen. Regarding the names of varieties in the various classes it would be a great advantage for everyone if exhibitors would use printed labels, which can be had at a very reasonable cost. We append the list of prizewinners in the chief classes.

COMPETITIVE EXHIBITS.

There were only two competitors in the open class for a group of Chrysanthemums and foliage plants arranged for effect, and occupying a space of 72 superficial feet. Mr. H. J. Jones, Lewisham, occupied the

post of honour; the group displayed variety and taste in arrangement, the blooms also being good on the whole, though not containing anything extraordinary. Mr. W. Howe, gardener to Henry Tate, Esq., Park Hill, Streatham Common, was second with a group containing moderate blooms, interspersed with Crotons, Dracænas, and Palms.

The chief open class was for twenty-four Japanese, in not less than eighteen distinct varieties, six exhibitors competing for the three prizes offered. The premier position was accorded to Mr. Wells, Earlswood Nurseries, Red Hill, who staged some handsome specimens. The varieties comprised Rose Wynne (2), Comte de Germiny (2), Souvenir de Petite Amie (2), Mons. Jos. Allemand, W. G. Newett, Eda Prass (2), Mrs. H. J. Jones, Frank Wells, William Tricker, President Borel, Thomas Wilkins, Mrs. G. T. Trafford, Louise (2), Mons. Alfred Giroud, Madame Adrian Armand, Madame Edouard Rey, Boule d'Or (Calvat's variety), and Souvenir de Toulon. Mr. C. Cox, gardener to J. Trotter, Esq., Buckenden Grange, Hertford, was second with blooms not quite so large or so far advanced. Amongst the best were Miss Anna Hartshorn, Mrs. D. Ward, President Borel, Mrs. C. Harman Payne, and William Tricker. The third position was awarded to Mr. R. Jones, gardener to C. A. Smith-Ryland, Esq., Barford Hill, Warwick, whose stand was rather thin, the flowers being very fresh but too small.

In the class for twelve Japanese, distinct, there were ten competitors, Mr. R. Jones taking the leading place with a charming stand. The blooms were fresh, clear, and of very good colour, though perhaps too many light varieties had been utilised. Rose Wynne, Commandant Blusset, Madame Edouard Rey, Mons. Chas. Molin, Mrs. E. G. Hill, Thos. Wilkins, Louise, President Borel, Mdlle. Thérèse Rey, Wm. Seward, Julius Roehrs, and Mons. Panckoucke. The second prize was awarded to Mr. J. Brookes, gardener to W. T. Newman, Esq., Whetstone House, Totteridge Lane, N., with a stand of even blooms. The best were Mrs. C. Harman Payne, W. H. Lincoln, President Borel, and Madame Ad. Chatin. The third prize was well won by Mr. W. Collins, gardener to J. W. Carlile, Esq., Ponsbourne Park, Hertford.

There were two stands in the class for six incurved, distinct, neither being of great merit. Mr. W. Collins was first with Mons. R. Bahuant, Prince Alfred, Lord Wolseley, Madame Darrier, J. P. Martinac, and Refulgens. Mr. R. Filkins, gardener to Miss Alexander, Chislehurst, was second. Mr. C. Brown, gardener to R. Henty, Esq., Langley House, Abbots Langley, was first for twelve bunches of Pompons, with charming blooms. Mdlle. Elise Jordan, Durham, and Mrs. Cullingford were the most noticeable. Miss Debenham, St. Albans, the only other exhibitor, was second. For six bunches of Pompons the prizes went to Miss Debenham, Mr. L. Turk, gardener to T. Boney, Esq., Highgate, and Mr. C. Brown, in the order of their names. Mr. H. Love, Sandown, Isle of Wight, was a decided first with twelve Japanese blooms in the amateur section, staging in good form Phœbus, The Queen, Mrs. E. G. Hill, Louise, W. H. Lincoln, Mr. B. Fletcher, G. C. Schwabe, Souvenir de Petit Amie, and Crystal Bell. Mr. W. Amies, South Ashford, was only a poor second, there being no other competitors. In the class for twelve blooms of Japanese, open only to single-handed gardeners, Mr. J. Knapp, gardener to F. W. Amsden, Esq., Croydon, was first with creditable blooms of W. G. Newett, Mrs. F. Jameson, Mons. Charles Capitant, John Shrimpton, Edith Rowbottom, W. H. Lincoln, Mrs. C. H. Payne, Mdlle. Thérèse Rey, Madame Auguste de Lacvivier, J. Stanborough Dibben, William Tricker, and Eda Prass. Mr. T. L. Turk, gardener to T. Boney, Esq., Highgate, was second, his exhibit containing good blooms of Mrs. C. H. Payne, W. H. Lincoln, and Amy Chantler.

Mr. Knapps was again a good first with six Japanese blooms, staging W. G. Newett, W. H. Lincoln, Annie Clibran, J. Stanborough Dibben, Mrs. C. H. Payne, and Madame Auguste de Lacvivier. Mr. A. W. Southard, gardener to H. B. Kenyon, Esq., Sutton, was second, showing in good form Edwin Molyneux, Avalanche, Comte de Germiny, and Mrs. E. G. Hill. The third place was occupied by Mr. T. L. Turk. For six blooms of Japanese, Mr. B. Durrant, Ware, was first with Mrs. C. H. Payne, Louise, Madame C. Molin, Mdlle. Thérèse Rey, Madame E. Rey, and W. Tricker. Mr. E. Jones, Hornsey, was second with moderate flowers, and Mr. W. Amies followed with the third. A charming arrangement shown by Mr. J. R. Chard, Stoke Newington, was awarded first prize in the class for a floral decoration to illustrate the value of Chrysanthemums for this purpose. Long sprays of red Berberis berries were freely used, and these, interspersed with Chrysanthemums and foliage, looked very charming, while designs in the shape of wreaths, crosses, and anchors rendered the whole very pleasing.

Mr. J. R. Chard was also first with three epergnes of Chrysanthemums suitable for table decoration. In these elegance was displayed in Chrysanthemum flowers arranged with trailing sprays of Ampelopsis Veitchi and Asparagus. Mr. D. B. Crane, Highgate, was second with a pleasing arrangement a little heavier than the former, and the third prize was taken by Mrs. W. Green, jun., Harold Wood, Essex. Mr. D. M. Hayler, gardener to W. Hannaford, Esq., Hendon, was awarded first prize for a vase of Chrysanthemums suitable for table decoration. The arrangement was somewhat flimsy, many of the flowers being tied to wires with raffia, which was easily discernible, and detracted much from its beauty. Mr. D. B. Crane was second, and Miss Lillian Hudson, Gunnersbury House, the third.

MISCELLANEOUS EXHIBITS.

The exhibits staged principally by nurserymen not for competition, and indeed formed the backbone of the whole of the exhibition. Mr. W. J. Godfrey, Exmouth, arranged a handsome exhibit of Japanese Chrysanthemums, for which a silver medal was deservedly awarded.

Noticeable amongst the many were Mons. Chas. Biron, Exmouth Yellow, Lady Kennaway, Hairy Wonder, and a large number of seedlings of promise. From the same source came Carnations Reginald Godfrey, Miss Mary Godfrey, Sunrise, and other varieties. Both of these and the Chrysanthemums the specimens were clean and well-grown. Messrs. Jas. Veitch & Sons, Chelsea, arranged a semi-circular group of plants carrying handsome flowers, of which the good effect was considerably marred by the flat and stiff staging. Amongst the varieties were Louise, President Borel, Wilfred Marshall, Mrs. Falconer Jameson, and others. A silver-gilt medal was awarded to Mr. H. Berwick, Sidmouth, Devon, for a table of handsome fruit, comprising beautifully coloured Apples and fine Pears.

The filling of one of the large fountains by Mr. T. S. Ware, Hale Farm Nurseries, Tottenham, was a distinct success. Very large numbers of Pompon and Cactus Dahlias, representing the majority of the leading varieties, were utilised, the stiffness being finely relieved by the free intermingling of Asparagus, Grasses, and Palms. A silver-gilt medal was well deserved. The same exhibitor also staged a group of Chrysanthemums, receiving for it a silver medal. One of the most imposing displays at the show was that of Messrs. H. Cannell & Sons, Swanley, and which consisted of Dahlias, Cockscombs, and Cannas. Mr. H. J. Jones, Lewisham, received a silver-gilt medal for a collection of Chrysanthemums and Zonal Pelargoniums. Of the former some of the best were Noces d'Or, Mrs. J. R. Taylor, Mrs. G. Gower, Madame Ad. Chatin, Mons. G. Montigny, Mrs. E. G. Hill, Madame Auguste de Lacvivier, Mr. W. R. Seago, and a charming seedling. Mr. W. E. Tidy, Brockhampton Nurseries, Havant, staged Chrysanthemum tubes and a few hardy flowers of various sorts.

Mr. W. Wells, Red Hill, received a silver medal for a collection of Japanese Chrysanthemums. The blooms were fresh and clean, besides being of good size, all the best varieties in cultivation being well represented. Messrs. Fenlon & Sons, Tudor Street, London, E.C., showed some useful examples of heating apparatuses, suitable for small structures, halls, and rooms. Specimens of Springthorpe's cup and tube, and also of Beckitts', were exhibited.

Messrs. W. Cutbush & Son, Highgate, staged flowers of single Dahlia Watford Beauty, together with bunches of perennial Asters and other hardy flowers. Mr. E. F. Such, Maidenhead, showed floral arrangements of Chrysanthemums, which were very effective. Messrs. John Laing and Sons, Forest Hill, sent a large and effective group of Apples and Pears, which were tastefully arranged. Amongst others were noticed fine Peasgood's Nonesuch, Cox's Pomona, King of the Pippins, Blenheim Orange, The Queen, Golden Noble, American Mother, Ribston Pippin, and many others. Pears, good in quality and numerous in variety, were also included in the collection. Silver-gilt medal was awarded. Apples in great variety also came from Messrs. S. Spooner & Sons, Hounslow. The quality throughout was also of the best, and all the popular varieties were included in the exhibit.

Mr. H. Deveril, Banbury, was represented by Onions of superb quality. The exhibit included magnificent bulbs of Ailsa Craig, Advancer, Rousham Park Hero, The Lord Keeper, Royal Jubilee, Deverill's Coconut Onion, and others. Messrs. Dobbie & Co., Rothesay, staged a large collection of vegetables, which included International Prize Leek, pots of Parsley, and magnificent Onions. Messrs. J. Cheal and Sons, Crawley, sent a most effective exhibit, arranged round the base of one of the fountains. Flowers were represented by Dahlias of all kinds, and amongst fruit Apples and Pears as good in quality as they were great in variety were shown, the exhibition on the whole being most effective.



HARDY FRUIT GARDEN.

Gathering Fruit.—Though much fruit will have been gathered, stored, and some ripened ere this, yet on every fine occasion, and when the fruit is dry, proceed with the gathering of the varieties still on the trees which show a tendency to fall easily, or on the fruit being lifted to a horizontal or vertical position, they part readily from the spurs to which they are attached. Store carefully in single layers, the Apples in a cool, dark position, the Pears where it is slightly warmer and drier. The later varieties of Plums will be fit to gather. Secure choice dessert kinds with the stalks intact, handle carefully, and store in a cool, dry, position.

Root-pruning Fruit Trees.—When it is difficult to induce trees to bear satisfactory crops of fruit owing to a vigorous production of wood that is not fruitful in character recourse must be had to some means of checking rampant growths. In an ordinary way summer pruning carried out systematically keeps the trees in subjection, but it is not always successful when the root power is exceptionally strong. The greatest flow of sap proceeds from the strongest roots, and invariably those which descend deeply in unsuitable or moist subsoils are the channels through which the increased flow of sap originates. Trees on dwarfing stocks, being naturally surface rooting, and consequently fibrous, do not usually need root-pruning. Free growing stocks are deeper rooting,

and trees worked on them when trained in restricted forms frequently root deeper than is desirable, large amounts of unfruitful wood being produced. Root-pruning is then necessary to keep them within proper bounds and promote the formation of fruit buds.

Effects of Root-pruning.—The first effect of root-pruning is to at once reduce the flow of sap to the wood, which it does most advantageously for the future welfare of the tree, providing it is not carried out too severely. When a strong root is severed the returning sap is arrested, and caused so to accumulate in the portions of roots left that lateral roots are emitted from the strong ones, but they are naturally weak in comparison with those from which they spring. This weakness is no fault, but rather an advantage, especially if roots of this character issue numerous from the cut-back roots. They are known as fibrous roots, and are far more useful for the production of short-jointed wood, fruit buds, and fruit, than gross roots can ever be.

The tendency of fibrous roots is to work horizontally near the surface, where they are well within the influence of warmth and the supply of moisture and food. They are furnished with minute root-hairs, through whose numberless and delicately fine extremities the liquid and gaseous elements in the soil are absorbed into the root circulation, and carried forward to every part of the tree. Thus the quality of the work they perform is higher, and the general results better than can be attained to by deep, strong roots, though some of the latter must necessarily be present, and descend to a fair depth for the purpose of holding a tree in position.

Bushes and Pyramids.—Root-pruning is usually best when carried out on two separate occasions, treating one-half of the roots each season, so as not to give too serious a check at one time. This is particularly necessary with old trees, which may have numerous roots of a strong character descending that it is highly desirable to check, but to do all as severely as needful might be ruinous to the subsequent growth.

In commencing operations describe a radius of 3 to 3½ feet from the stem, and outside this proceed to cut a trench, severing all strong roots as found, but preserve all the small and fibrous, turning them on one side, and keep from drying. When a fair sized trench has been dug out the mass must be undermined and drawn slightly over by inclining the tree to the opposite side. This movement will reveal the position of the roots sought for, and they may be cut, including the tap root, as well as others descending straight down. Each root must be cut smoothly across before it is finally left, so that it may have a chance of healing properly, and quickly becoming furnished with fibrous rootlets. Jagged and injured roots do not heal well, sometimes not at all, but eventually die back. Raise the roots a little higher as far as possible, working in some fresh loam with the best of that taken out, compressing all firmly as the roots are spread and covered. Mulch when finished with partially decayed manure an inch thick.

Younger trees may safely be root-pruned entirely round, unless judging by the strength of the growth made it is evident there are many deep roots, when partial root-pruning will be safest.

Cordon Trees.—A slight root-pruning whenever the growth appears to be becoming too strong will check the latter tendency, cutting off all roots beyond the distance of 2 feet 6 inches from the stem. In some cases lifting and replanting might be adopted, but the trees must not be in any degree deficient in fibrous roots to render the operation safe.

Wall Trees.—Horizontally trained wall trees, throwing out very strong foreright shoots may be treated similarly to bushes and pyramids, but the trees must not be moved out of their original position. The perpendicular descending roots should be reached by undermining, and when the root-pruning must be severe only treat half the roots at once.

FRUIT FORCING.

Vines.—*Early Forced in Pots.*—To have Grapes ripe in March the Vines should not be started later than the beginning of November. For this early work strong, short-jointed, plump-budded, thoroughly ripened canes are necessary, and they should be of the early ripening and good forcing varieties, such as White Frontignan, Foster's Seedling, and Black Hamburgh. Madresfield Court also forces well, and is seen to great advantage, either for table or marketing early in the season. The best canes are those from cut-back Vines started early in the year and grown on in plenty of light so as to perfect the growth and wood by the close of July or early in August. This allows for a short period of rest before starting, and whatever may be true about plants not resting from a technical point of view, it is certain that Nature and practice act on this plan beneficially to vegetation and the production of crops. Vines in pots always mark the advantage of bottom heat by starting well. Provided there is a pit about 3 feet deep and 4 feet in width, the pots may be raised on bricks in pillar fashion, so that their rims are slightly higher than the pit edge, and so that the pots will be in the centre of the bed. Leaves of Beech or Oak trees being placed in to fill the pit, a gentle warmth will be afforded, and the roots will pass from the pots into the bed of leaves.

The temperature ought not to exceed 70° at the base of the pots at the commencement, which will afford a uniform heat of about 65° to the roots, that being sufficient until the Vines break and are coming into leaf, when it may be gradually raised to between 70° and 75°. The atmospheric temperature should be maintained at 50° to 55° by artificial means until the buds swell, then gradually raise it to 60° or 65° when they are breaking. Press the canes to a horizontal position to insure the buds starting regularly. Damp the Vines in the morning and afternoon, and the surfaces of the house when they become dry. Water should be given carefully at the roots, not supplying more than sufficient

to keep the soil fairly moist, as a wet soil is not favourable for root-formation and the supply of nourishment, whilst a soddened condition is fatal to the health of the Vines and crop.

Early Forced Planted-out Vines.—Houses that are to be forced to furnish ripe Grapes early in April should be started by the middle of November. It is not desirable, however, to start permanently planted Vines so early, but young canes specially prepared for such work in narrow shallow borders and with bottom heat, as accorded to Cucumbers and Melons, answer admirably, and in the case of Muscats, such as Madresfield Court and Muscat of Alexandria, bring good prices during the London season, or when late Grapes are shrinking, and freshly ripe fruit of high excellence in size, colour, and quality is greatly prized. Early forcing is a great strain on the energies of the Vines through their having to make their growth at the dullest period of the year, and to rest at the hottest. The house, after the pruning the Vines, dressing the wounds with styptic or patent knotting, and the rods with an insecticide or that and a fungicide combined, cleansing thoroughly, should be kept cool and dry.

If permanent Vines, and the roots have the run of outside as well as inside borders, the exposed should be protected, a good covering of dry leaves, with a little litter to prevent their blowing about, is efficient. If spare lights be employed to throw off heavy rains and snow, nothing more need be done to outside borders, and they may not be covered until they have been well moistened by the autumn rains, yet before they become excessively saturated and much reduced in temperature. Where, however, fermenting materials are available and there is a continued supply, they are a great aid to forcing operations, especially for placing inside the house to generate and maintain a genial condition of the atmosphere, without recourse to so much fire heat or sprinklings from the syringe. The materials need not be used until the house is closed, but they will require to be thrown into a heap a week or ten days previously, being turned and moistened, if necessary. Three parts of Oak or Beech leaves to one of stable litter will give a more suitable and durable warmth and genial moisture—ammonia charged—than all dung. Mix the materials well together when thrown into the heap, damping if dry, turning when getting warm, again damping if necessary, and when again warmed through they are fit for placing in the house.

Late Grapes.—These will be thoroughly ripe if they were assisted in the spring and early summer by fire heat, which is much preferable to having to maintain a forcing temperature after October comes in to secure the ripening of the Grapes. In the latter case the temperature must not be less than 70° to 75° in the daytime, and 65° at night, falling 5° through the night, allowing an advance of 80° to 85° from sun heat, continuing this until the fruit is ripe; at least, until the wood is brown and hard. The Grapes being thoroughly ripe—in which state only can the fruit be expected to winter satisfactorily—and the wood well matured, all sprays or laterals may be removed down to the main buds, ventilating freely on all favourable occasions, leaving a little on constantly to prevent a stagnant atmosphere. Fire heat will then only be necessary to prevent the temperature falling below 50°.

To prevent dust settling on the berries raking or sweeping must not be practised. Mats or clean dry straw laid over the inside borders will to some extent prevent evaporation, assist in keeping the atmosphere dry, and prevent the soil cracking. The outside border must be covered if the Grapes are to keep satisfactorily. Glass lights are best, wooden shutters good, and tarpaulin over dry bracken or litter answers well. A thick thatch of straw or bracken is very serviceable. Where the soil is exceptionally well drained Grapes keep well without protection for the outside borders, but some material to exclude frost is desirable, protecting the stems if outside or exposed, with haybands. When borders become soddened and cold the Grapes often damp badly, and when there is too little moisture in the soil they shrivel. Judgment is necessary in these matters.

Melons.—Late plants are bearing and swelling full crops, the weather having been singularly favourable, but now that there has been a change from tropical heat to typical British October weather water must be given very carefully, yet the latest plants must not be allowed to become dry at the roots. Keep up moderate moisture by damping every morning and at closing time, earthing up the plants as required, but a large amount of soil is not required for late Melons. Remove all superfluous growths as they appear, and maintain a temperature of 65° to 70° at night, 70° to 75° by day, up to 85° or 90° with sun. Keep the bottom heat at about 80°. Fruit ripening will be better of a little extra heat and a circulation of air constantly; a dry state at the roots, but not so as to cause the leaves to flag, accelerates the ripening process. To insure quality at this season—indeed, at any time—the foliage must be kept thin, all superfluous laterals being cut out, so as to afford the principal leaves the benefit of the autumn.

In manure-heated pits and frames no water will be required after this. Keep the frames well lined, admitting a little air constantly, which, with the fruit raised well above the surface of the bed, will do much to impart flavour. Any fruit it is wished to keep for a time should be cut when changing for ripening, with a good portion of stem, and be kept in a dry, airy room or house; if wanted to ripen at once they may be placed in a warm house in the full sun, and they then ripen better than in frames or pits devoid of artificial heat; and although they may not be as full flavoured as those ripened on the plants in a good heat, they are welcome additions to the dessert. Artificial heat is absolutely necessary to complete the ripening of Melons at this time of year, and where it cannot be given to the frames, and the fruit is full grown, it should be cut as described above, and ripened in a place that is warm and dry.

Pines.—*Plants Showing Fruit.*—These will supply fruit when it is scarce and dear, therefore such plants should be afforded the best positions in the fruiting department. Maintain a temperature of 70° at night, 75° artificially by day, up to 85° or 90° with sun, closing at 85°, sprinkling the paths when their surfaces become dry, and occasionally bedewing the plants on fine afternoons. Keep the bottom heat steady at 85° to 90°. Examine the plants once a week for water, and if any require it afford a copious supply of clear liquid manure at about the same temperature as the beds. Care must be taken not to overwater the fruiters, as that has a tendency to cause the fruits when cut to be black at the centres.

Plants to Fruit Early.—Queens are the best for this purpose, but there is not always a certainty of their doing so unless they are given a period of comparative rest after making good growth. Plants intended to show fruit early in the year should be kept in a temperature of about 65° in the daytime by artificial means, 60° at night, ventilating at 70°, allowing the bottom heat to fall to 70°. Water the plants only when necessary, but do not allow them to become so dry as to cause the foliage to become limp.

Young Plants.—All young plants should now be arranged so as to obtain the fullest benefit from light and air. As the sun diminishes in power a corresponding diminution of temperature must take place at night until it reaches the winter standard of 55° to 60° at night and 65° in the daytime. Ventilate freely whenever conditions are favourable, paying particular attention to watering. Examine the plants once a week, and whenever one needs water supply copiously at about the same temperature as the bed.

Cucumbers.—The young plants that are to afford a supply of fruit about the new year—they now being strong, healthy, and well rooted in pots—should be placed out on ridges or hillocks, training with a single stem to the trellis, up which they may be allowed to advance about two-thirds, when the lead may be pinched. Those not having the convenience of a Cucumber house may secure fair supplies of winter fruit by growing the plants in pots or boxes, training the growths near the glass over the paths in stoves, fruiting Pine houses, or other well-heated structures.

Plants in full bearing, as the autumn fruited now are, should not be overcropped, or the fruit allowed to remain on the plants after it is fit to cut, removing all deformed fruit in a young state. Sudden checks should be avoided, such as those occasioned by currents of cold air, and the alternated drying and steaming of the atmosphere by irregular procedure, as these are responsible for stunted irregular swelling fruit, whilst a too moist and close atmosphere causes the fruit to damp at the blossom ends. Maintain a night temperature of 65° to 70°, 5° less in the morning, 75° by day, up to 85° or 90° with sun, admitting a little air at the top of the house at every favourable opportunity. The evaporation troughs should still be charged with water or clear liquid manure, and the floor damped with water about 8 A.M. and 4 P.M., dispensing with the syringe over the plants. Reduce the supply of water at the roots, but not so much as to cause flagging.

A little manure, such as sweetened horse droppings or well decayed lumpy farmyard material, will benefit the plants through the waterings washing the elements into the soil and the moderate amount of ammonia given off, but this must not be excessive or the foliage will be injured. Keep the foliage thin and the glass clear, so as to secure thoroughly solidified growth. Subdue canker by rubbing quicklime into the affected parts, and keep mildew under subjection by dustings of sulphur or the blight powders advertised. Fumigate with tobacco or vaporise with nicotine for the destruction of aphides, which are unusually prevalent this season, also against thrips, and if there be any mealy bug it succumbs to nicotine vapour.

THE FLOWER GARDEN.

Breaking up the Beds.—It is not often the flower beds and borders remain in such a gay state as they were up to the end of September. Some kinds of plants, notably Tuberous Begonias, actually wanted rain, and since it has fallen they have rallied considerably. These, Dahlias, Zonal Pelargoniums, Calceolarias, and such like may well be left where they are, unless presenting an unsightly appearance, as a moderate amount of frost will do them no harm. Anything of a tender nature that it is desirable should be kept through the winter ought to be lifted and placed in pots or boxes before they are crippled by frosts. The more delicate of the Palms and Dracenas, with the Musas and other sub-tropical plants used about the lawns and shrubberies, should also be housed without any further delay. If the beds are not to be replanted they ought to be cleared of the coarsest rubbish, and then laid up roughly, yet neatly, for the winter. Unless it be intended to manure the ground for Wallflowers, Silenes, and other hungry-rooted spring-flowering plants the beds need not be redug prior to refilling.

Begonias, Dahlias, Cannas, and Gladioli.—When the tops of Begonias either die down naturally or are cut down by frosts there should be no further delay in lifting, drying, and storing of the roots. Leave a small quantity of soil about the Begonia tubers and place thinly in a dry open shed or empty vinery. When the tops fall away the time has arrived for storing the tubers. Where seed Potatoes are kept in a good place for storing them, packing closely together in a single layer on either boards or in shallow trays. Dahlias should have their stems shortened to a length of 9 inches, much of the soil removed from the tubers, and be then placed stalk downwards. Later on they ought to be stored in a shed or cool dry cellar, covering the roots with fine soil or sand and protecting from severe frosts as need be. Cannas must be

lifted with a little soil about the roots, also shortening the tops to a length of 6 inches, and when dried somewhat store just as they are—that is to say, without any covering of soil in a dry place where the temperature does not often reach freezing point. If stored under a greenhouse staging drip must be warded off or many roots will perish. Lift the choicer Gladioli corms, taking care of the tiny offsets, storing these in sand, shorten their tops to a length of 6 inches, dry or harvest thoroughly, and then store in boxes and sand. If placed in the potting or other sheds protect from severe frosts.

Late Propagating.—It is not yet too late to put in cuttings of Violas, Calceolarias, Pentstemons, and Antirrhinums. Select the short flowerless shoots, duly shorten to a joint, and trim, and before they flag badly dibble them in rather thickly in a shallow bed, in a frame or pit, surfacing over with 4 inches of fine sandy soil. Water in and keep somewhat close, shading from very bright sunshine. They may not root till next spring, but not many of them will fail altogether. Propagating Zonal Pelargoniums is frequently unduly delayed. Any put in late succeed best when placed thickly in 5-inch pots and stood on shelves near to the glass. Only enough water should be given to prevent them from shrivelling badly, as if kept on the moist side during the next month or two the greater part will decay.

THE BEE-KEEPER.

APIARIAN NOTES.

SEASONABLE NOTES.

It is advisable about the end of this month to give each hive several pounds of sugar, whether they be in need of it or not. Good sugar is the best of winter food, while the late feeding causes the bees to fly when they have an airing and clean themselves. It also acts beneficially on the interior of the hive, and the bees after it are in a better position and condition than they were previously. In little over two months they will begin breeding, which keeps them in better health during severe weather than those which do not begin till much later.

After hives are covered and arranged for the winter make no alteration whatever in their appearance or wrappings. All my stocks have their entrances reduced to about an inch, and beyond allowing ventilation above, I keep the permeable covering above the frames close to them, and on no pretext whatever have a hollow between the frames and covering.

CHLORIC DROPSICAL FEVER.

All my hives at the present time appear to be rid of this troublesome disease. One succumbed to it at the moors, but all the others appear healthy. There were signs of it in several hives after I brought them from the Heather, but since I saturated part of the hives with a preparation of sulphur it has entirely disappeared. One, a remarkable case, was of a stock hive, whose queen appeared to be unfertilised until the late fine weather. The disease attacked this hive about the middle of September, and left it about the end. The diseased bees were the offspring of the queen of the prime swarm, which were not attacked, and are healthy, in my opinion giving us no alternative to think otherwise than the disease must spring from one or other of the following causes:—Either the ova becomes affected at certain periods, or there is something in the honey, pollen, or water accessible to by the bees.

SITE.

Fine ashes spread in front of the hives, or the ground frequently raked, and sloping so as to carry off the water, is desirable. By paying proper attention to that and other little matters of a like nature about the time bees are expected to take their first flight, many will be saved from premature death and hives will not dwindle, as those uncared for would probably do.

I still continue to grow Arabis in front of my hives; it affords safe resting places for bees, while it affords both pollen and honey in the early spring. Bees somehow, from the woolly nature of the foliage of the Arabis, can withstand a good deal of cold when they creep on the under side of the leaf. I have witnessed them repeatedly, when the sun shone out, rise from it and fly to their hive, after being exposed to several degrees of frost during the night.

THE HONEY YIELD AND DISTRIBUTION.

The yield of Heather honey in many parts of the country has been an entire failure, but apparently not in all, as I have one letter from the Midlands which speaks of much Heather honey. I have often advocated some system of co-operation amongst bee-keepers for their mutual advantage, but they seem slow to adopt any measure which would ultimately do them good. A widow, who

manages her hives with the help of her daughter, had this year a quantity of first-class Clover honey, for which several merchants offered her 3d. per pound. It was ultimately sold at 5d.—a figure far too low for bee-keeping to be a paying concern in this country. —A LANARKSHIRE BEE-KEEPER.

STARTING BEE-KEEPING.

BEE-KEEPERS who keep numerous colonies of bees, and are known to devote much attention to their requirements and general welfare, are often consulted by members, and would-be members of the craft, as to the best time of year to start breeding. What breed of bees are the best? which are the best hives? and numerous other questions, all tending to show the interest that is taken in this pastime.

Through various causes many stocks were lost during the severe weather experienced last winter. In many instances it was the extreme cold that was blamed, whereas in nine cases out of ten it was shortness of stores, badly ventilated hives, or leaky roofs, that was the cause of so many losses. Now is the time to guard against similar mishaps in the future by seeing that all stocks are well provided with stores, and it should be kept in mind that it is better to err on the safe side by giving too much than too little. See that all roofs are sound and in good condition, and if previous instructions have been carried out the majority of stocks will be strong and healthy in the spring.

WHEN TO COMMENCE BEE-KEEPING.

Either autumn or spring is a suitable time to make a start, but by obtaining bees now there is always a certain amount of risk, such as queenlessness, and various causes from which bees die; whereas if a start is not made till spring, and a stock is then obtained, there is much less risk, though the price would be proportionally higher for a good stock. A commencement might also be made by purchasing an early swarm, but that would cost as much as a good stock in the autumn; and from the latter three or more good stocks could be obtained the first season, whereas only one colony would be obtained from a swarm.

Making an allowance for all risks, I prefer the autumn to spring; and if ordinary care is taken in selecting a stock of bees at this time of the year, no fear need be entertained as to the result. For this purpose I prefer bees in straw skeps, which can still be obtained in most country districts, and should weigh—including bees, stores, and skep—from 20 to 30 lbs. These, if protected from the rough weather and rain, invariably winter well, and come out strong in the spring. Care should be taken to have a colony headed by a young fertile queen, which can easily be ascertained by selecting a last year's stock that has swarmed this year, or a cast (or second swarm). These will both be headed by queens reared this season, and being reared in strong colonies are usually very prolific.

The stock should be examined by lifting it off the board, having previously blown in a few puffs of smoke to drive the bees down between the combs, which should be well covered with bees, and if in good condition for wintering two or three of the outer combs will be found to be full of sealed stores; but the weight of the hive will be a good criterion to go by. Preference should be given to those having straight combs, as they will be much better for transferring into frame hives, if required for that purpose.

From a stock of this description an early swarm will be obtained that may be placed in a frame hive, which is far in advance of the straw skep for honey production, and twenty-one days afterwards the combs and bees from straw skeps may, if desired, be transferred to a frame hive. If a start is not made till spring the same care should be taken in selecting stock, which never ought to be obtained except from a healthy neighbourhood, as in some parts of the country foul brood is still making great headway.

It is very discouraging to a poor man when he has invested what to him is a large sum in procuring a stock of bees, to be told within a few weeks of purchasing that they are badly affected with foul brood, and that they must be destroyed. A case in point has lately come under my notice in which a station master was induced to commence bee-keeping during the summer of 1894, and commissioned an expert (?) to buy a stock of bees in a frame hive, which was done and passed as healthy, but within two months the same expert (?) condemned them as being badly affected with foul brood. He undertook to cure them, and took the stock away for the purpose. The bees, however, died; the hive was destroyed, and the would-be bee-keeper is now minus both bees and hive. —AN ENGLISH BEE-KEEPER.

TRADE CATALOGUE RECEIVED.

C. R. Shilling, Hartley Street, Winchfield.—*Bulbous Flowering Roots.*



All correspondence should be directed either to "THE EDITOR" or to "THE PUBLISHER." Letters addressed to Dr. Hogg or members of the staff often remain unopened unavoidably. We request that no one will write privately to any of our correspondents, as doing so subjects them to unjustifiable trouble and expense.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Bee subjects, and should never send more than two or three questions at once. All articles intended for insertion should be written on one side of the paper only. We cannot reply to questions through the post, and we do not undertake to return rejected communications.

Diseased Gladioli (W. B.).—The corms shall be examined and referred to in a future issue.

Book on Orchids (H. T.).—The book on Orchids most likely to meet your requirements is "The Amateur Orchid Cultivator's Guide Book," by H. A. Burberry, and published by Messrs. Blake & Mackenzie, publishers, Liverpool, at a price of 5s.

Seedling Pansies (J. G.).—The flowers arrived more or less withered, and the petals curled. One or two of them are sufficiently attractive for growing in borders, but they are far below the florist's standard of merit, and possess no commercial value.

Helenium autumnale striatum (Somerset).—According to the experience of Mr. S. Arnott, the above is the correct name of the plant sometimes sold under the name of *H. grandicephalum striatum*. Read what this expert says in reference to this variety on page 266 of the Journal for September 19th.

Sulphate of Iron for Apple Trees Inclined to Canker (E. D. O.).—Sulphate of iron may be applied at the rate of a quarter of an ounce per square yard, half a pound per rod, or three-quarters of a cwt. per acre, and is best applied in the early spring when growth commences in the buds or a little before, always when the ground is thoroughly damp. This has a decidedly beneficial effect on Apple tree growth by supplying available iron, but it will not make up for deficiencies in other respects, and it is better to give a good all-round chemical manure, such as those advertised, specially for fruit trees in the early spring, or when the buds give the slightest signs of development, spreading from the stem outward a foot beyond the spread of the branches, and leave for the rain to wash in. The particular variety you name does best on the English Paradise stock, with the roots near the surface and the ground over them mulched with about an inch thickness of short manure. The variety also requires a warm soil, and that may account for the liability to canker, but certainly not to mildew, except in a dry season, such as the present and 1893. Sulphur will kill it, also anti-blight, Fostite, and other advertised fungicides. It would be advisable to lift the trees, and place the roots near the surface. This, however, must be done carefully if the trees are on Crab stock and have been planted some time, in which case it would be better to operate on half the roots one year and the other the next, and not until the leaves commence falling.

Gros Colman versus Gros Colmar (Inquirer).—We have frequently expressed our opinion that the first name is the more correct. If this variety of Grape were of French origin, or had been extensively grown at or near Colmar for generations anterior to its introduction into this country, then we should not quarrel with the name of Gros Colmar—nor, indeed, do we quarrel with it now, but regard the name as a synonym of Gros Kölner, a Grape that has long been grown in Germany, and thence found its way to France. If the Grape now grown in England is not identical with what may be termed the original Gros Kölner, we regard it as a varietal form, in the same way as we have differing forms of Black Hamburgh. The late Mr. Rivers introduced this Grape from France many years ago, but subsequently discarded it, because it would not succeed with him under the Black Hamburgh treatment. It was introduced again by the late Mr. Standish from Angers. The original name became corrupted, as names will, and they have often been changed by the obscure writing or misreading of a label. In cases of doubtful plant nomenclature priority of publication is the determining point, assuming the name to have been adopted by a good authority or specialist. The first trace that Dr. Hogg, after much research, found of this Grape in Western Europe it was under the name of Gros Colman, in De Bavay's catalogue in 1852, and three years afterwards it was printed in another catalogue as Gros Colmar. The best modern evidence we have of Gros Colman being the more correct rendering is the fact that it is employed in a large and very beautiful new German work on the Vine by R. Goethe Geisemheim. As this German author would not be likely to adopt an incorrect name for what for cultural purposes, may be described as a German Grape, we must continue to give the name Gros Colman priority over Gros Colmar.

Forming a Privet Hedge (Nemo).—Dig or trench the ground fully a yard wide, mixing with the soil some well-decayed manure. Plant in November bushy specimens of the evergreen variety with good roots 6 inches apart. Cut it down in spring to within 6 inches of the ground when the buds begin swelling, trimming in the sides. This will cause the plants to branch freely and become dense at the base. Trim the sides a little in August; in fact, cut them back so as to form a base of not more than 9 to 12 inches width, slightly tapering upwards, and in September cut off the top, the mere tops only, so as to form an even height. This will be determined by the lowest parts, which will probably be 18 to 24 inches high. The following year the hedge will advance rapidly, and may be treated as in the previous year, when a hedge will be had about a yard high, but it is well not to let it grow too tall without heading, otherwise it will be weak. About a foot in height is sufficient to gain in each year after the first up to a height of 3 feet, and then 6 inches gain each year until it is of the height required. A hedge may be had quicker by planting bushy plants 2 to 3 feet apart, merely trimming in their irregular side and top growths.

Aotus villosa (Young Gardener).—This is an extremely beautiful New Holland plant that should find a place in every hardwood collection. It is an attractive, compact, much-branched shrub. The flowers (fig. 57) are bright canary yellow, the standard streaked with



FIG. 57.—AOTUS VILLOSA.

crimson lines. It blooms in May and June. *A. gracillima* is a slender, graceful species with bright yellow flowers, which are produced in such profusion as to entirely hide the leaves, leaving the slender stems like long racemes of flowers. Both plants invariably delight those who see them in good condition. They succeed well in peat and loam in equal parts with a good portion of sand added.

Malmalson Carnation Infested with Rust Fungus (B. Bros).—The Carnation shoot is badly affected with rust fungus (*Uromyces caryophyllinus*), which first appears on the leaf or stem as a slight swelling one-eighth of an inch long and nearly as broad. The surface of the swelling soon becomes pale or nearly colourless, as the green colouring matter (chlorophyll) at that point is destroyed and obscured by the crowded fruiting threads and young spores of the fungus. As the fungus matures the reproductive bodies become brownish in colour, hence the term "rust," and breaking through the epidermis the spores are scattered far and wide, often covering the affected plant or plants with a rust-like powder—the rather large micro-organisms, which are capable individually of producing one spot and its many spores on a Carnation plant. The rust is the most serious fungus disease of Carnations, so much so that some, in their distraction, advise destroying all affected plants, remove the soil and disinfect the surroundings. It certainly is a cure for the time being, and it must be said a great loss to the owner. Get some Condy's fluid from a druggist and dilute it with soft water to a rose colour or about one-half, and spray the plants in every part, not missing a thousandth part of an inch with it, but give most attention to the affected plants both under side and upper side. The work may be quickly done with the pneumatic sprayer, worked by the thumb and two forefingers. Repeat in the course of three or four days, then at intervals of ten or fifteen days, and you will find the enemy vanquished all along the line; but remember that the work must be done in a thorough manner. If you sponge the worst plants all the better, using the solution named. Also give the plants a pinch of common salt, about a quarter of a teaspoonful to a 6-inch pot, and water on this about every three weeks or month, not oftener, and not on the collar.

Names of Fruits.—Notice.—We have pleasure in naming good typical fruits (when the names are discoverable) for the convenience of regular subscribers, who are the growers of such fruit, and not collectors of specimens from non-subscribers. This latter procedure is wholly irregular, and we trust that none of our readers will allow

themselves to be made the mediums in infringing our rules. Special attention is directed to the following decision, the object of which is to discourage the growth of inferior and promote the culture of superior varieties. *In consequence of the large number of worthless Apples and Pears sent to this office to be named, it has been decided to name only specimens and varieties of approved merit, and to reject the inferior, which are not worth sending or growing.* The names and addresses of senders of fruit to be named must in all cases be enclosed with the specimens, whether letters referring to the fruit are sent by post or not. The names are not necessarily required for publication, initials sufficing for that. Only six specimens can be named at once, and any beyond that number cannot be preserved. *They should be sent on the first indication of change towards ripening. Dessert Pears cannot be named in a hard green state.* (W. Carr).—1, Beurré Diel; 2, Pitmaston Duchess; 3, Doyenné Boussoch; 5, Warner's King; the other Pears are hard and green; see instructions above. (F. J. G.).—36, Brown Beurré; 38, Beurré d'Amanlis; 74, Autumn Bergamot; 80, doubtful, decayed in the centre; 87, Beurré Bosc. (H. L.).—Too hard; see rules above. (A. M. C.).—1, An inferior fruit of King of the Pippins; 2, Devonshire Queen; 3, resembles a Ribston Pippin from a starved tree. (Quill).—Not known, probably one of the many local Lancashire Apples. (H. B.).—1, Fondante Van Mons; 2, not known, probably local; 3, very much resembles Beauty of Stoke; 4, Stirling Castle; 5, imperfect, perhaps Ecklinville; 6, Devonshire Queen. (G. H. D.).—All the Apples sent are imperfect, two of them without stalks; 1, Hornead Pearmain; the others not known, perhaps local, and of no value. (F. C. G.).—We suspect that very few of your ancient Apples ever had any generally recognised names. There are hundreds which have been raised from pips in Ireland that can never had other than local names, and the majority of varieties so raised are worthless. 1, resembles Kentish Fillbasket; 2, Cellini; 3, Hall Door; 4, Nonesuch. The numbers had slipped off more than half the fruits. You are wise in planting approved varieties. (E. J. B.).—The Apple is a small fruit of Alexander; the Pears are hard; read note above. (G. W. C.).—1, London Pippin; 2, Yorkshire Greening; 3, Nonpareil; 4 and 5, similar, and resemble the Blenheim Pippin grown in clay soil; 6, Winter Greening, late and useful. You will err by cutting many roots of the old tree. Better make holes with a crowbar here and there as far as the branches extend, and fill them twice or thrice with liquid manure, then with fresh soil. This may be done now. (A. H. L.).—1, Fondante d'Automne; 2, entirely too hard; 3, Beurré Diel; 4, French Crab; 5, Reinette Grise; 6, Yorkshire Beauty or Counsellor. (A. B.).—The fruits are too hard for anyone to name with certainty. The Apples appear very much like local seedlings.

Names of Plants.—We only undertake to name species of plants, not varieties that have originated from seeds and termed florists' flowers. Flowering specimens are necessary of flowering plants, and Fern fronds should bear spores. Specimens should arrive in a fresh state in firm boxes. Slightly damp moss, soft green grass, or leaves form the best packing, dry wool the worst. Not more than six specimens can be named at once, and the numbers should be visible without untying the ligatures, it being often difficult to separate them when the paper is damp. (G. E. N.).—We cannot determine the name of your specimen, despite close examination. Send when in flower, and we will give it further attention. (M. H. S.).—*Atropa belladonna*, the Deadly Nightshade. (A. E. C.).—1, *Aster Amellus bessarabicus*. Dahlias are florists' flowers, that can only be named by comparison in a large collection. (Orchidist).—The flowers sent were all dead; send fresh specimens, packed in damp moss.

COVENT GARDEN MARKET.—OCTOBER 9TH.

FRUIT.

	s.	d.	s.	d.		s.	d.	s.	d.		
Apples, per bushel	1	3	to	3	0	Filberts, per 100 lbs.	35	0	to	0	0
" Nova Scotia, per						Grapes, per lb.	0	6		1	6
barrel.. ..	0	0		0	0	Lemons, case	10	0		15	0
" Tasmanian, per						Peaches, per dozen	1	0			0
case	0	0		0	0	Plums, per half sieve	2	6		4	6
Cobs, per 100 lbs.	35	0		40	0	St. Michael Pines, each	2	0		6	0

VEGETABLES.

	s.	d.		s.	d.		s.	d.	s.	d.
Beans, per bushe	1	0	to	2	0	Mustard and Cress, punnet	0	2	0	0
Beet, Red, dozen	1	0		0	0	Onions, bushel	3	6	4	0
Carrots, bunch	0	3		0	4	Parsley, dozen bunches ..	2	0	3	0
Cauliflowers, dozen	3	0		6	0	Parsnips, dozen	1	0	0	6
Celery, bundle	1	0		1	3	Potatoes, per cwt.	2	0	4	0
Coleworts, dozen bunches	2	0		4	0	Salsafy, bundle	1	0	1	6
Cucumbers, dozen	0	9		1	6	Seakale, per basket	0	0	0	0
Endive, dozen	1	3		1	6	Scorzoneria, bundle	1	6	0	0
Herbs, bunch	0	3		0	0	Shallots, per lb.	0	3	0	0
Leeks, bunch	0	2		0	0	Spinach, bushel	1	0	1	6
Lettuce, dozen	0	9		1	6	Tomatoes, per lb.	0	3	0	4
Mushrooms, punnet	0	9		1	0	Turnips, bunch	0	3	0	0

PLANTS IN POTS.

	s.	d.	s.	d.		s.	d.	s.	d.		
Arbor Vitæ (golden) dozen	6	0	to	12	0	Ferns (small) per hundred	4	0	to	6	0
Aspidistra, dozen	18	0		36	0	Ficus elastica, each	1	0		7	0
Aspidistra, specimen plant	5	0		10	6	Foliage plants, var. each	2	0		10	0
Chrysanthemums, per doz	6	0		18	0	Heliotrope, per dozen ..	4	0		6	0
Coleus, per doz.	2	6		4	0	Lilium lancifolium, 12 pots	12	0		18	0
Dracæna, various, dozen ..	12	0		30	0	Lycopodiums, dozen	3	0		4	0
Dracæna viridis, dozen ..	9	0		18	0	Marguerite Daisy, dozen ..	6	0		9	0
Ericas, various, per dozen .		0		24	0	Yellow ..	9	0		18	0
Euonymus, var., dozen ..	6	0		18	0	Myrtles, dozen	6	0		9	0
Evergreens, in var., dozen	6	0		24	0	Palms, in var., each	1	0		15	0
Ferns in variety, dozen ..	4	0		18	0	" (specimens)	21	0		63	0

AVERAGE WHOLESALE PRICES.—OUT FLOWERS.—Orchid Blooms in variety.

	s.	d.	s.	d.		s.	d.	s.	d.
Arum Lilies, 12 blooms ..	4	0	to	6	0	Marguerites, 12 bunches ..	1	6	to 3 0
Asparagus Fern, per bunch	2	0		4	0	Orchids, various, dozen			
Asters (English) doz. bchs.	2	0		4	0	blooms	1	6	18 0
Bouvardias, bunch	0	6		1	0	Pansies, various, dozen			
Carnations, 12 blooms ..	1	0		3	0	bunches	1	0	2 0
dozen bunches ..	4	0		8	0	Peas, Sweet, doz. bunches ..	1	6	3 0
Chrysanthemum, dozen						Pelargoniums, 12 bunches	4	0	9 0
blooms ..	1	0		4	0	Primula (double), doz. spys.	0	6	1 0
doz. bunches	3	0		6	0	Roses (indoor), dozen ..	1	0	2 0
Dahlias, dozen bunches ..	2	0		4	0	dozen ..	1	0	2 0
Eucharis, dozen	1	6		2	6	Tea, white, dozen ..	1	0	2 0
Gaillardias, doz. bunches ..	1	0		2	0	Yellow, dozen (Niels)	3	0	6 0
Gardenias, dozen	2	0		3	0	Safrano (English),			
Geranium, scarlet, doz.						dozen	1	0	2 0
bunches	4	0		6	0	Yellow, dozen blooms	0	6	0 9
Lilac (French) per bunch	4	0		5	0	Red, dozen bunches ..	1	0	1 6
Lilium lancifolium, twelve						various, doz. bunches	4	0	8 0
blooms	1	6		2	6	Smilax, per bunch	2	6	4 0
longiflorum, 12 blooms	3	6		4	0	Stephanotis, dozen sprays	2	0	4 0
Lily of the Valley, dozen						Sunflowers (small) dozen			
sprays	1	0		2	0	bunches	2	0	3 0
Maidenhair Fern, doz. bchs.	4	0		6	0	Tuberose, 12 blooms ..	0	2	0 4
						Violets, dozen bunches ..	1	6	2 0

pasture was not taken into account. Wherever sheepfolds were not used there was a full dressing of chemical manure.

For the last few years that farm has been in the hands of a tenant who threw away a fine chance, by taking what he could out of the land, giving nothing like an equivalent back. He left it under notice this Michaelmas. The farm is now vacant, the land being so exhausted and foul, and in such ill repute, that a tenant cannot be found for it. It may appear that the free use of manure was extravagant; it was not. The quantity of manure was regulated year by year strictly according to the crops taken.

As an extreme case we may take green Maize, which yields such a marvellous crop in rich land. The soil was naturally poor and thin, with very little primary fertility, and after a heavy crop it was necessary to give a full dressing of manure to bring the land up to our standard of fertility again. It was undoubtedly this tentative treatment that told so well, and prevented anything like soil exhaustion.

(To be continued.)

WORK ON THE HOME FARM.

A change has come, the tropical heat of the last days of September is over, with October has come storm and tempest and a rapid fall of temperature. The hedgerows and woods are brilliant with the many colours of the dying foliage, some of which is already flying before the gusty winds. Autumn is on us, winter will soon be here, let us prepare for it. An excellent crop of Potatoes is fast being lifted, Carrots will come next, and then the Mangolds, which will do very little more good on the land now. Get them into the root house or heaps as soon as possible, while the land is firm and carting is easily done, so as to do the work quickly and well. The clearance of root crops is often delayed by adverse weather, because the work is put off so late that frost and heavy rain is on us; our hands are tied, we have to wait on the weather, and the work at best goes heavily and slowly.

Fearfully has the dry hot weather told on pastures in Northamptonshire and Leicestershire. Of course it is the poor pastures that have suffered most, and graziers have been at their wit's end for food. No greater contrast to this can be found than that of the rich alluvial soil in Derbyshire dales, where the pasture herbage is wonderfully rich and abundant just now.

Very much progress has been made generally with the autumn tillage of arable land, and much good work may be done yet. At the very latest nothing should be left for the new year, for we so often have a total change in the weather in January, and when, as early this year, the land is locked up by snow and frost for upwards of two months, we may well do our best while the weather is open and the land fairly dry. Rye, Italian Rye Grass, and the early sown Wheat and Oats are now well above the surface. To anyone who has not sown Rye, and yet wants an early green crop, we say sow at once; we know it is rather late, but the crop will be useful if the land is fertile; if it is poor growth is certain to be backward in the spring.

METEOROLOGICAL OBSERVATIONS.

CAMDEN SQUARE, LONDON.

Lat. 51° 32' 40" N.; Long. 0° 8' 0" W.; Altitude 111 feet.

DATE.	9 A.M.					IN THE DAY.				Rain.
1895. September and October.	Barometer at 32°, and Sea Level.	Hygrometer.		Direction of Wind.	Temp. of soil at 1 foot.	Shade Tem- perature.		Radiation Temperature		
		Dry.	Wet.			Max.	Min.	In Sun.	On Grass.	
	Inchs.	deg.	deg.		deg.	deg.	deg.	deg.	Inchs.	
Sunday .. 29	30.231	63.9	61.3	N.E.	59.7	77.1	55.2	110.7	47.0	—
Monday .. 30	30.071	57.9	57.8	N.E.	59.3	77.6	54.0	109.1	44.6	—
Tuesday .. 1	29.800	65.2	60.9	N.E.	59.2	74.4	53.7	111.9	45.1	0.196
Wednesday .. 2	29.458	53.4	49.9	W.	59.8	59.7	53.1	103.7	50.4	—
Thursday .. 3	29.496	48.4	45.6	S.	56.9	65.1	3.1	98.7	32.6	0.189
Friday .. 4	29.406	53.0	48.6	W.	56.0	61.7	47.9	102.1	44.1	0.082
Saturday .. 5	29.327	52.4	49.9	S.	54.1	59.7	36.1	81.7	29.2	1.141
	29.756	56.3	53.4		57.9	67.9	48.4	102.3	41.9	1.608

REMARKS.

29th.—Bright sunshine all day, misty early and in evening.

30th.—Cloudy and misty early, bright sunshine from about 10 A.M.

1st.—Overcast early, and occasionally cloudy during the day; slight showers in the evening.

2nd.—Rain from 2 A.M. to 7 A.M., and almost cloudless afternoon, high wind at night.

3rd.—South-west gale all day; rainy morning, sunny afternoon, slight showers in evening.

4th.—Gale from 2 A.M. to 6 A.M., high wind and alternate cloud and sunshine after, but heavy rain from 1.30 to 2 P.M.

5th.—Generally dull, slight rain at 1.30 P.M., and rain in afternoon and evening. Very heavy rain after midnight.

Much cooler in the latter part of the week, with slight grass frost on Saturday, but not sufficiently so to prevent the mean for the week being considerably above the average.—G. J. SYMONS.



ASPECTS OF HOME FARMING.

THE positive assertion that home farms are costly playthings which never answer, made to us by the owner of an estate in the midlands, was so opposed to the results of our own experience that we were led to inquire why he was so positive, and if his conclusions were based on anything like a practical knowledge of the matter. It proved that he had never given home farming a fair trial, and that his very unsound deductions were based on what he had seen and heard of the home farm of a friend of his.

Now, we happened to have made rather a critical inspection of this particular farm, and we knew that it was indeed nothing more than an outcome of a rich man's fancy—a toy, on which money had been squandered in such reckless fashion as to place it altogether outside the lines of sound practical farming. Buildings of dressed stone on a palatial scale, pedigree stock purchased at fancy prices, a herd of cows four or five times larger than necessary for the household requirements, fields enclosed with expensive iron fences, outer boundaries of ornamental stone walls, and everything else on an extravagant scale. This is an aspect of home farming which for practical purposes we should place in the same category as a neglected farm, where nothing is well done. Each class of farm representing an extreme to be avoided, because they are alike extravagant—one in its waste of money, the other in the deplorable losses from foul land and neglected live stock.

Let us turn to another and more practical view of this important matter—important in its lesson of economy, in its admirable fitness for the legitimate purpose of a home farm—the supply of a large household with farm produce of the highest quality. The annual balance sheets afforded ample proof how profitable the farm was. Only wholesale market prices were charged against all produce sent to the house; what was really a high rent had to be forthcoming; there was an annual valuation of farm stock, due allowance being made for wear and tear in implements, for age and disease in live stock, and a liberal interest was allowed on capital invested in the concern, beyond which it was the policy of the squire to press for a wider margin of profit every year.

Sheep-folding was the mainstay on this productive farm both for pasture and arable land, next to it came chemical manure, always in well balanced proportion. Farmyard manure was always used for root crops, supplemented by chemical manure. Animal excreta from cattle or sheep turned out on



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Journal of Horticulture.

THURSDAY, OCTOBER 17, 1895.

ROSE ANALYSIS.

1886—1895.

THE last metropolitan exhibition of the National Rose Society, which was held at the Crystal Palace on July 6th, was not nearly so extensive as several which have preceded it. Indeed, with the exception of 1893, another very dry and forward season, there were fewer blooms staged than at any similar show for eight years. No doubt the two principal reasons why Roses were not more largely shown this year were the loss of plants through the severity of the previous winter, and the drought and forcing weather which followed. For the Rose season of 1895 be it remembered was a remarkably early one, so early that in the warmest parts of our islands many varieties were out of flower before the date of the Crystal Palace exhibition.

As our analysis, however, only takes into account the flowers set up in the prize stands the extent of a show seldom affects the number of Roses tabulated. This year the names of 1140 Hybrid Perpetuals and 674 Teas were taken down, or about the average number for their respective sections. Ten years have now elapsed since the first of this series of analyses appeared in the *Journal of Horticulture*, and during that decade the names of nearly 18,000 Rose blooms have been classified and arranged to assist in their preparation.

Mrs. John Laing again stands head and shoulders above all other varieties in the list of Hybrid Perpetuals as an exhibition flower, and at present there appears no prospect of any other H.P. entering the lists in serious rivalry against it. The records of this grand English Rose for the last four years have not only been in advance of those of all other varieties, but are also surprisingly consistent, the number of prize stands in which it appeared ranging only between forty-seven in 1893 and fifty-one in 1894 and 1895. As might have been anticipated from the forward character of the past summer the later flowering sorts were, as a rule, most favoured at the last exhibition. Now this, as it happens, is a fortunate circumstance for the present analysis, for during the ten years covered by it there have been, I find, four early, four late, and two average Rose seasons. Her Majesty, S. M. Rodocanachi, Prince Arthur, Heinrich

Schultheis, Duchess of Bedford, Duchesse de Morny, and Duke of Connaught, have never before been as often staged at "the National;" while Alfred Colomb, Horace Vernet, Fisher Holmes,

and Charles Darwin, have at only one previous show been as frequently exhibited, and Baroness Rothschild, Earl of Dufferin, Louis Van Houtte, and Countess of Rosebery, only twice before.

HYBRID PERPETUALS.

Position in Present Analysis.	Average Number of Times Shown.	No. of Times Shown in 1895 in True Relative Proportion to the Average.	Name.	Date of Introduction.	Raiser's or Introducer's Name.	Colour.
1	49.8	51	Mrs. John Laing	1887	Bennett	Rosy pink
2	36.6	24	Madame Gabriel Luizet	1877	Liabaud	Light silvery pink
3	35.7	20	La France (H.T.)	1867	Guillot	Silvery rose, shaded lilac
4	35.0	33	Ulrich Brunner	1881	Levet	Cherry red
5	34.1	33	A. K. Williams	1877	Schwartz	Bright carmine red
6	31.7	33	Marie Baumann	1863	Baumann	Soft carmine red
7	27.3	41	Her Majesty	1885	Bennett	Pale rose
8	25.4	33	Alfred Colomb	1865	Lacharme	Bright carmine red
9	24.8	28	Charles Lefebvre	1861	Lacharme	Purplish crimson
10	24.0	27	Merveille de Lyon	1882	Pernet	White
11	22.3	25	Gustave Piganeau	1889	Pernet and Ducher ..	Shaded carmine
11	22.3	31	Suzanne M. Rodocanachi	1883	Levêque	Glowing rose
13	20.3	27	Etienne Levet	1871	Levet	Carmine rose
14	19.8	22	Baroness Rothschild	1867	Pernet	Light pink
15	19.0	24	Earl of Dufferin	1887	A. Dickson & Sons ..	Dark crimson, shaded maroon
16	18.8	20	Dupuy Jamain	1868	Jamain	Bright cerise
17	18.7	21	Louis Van Houtte	1869	Lacharme	Deep crimson, shaded maroon
18	17.9	20	Prince Arthur	1875	B. R. Cant	Bright crimson
19	17.3	14	François Michelon	1871	Levet	Deep rose, reverse silvery
19	17.3	25	Horace Vernet	1866	Guillot	Scarlet crimson, dark shaded
21	16.0	14	Duke of Wellington	1864	Granger	Bright shaded crimson
21	16.0	10	Ferdinand de Lesseps	1869	E. Verdier	Shaded crimson
23	15.8	10	Général Jacqueminot	1853	Rousset	Bright scarlet crimson
24	15.3	10	Camille Bernardin	1865	Gautreau	Light crimson
25	14.8	17	Marie Verdier	1877	E. Verdier	Pure rose
25	14.8	3	Marquise de Castellane	1869	Pernet	Clear cherry rose
27	14.6	11	Comtesse d'Oxford	1869	Guillot	Carmine violet
28	14.4	23	Heinrich Schultheis	1882	Bennett	Pinkish rose
29	14.3	13	Dr. Andry	1864	E. Verdier	Bright crimson
29	14.3	12	E. Y. Teas	1874	E. Verdier	Bright red
29	14.3	23	Fisher Holmes	1865	E. Verdier	Shaded crimson scarlet
32	14.2	7	Duke of Edinburgh	1868	Paul & Son	Scarlet crimson
33	14.0	3	Margaret Dickson	1891	A. Dickson & Sons ..	Ivory white
34	13.4	6	Le Havre	1871	Eude	Vermilion red
35	13.1	6	Lady Mary Fitzwilliam (H.T.)	1882	Bennett	Rosy flesh
36	12.5	16	Victor Hugo	1884	Schwartz	Dazzling crimson, shaded
37	12.3	8	Marie Finger	1873	Raimbaud	Light salmon rose
38	11.5	9	Jeannie Dickson	1890	A. Dickson & Sons ..	Soft silvery rose
39	11.4	8	Abel Carrière	1875	E. Verdier	Crimson maroon, shaded purple
39	11.4	4	Duke of Teck	1880	Paul & Son	Light crimson scarlet
41	11.2	4	Prince Camille de Rohan	1861	E. Verdier	Crimson maroon
42	11.0	5	Captain Christy (H.T.)	1873	Lacharme	Delicate flesh
42	11.0	9	Caroline Testout (H.T.)	1890	Pernet and Ducher ..	Light salmon pink
44	10.3	11	Xavier Olibo	1864	Lacharme	Dark velvety crimson
45	10.1	8	Pride of Waltham	1881	W. Paul & Son	Light salmon pink, shaded violet
46	10.0	5	Beauty of Waltham	1862	W. Paul & Son	Rosy crimson
46	10.0	17	Duchess of Bedford	1879	Postans	Light scarlet crimson
46	10.0	10	Duke of Fife	1892	J. Cocker & Sons	Bright crimson
49	9.8	9	Star of Waltham	1875	W. Paul and Son	Carmine, shaded violet
50	9.7	12	Reynolds Hole	1873	Paul & Son	Deep scarlet maroon
51	9.4	16	Comte Raimbaud	1867	Rolland	Clear crimson, tinted red
52	9.2	10	Madame Eugène Verdier	1878	E. Verdier	Silvery rose
53	9.1	11	Countess of Rosebery	1879	Postans	Cherry carmine rose
54	9.0	11	Marchioness of Dufferin	1891	A. Dickson & Sons ..	Pink
54	9.0	9	Marchioness of Londonderry	1893	A. Dickson & Sons ..	Ivory white
54	9.0	9	Mrs. R. G. Sharman Crawford	1894	A. Dickson & Sons ..	Deep rosy pink
57	8.7	2	Madame Victor Verdier	1863	E. Verdier	Clear light crimson
58	8.4	13	Charles Darwin	1879	Laxton	Crimson
59	8.3	7	Marie Rady	1865	Fontaine	Brilliant red
60	8.2	16	Duchesse de Morny	1863	E. Verdier	Silvery rose
61	8.1	3	Violette Bouyer	1881	Lacharme	Tinted white
62	7.9	1	Duchesse de Vallombrosa	1875	Schwartz	Flesh, changing to white
63	7.0	9	Mrs. Paul (B.)	1891	Paul & Son	Blush white, shaded peach
64	6.7	5	Viscountess Folkestone (H.T.)	1886	Bennett	Creamy white, shaded flesh
65	6.5	3	Sénateur Vaisse	1859	Guillot	Bright crimson
66	6.4	5	Auguste Rigotard	1871	Schwartz	Light carmine
67	6.0	1	Madame Isaac Perière (B.)	1882	Margottin	Light carmine
67	6.0	3	Sir Rowland Hill	1888	Mack	Deep velvety plum
69	5.9	14	Duke of Connaught	1876	Paul & Son	Bright velvety crimson
69	5.9	0	Monsieur Noman	1866	Guillot	Pale rosy pink
71	5.6	3	Marguerite de St. Amand	1864	Sansal	Clear rosy flesh
72	5.4	6	Dr. Sewell	1879	Turner	Violet crimson
72	5.4	4	Magna Charta	1876	W. Paul & Son	Bright pink carmine
74	5.2	2	Victor Verdier	1859	Lacharme	Clear cherry rose
75	5.0	5	Captain Hayward	1893	Bennett	Bright carmine crimson

On the other hand the following varieties were more or less indifferently represented. For instance, Duke of Edinburgh and Duke of Teck have never before been seen in as few stands; La France, Ferdinand de Lesseps, Marquise de Castellane, Le Havre, Marie Finger, and Prince Camille de Rohan only once before; and Madame G. Luizet and Beauty of Waltham only twice before.

There is one thing that the table of comparative results which I have now before me indicates most clearly, and that is that few of our old favourites in this section show any signs of declining favour as exhibition flowers, which is rather surprising considering the number of really good varieties that have been sent out during the past ten years, and goes to prove that the deterioration we sometimes hear of in the older varieties can have little existence in fact. For instance, taking the first twelve Roses on the list which were sent out before 1870, and are consequently twenty-six or more years old—viz., La France, Marie Baumann, Alfred Colomb, Charles Lefebvre, Baroness Rothschild, Dupuy Jamain, Louis Van Houtte, Horace Vernet, Duke of Wellington, Ferdinand de Lesseps, Général Jacqueminot, Camille Bernardin, and Marquise de Castellane, I find that five of them were more frequently shown in the first five than in the last five years of the decade, whereas the remaining seven come out with better records for the second lustrum. The average number of times each of the twelve varieties was staged at the ten exhibitions was nineteen in the first five, and twenty in the second five years. So that whichever way the results be examined they at all events show that most of these veteran varieties are still as popular with exhibitors as ever they were. There are, of course, a few exceptions to the above rule. For example, François Michelin has appeared on an average in only about half the number of prize stands at the last five as at the first five exhibitions, and the same may be said of Captain Christy, Marie Rady, Duchesse de Vallombrosa, Sénateur Vaisse, Monsieur Noman, Marguerite de St. Amand, and Magna Charta. These, however, are all the varieties that I can find on

the list which show any decided signs of being as yet on the down grade, and only one of them (François Michelin) finds a place among the first twenty-four on the list. There is another rather curious fact brought out by these tables. Here and there, but such instances are rare, we come across an old variety like Fisher Holmes, which, instead of losing its position as years go on, has at recent shows been more frequently exhibited than formerly. In the first five years of the analysis this Rose was never staged in more than twelve prize stands, whereas its records for the last five are 18, 16, 24, 14, and 23.

The gradual increase during the last few years in the number of new Roses tabulated in this section is certainly a matter for congratulation. In 1892 only four Hybrid Perpetuals, Hybrid Teas, or Bourbons which were less than six years old secured places in the table. In 1893 there were six; in 1894 eight, and this year there are nine—Margaret Dickson, Jeannie Dickson, Caroline Testout (H.T.), Duke of Fife, Marchioness of Dufferin, Marchioness of Londonderry, Mrs. R. G. Sharman Crawford, Mrs. Paul (B.), and Captain Hayward. Of these nine Roses only one (Caroline Testout) is of foreign origin, two having been raised in England, one in Scotland, and the remaining five in Ireland. Of the 1890 varieties Jeannie Dickson rises from No. 46 to No. 38, but Caroline Testout, a grand addition to the Hybrid Teas, was not quite as well shown as in the previous year. Margaret Dickson, sent out in 1891, and so frequently staged during the cool summer of 1894, was this year to be seen in very few stands. Marchioness of Dufferin, of the same year, rises from No. 62 to No. 54, and Mrs. Paul (B.) from No. 72 to No. 63. The only 1892 Rose on the list is Duke of Fife (No. 46), a bright crimson sport from Etienne Levet, which has risen no fewer than twenty-six places. The remaining three Roses, which are of still more recent origin—Marchioness of Londonderry, Mrs. R. G. Sharman Crawford, and Captain Hayward—on their first appearance in the table will be found respectively at Nos. 54, 54, and 75.

TEAS OR NOISETTES.

Position in Present Analysis.	Average Number of Times Shown.	No. of Times Shown in 1895 in True Relative Proportion to the Average.	Name.	Date of Introduction.	Raiser's or Introducer's Name.	Colour.
1	40.7	35	Catherine Mermet	1869	Guillot	Light rosy flesh
2	38.4	45	The Bride	1885	May	White, tinged lemon
3	37.6	43	Comtesse de Nadaillac	1871	Guillot	Rosy flesh and apricot
4	37.0	46	Innocente Pirola	1878	Madame Ducher	Creamy white
5	30.3	22	Souvenir d'un Ami	1846	Belot-Defougère	Pale rose
6	30.1	29	Marie Van Houtte	1871	Ducher	Lemon yellow, edged rose
6	30.1	18	Souvenir d'Elise Vardon	1854	Marcst	Cream, tinted rose
8	28.0	25	Niphetos	1844	Bougère	Pure white
8	28.0	27	Souvenir de S. A. Prince	1889	Prince	Pure white
10	26.1	18	Maréchal Niel (N.)	1864	Pradel	Deep bright golden yellow
11	25.7	32	Ernest Metz	1888	Guillot	Salmon, tinted rose
12	24.9	23	Madame de Watteville	1883	Guillot	Cream, bordered rose
13	24.7	31	Madame Hoste	1887	Guillot	Pale lemon yellow
14	24.3	24	Madame Cusin	1881	Guillot	Violet rose, yellow base
15	22.7	19	Caroline Kuster (N.)	1872	Pernet	Lemon yellow
16	22.3	22	Ethel Brownlow	1887	A. Dickson & Sons ..	Rosy flesh, shaded yellow
17	21.9	18	Honourable Edith Gifford	1882	Guillot	White, centre flesh
18	21.6	26	Francisca Krüger	1879	Nabonnand	Coppery yellow, shaded peach
19	20.5	8	Jean Ducher	1874	Madame Ducher	Salmon yellow, shaded peach
20	18.4	7	Madame Bravy	1848	Guillot	White, flushed pale pink
21	16.9	10	Anna Olivier	1872	Ducher	Pale buff, flushed
22	13.6	9	Rubens	1859	Robert	White, shaded creamy rose
23	13.3	12	Princess of Wales	1882	Bennett	Rosy yellow
24	12.8	11	Madame Lambard	1877	Lacharme	Salmon, shaded rose
25	11.0	13	Etoile de Lyon	1881	Guillot	Deep lemon
26	9.5	7	Cleopatra	1889	Bennett	Creamy flesh, shaded rose
27	8.0	8	Maman Cochet	1893	Cochet	Pale pink, shaded salmon
28	7.0	7	Corinna	1893	W. Paul & Son	Flesh, tinted copper
29	6.2	3	Devoniensis	1838	Foster	Creamy white, blush centre
30	5.8	4	Souvenir de Paul Neyron	1871	Levet	Creamy white, tinted rose
31	5.6	5	La Boule d'Or	1860	Margottin	Golden yellow, outer petals paler
32	5.1	6	Comtesse de Panisse	1877	Nabonnand	Flesh, tinted coppery rose
32	5.1	1	Jules Finger	1879	Veuve Ducher	Bronzy rose

Catherine Mermet, although staged last year less frequently than at any show since that of 1886, still holds the premier position on the list of Teas and Noisettes, but is closely followed by The Bride, Comtesse de Nadaillac, and Innocente Pirola. The records for the different varieties are very variable, and yet it is difficult to obtain from them any clear indications as to how they were individually affected and to what extent the ranks of each were thinned by the disastrous winter of 1894-5. One thing is, however, certain, and that is that but a small proportion of the blooms exhibited this year can have been cut from plants on that favourite stock with exhibitors for Tea Roses, the standard Briar, so general was their destruction. Innocente Pirola and Madame Hoste were more frequently to be seen this year in the winning stands than at any previous exhibition, while The Bride and Francisca Krüger have only once before been as well represented. On the other hand, Souvenir d'Elise Vardon, Jean Ducher, and Madame Bravy have on no previous occasion been as sparsely shown, while Catherine Mermet, Souvenir d'un Ami, and Maréchal Niel have only once before had so small a following. It is, however, as I said before, impossible to obtain from the results any reliable clue as to their relative capabilities of resisting severe winters. For instance, Niphotos, Madame de Watteville, and Madame Cusin are well known to be particularly tender varieties, and yet they appeared in about as many stands as usual, whereas Souvenir d'un Ami, Caroline Kuster, and Hon. Edith Gifford, generally considered among the least tender of the Teas, were badly represented.

The varieties on the table of Teas and Noisettes which are less than six years old are only two in number, Maman Cochet and Corinna, both distributed in 1893. The former, which promises to be a grand addition to this section, on its first appearance takes up a position at No. 27, and Corinna at No. 28. When the Teas are examined in the same way that we have previously tested the H.P.'s the same signs of stability among the older varieties is not nearly as evident. If we take, for example, the only eight sorts on the list which are over twenty-five years old—Catherine Mermet, Souvenir d'un Ami, Souvenir d'Elise Vardon, Niphotos, Maréchal Niel, Mme. Bravy, Rubens, Devonensis, and La Boule d'Or—only one of them, Catherine Mermet, is found to have as good a record for the last five as for the first five years of the analysis. Or if the same nine varieties be grouped together the average number of times they were shown in the first half of the decade comes out as twelve, but in the latter half as only ten. This is no doubt due to the newer Teas occupying higher positions in their table, and thus to a certain extent supplanting the older sorts than is the case with the Hybrid Perpetuals. Among the thirty-three Teas tabulated will be found seven varieties which have been sent out since these analyses began, whereas there are only three sorts as new among the first thirty-three H.P.'s.

To all those kind friends who have again assisted me at the Crystal Palace on a busy day in taking down the names of the Roses in the winning stands I once more tender my best thanks.

THE NEWER ROSES' AUDIT.—The relative positions accorded to the established varieties in the tables of the analysis are now as nearly accurate as I think they can well be made. But it is often otherwise with the sorts of recent introduction, owing to their scanty records and the disturbing influence of some particular season. In order, therefore, to obtain for your readers the views of our leading amateur rosarians and Rose nurserymen as to the comparative merits of these newer Roses, I recently forwarded them lists of all the H.P.'s and H.T.'s sent out since 1889, which had appeared in at least three prize stands at either the last or previous Crystal Palace show. Accompanying the list was a request that they would place a mark against the six varieties they considered the best as exhibition flowers. A similar list of Tea Roses was also added, the best three varieties on which were to be indicated. In reply I received returns from the following amateurs and nurserymen:—*Amateurs.*—Mr. W. Boyes, Dr. S. P. Budd, Rev. F. R. Burnside, Rev. A. Foster-Melliar, Mr. A. Hill

Gray, Mr. E. B. Lindsell, Mr. H. V. Machin, Mr. O. G. Orpen, Rev. J. H. Pemberton, Mr. A. Slaughter, and Mr. A. Tate. *Nurserymen.*—Messrs. J. Burrell, C. E. Cant, F. Cant, J. Cranston, A. Dickson, R. Harkness, W. J. Jefferies, J. E. Merryweather, W. Paul, A. Piper, A. Prince, W. D. Prior, and A. Turner. The results of the voting of these experts are as follows:—

HYBRID PERPETUALS AND HYBRID TEAS.

Position in Audit.		Total No. of Votes.	Votes by Amateurs.	Votes by Nurserymen.
1	Caroline Testout (H.T.)	22	9	13
2	Kaisirin Augusta Victoria (H.T.).	18	8	10
2	Mrs. R. G. Sharman Crawford ...	18	7	11
4	Marchioness of Londonderry	15	5	10
5	Duke of Fife	12	6	6
6	Captain Hayward.....	10	4	6
6	Margaret Dickson.....	10	2	8
8	Jeannie Dickson	7	3	4
8	Marchioness of Downshire	7	6	1
8	Marchioness of Dufferin	7	1	6
11	La Fraicheur (H.T.).....	3	2	1
11	Spenser	3	1	2
TEAS.				
1	Maman Cochet	21	9	12
2	Bridesmaid.....	17	6	11
3	Medea	12	2	10
4	Corinna	11	5	6
5	Mrs. J. Wilson	4	4	0

It is very satisfactory to find that if the positions of the different varieties in the above lists were dependent either upon the number of amateurs' or nurserymen's votes alone the order of most of the sorts would be but little altered. In the first list the prominent places taken up by two of the three Hybrid Tea named in it will be at once apparent.

ROSES FOR GENERAL CULTIVATION.—As all exhibition Roses are not suitable for ordinary garden cultivation I append, as usual, a select list of choice kinds, which will not only yield good flowers, but are also with very few exceptions of good growth and constitution. The varieties new to the selections are each marked by an asterisk.

HYBRID PERPETUALS.—*Light Coloured Varieties.*—Mrs. John Laing, Madame Gabriel Luizet, Merveille de Lyon, Baroness Rothschild, Marie Finger, Jeannie Dickson, *Marchioness of Londonderry, *Mrs. R. G. Sharman Crawford, and *Clio. *Medium Reds.*—Ulrich Brunner, Etienne Levet, Dupuy Jamain, François Michelon, Camille Bernardin, Marquise de Castellane, Comtesse d'Oxford, Heinrich Schultheis, and Alphonse Soupert. *Reds.*—A. K. Williams, Marie Baumann, Alfred Colomb, Ferdinand de Lesseps, Général Jacqueminot, Dr. Andry, E. Y. Teas, Fisher Holmes, Duke of Edinburgh, Victor Hugo, Duke of Fife, and Earl of Pembroke. *Dark Varieties.*—Charles Lefebvre, Earl of Dufferin, Louis Van Houtte, Prince Arthur, Duke of Wellington, Prince C. de Rohan, and Duke of Connaught.

HYBRID TEAS.—La France, Captain Christy, Caroline Testout Viscountess Folkestone, *Kaiserin Augusta Victoria, and Grace Darling.

TEAS AND NOISETTES.—Innocente Pirola, Souvenir d'un Ami, Marie Van Houtte, Souvenir de S. A. Prince, Ernest Meiz, Madame Hoste, Caroline Kuster, (N.) Ethel Brownlow, Hon. Edith Gifford, Francisca Kruger, Anna Olivier, Rubens, Madame Lambard, *Maman Cochet, *Corinna, and Jules Finger.

BOURBON.—Mrs. Paul and Souvenir de la Malmaison.

GARDEN ROSES.—The following are a few charming non-exhibition Roses of more or less recent introduction, which I have grown and can recommend. *Hybrid Perpetuals.*—Gloire de Margottin. *Hybrid Teas.*—Augustine Guinoisseau, Bardou Job, Clara Watson, Gloire Lyonnaise, Gustave Regis, and Marquis of Salisbury. *China.*—Laurette Messimy. *Teas and Noisettes.*—*Beauté Inconstante, Dr. Grill, L'Idéal (N.), Luciole, and Princesse de Sagan. *Polyantha*—Gloire des Polyantes. *Climbing Polyantha.*—Crimson Rambler, an exceptionally grand addition to our climbing Roses, which should be grown in every garden.—E. M., Berkhamsted.



CYPRIPEDIUM CYRIS.

THE number of *Cypripediums* is ever on the increase, and that with fair rapidity; but despite this fact each new form of merit is hailed with the greatest delight by enthusiasts. To what numbers they may eventually attain it is of course impossible to say, but it may safely be said that the one that is to receive an award of merit or a first-class certificate henceforth from the Orchid Committee of the Royal Horticultural Society will have to be wellnigh perfect. Of more than ordinary merit was *C. Cyris*, depicted in the illustration (fig. 58), and it certainly deserved the first-class certificate that was accorded to it. It is a hybrid resulting from a cross between *C. villosum* Boxalli atratum and *C. Argus*. The dorsal sepal and petals are larger, white and green heavily spotted with brown in colour. The lip is brown and green. It was exhibited by Norman Cookson, Esq., Wylam-on-Tyne.

VEGETABLES.

GROWING, SHOWING, AND JUDGING.

A LIVELY discussion has occupied a certain amount of space in the *Journal of Horticulture* during the past few weeks on the subject of judging vegetables at shows. As an old showman, and not unsuccessful, and very occasionally an appointed adjudicator, I am requested by the Editor to examine the whole matter in the light of long experience. I am informed that the space alluded to was conceded, not for the gratification of the few persons interested in a particular case, but because an important principle was involved—namely, whether very large size or very high quality should be the predominating factor in determining the relative merits of competing exhibits. That there is a conflict between those two cardinal features at nearly every show in the kingdom will and must be admitted by all unprejudiced onlookers. Putting entirely aside any individual case or the predilections of any particular judges, let the question itself be examined on its merits.

This question of size *versus* quality is not in the least confined to the vegetable classes at shows. It is apparent in every section—plants, flowers, and fruit as well as vegetables. It is the source of much difference of opinion among judges, of cavilling between exhibitors, and of wonder among visitors, who are not without knowledge on what they may critically examine, as to why in one case size has outweighed quality, and in the other quality has triumphed over size. This is seen at Rose shows, Dahlia shows, Chrysanthemum shows, competitions of specimen plants, of various fruits, and of vegetables. In respect to the florists' flowers indicated, as well as some others, it is observable that when the judging is done by specialists, who work from a generally understood standard of merit, that excellence in form and refinement carries more weight than does size if in the least accompanied by coarseness; but it is not by any means so generally the case when the judging is entrusted to persons, of whom it can be said without the slightest derogatory allusion, that they have no clear conception of the features which in combination constitute the highest exemplification of intrinsic merit and most nearly approach the ideal of perfection. In such cases it is not in the least uncommon to find that size has gained more than a fair share of approval. The adjudicators may be men of the highest probity and splendid cultivators generally, but are not intimately acquainted with the particular products with which they are called upon to deal.

It is very much the same in regard to specimen plants, and in some cases it has been thought advisable to indicate in schedules that superiority in culture must have particular attention; and it is certain that the highest awards do not always or usually go to the largest plants, be they what they may, when made by the most competent judges. Similarly in fruit classes nothing is more common than to see 7 lb. bunches of Grapes placed third, or nowhere, while 2 or 3 lb. bunches are placed first, because in other important respects, such as size, uniformity, and finish of berries, with general fitness for table, they are superior; at the same time, and in another class, different judges, and equally conscientious, attach greater importance to size of bunches as in their view affording evidence of skilful culture. It is the same in respect to hardy fruits, such as Apples, Pears, and Peaches; the highest prizes do not by any means fall to the largest fruits if they are in some

other respects more faulty than their somewhat smaller competitors, while 6 lb. Melons are frequently passed in favour of fruit not a third of the size and weight.

As a matter of fact, the purposes for which the products mentioned are grown are kept well in view, and those specimens which represent the fewer faults in size, shape, colour, general appearance, and quality find the greatest favour with the most thoughtful and most experienced of adjudicators. It is true that much difficulty is experienced at times in deciding even on that basis, but still it is a definite basis, and that is no small advantage in these days of no "law" on judging. How long judges at horticultural shows will have to continue in the present anomalous position of making their own particular law, and administering it as they go along, seems to in a measure depend on the Royal



FIG. 58.—CYPRIPEDIUM CYRIS.

Horticultural Society; and since it appears to have taken the special Committee of that Society several months to formulate its law, there need be no wonder that the verdicts of judges are so variable, seeing they have to make a law unto themselves in five minutes, and forthwith put it into execution. In the discharge of their duty they proceed on lines which they honestly believe to be right, though others may just as honestly, and from their point of view with as much reason, consider they are wrong. In the absence of a common and recognised foundation, on which both reason and action must be based, divergences are inevitable. In the absence of such basis, the so-called "reasons" for this and that amount to nothing more or less than personal fancies, born of individual proclivities. These may force one judge to believe that there is little merit in anything that is not much larger than the product is usually seen exhibited or used; while they have a contrary effect on the mind of another, who is driven to the conclusion that abnormal size in vegetables is incompatible with the greatest excellence in quality for culinary purposes. But are vegetables always grown for one purpose alone—the purpose of consumption? He would be a bold man who would say they are.

Vegetables are grown for two purposes—one, which is general,

to be eaten; the other, which is special, for showing and winning prizes. At some shows they must be as large as possible and otherwise good, or they will have no chance of winning prizes. At other shows gigantic size is not a necessity, but they must be as near faultless in quality as they can be presented, while large enough to be useful. It is a question of local or provincial custom which has, no doubt, to a large extent been established by the standard of excellence which certain judges have set up for themselves and thus influenced, as it must of necessity influence, exhibitors. Those exhibitions in which the officiating judges have a strong leaning towards superiority in quality of the products for the best culinary purposes, and where it would almost seem as if they kept in view the amount those products would realise as the choicest obtainable in Covent Garden, are remarkable for the superb finish and tempting appearance of the prize vegetables; while where prodigious size is regarded as a primary element the collections are altogether heavier, highly imposing, and represent a large amount of cultural skill, industry, and (in comparison with their actual value) outlay in their production. These gigantic and, in more than mere size, splendid vegetables, for many of them are admirably smooth, fresh, and clean, may be regarded as analogous in their way to highly fed animals at the Smithfield show—mountains of flesh; but having regard to their cost in production are not, on the whole, directly commercial successes, though indirectly they pay some of their owners in the way of advertisements. But even the overfed monstrosities alluded to are no longer seen as they once were, or if seen not honoured. The questions of cost in production and ultimate object are now considered by adjudicators, and firmness, symmetry, superb quality with adequate size are the prime essentials, and overfeeding a defect.

Now are there no glaringly overfed vegetables which are honoured with prizes—vegetables which have cost more of time and labour on the part of the growers of them, and of capital on the part of the owners, than they are worth—vegetables which the said owners would not eat, and many of which never are eaten, at least by human beings? That has certainly been the case with many which I have laboured to grow; and though I think I can safely say the majority of them won prizes, I cannot help feeling that some of those prizes were scarcely deserved. The vegetables were often too large to please me, as being rank through liquid manuring, but the particular show had to be considered, and to win was the great objective. I thought then, or thirty years ago, that regard should be had to the intrinsic value of the products for consumption, and I cannot resist the conviction that this should be a primary element now; indeed, perhaps more than in the past, when the commercial aspects of cultivation in private gardens is more considered now than in bygone years. Still, discrimination has to be exercised. There were no such gigantic Onions in the past as are now plentiful, and in these it is said that size enhances their intrinsic value. Be this as it may, Cauliflowers with even a suspicion of springing, and in the least discoloured, bear the stamp of inferiority, be they large or small, while Carrots and Beet, fully large enough for cows, and Potatoes unless mashed too large for pigs, can scarcely be regarded as the most perfect examples of their kinds for human consumption. My inclinations, then, trend more and more for superiority in quality, and though I may be behind the times, I think the highest possible quality should have the first consideration in determining the value of anything that is grown for human food, while at the same time the products should be large enough to represent the greatest commercial value, and this does not pertain to dainty little examples which are often preferred for certain culinary purposes. I know nothing of what the R.H.S. is doing, but whether little or much, the Committee appears to move slowly. I should have thought the report would have been out before now. I may be all out of date when it comes, but still am bound to give my honest opinions on the subject.—EX-EXHIBITOR.

BRITISH FRUIT AND ITS CHARACTER.

IN comparing home-grown fruit with foreign produce there are times when the crucial point of criticism, on which the verdict turns, shows a balance in favour of sunnier climes. With few exceptions the method by which this calculation is arrived at is misleading, and tends to a perversion of the truth. Possibly out of this evil has come good, and the continual spurring has goaded on the British producer to the present stage of excellence—a stage at which there is no sign of halting. Obviously there are internal causes sufficient to produce this effect, but there are reasons which lead up to these remarks, one of which is the import door of our markets we have yet failed to close; the other reason is that by which occasionally instances are noted of foreign intelligence being

held up for our example, and this latter appears to me as unfair as it is unnecessary.

That we may not produce sufficient for our wants, or if produced in quantity our foreign friends are able to anticipate or extend our short seasons, is readily admitted. But quantity, which is always desirable when limited to a purpose, can only take second place to quality under the highest criticism it is—and possible for it to be—submitted to. In order to arrive at a proper estimate of our powers and position as fruit growers we can justly allow for the benefits which abundant supplies confer on the public at large.

Foreign fruit is appreciated by the many, and by some is praised to the depreciation of home produce; but this by a little comparative analysis is easily dispersed. These imports are seldom subjected to the higher authorities on the matter—the judgment, which from the circumstances attending it, is, to my mind, the most severe of practical tests. At first sight this judgment by experts will suggest the ordeal of competition on the exhibition tables, for which the opportunity never, or but seldom, occurs. If it was done, then, for those most interested, it would settle the matter conclusively.

The senses are peculiarly biased by existing circumstances, and impressions thus derived, though distorted, are difficult to eradicate. For instance, an Anglo-Indian or other tropical traveller will hark back to his keen enjoyment when a huge Water Melon or other watery fruit was discussed under a shade temperature of 120°; but place the same fruit on the dessert table in juxtaposition with our own production, the comparison is not only invidious but all comparison ends. Only in size or appearance is rivalry permissible, and though we cannot afford to disparage the importance of these points, flavour without coarseness must be the predominating element of quality provided for this criticism—the cold-blooded criticism, I venture to call it—to which our handiwork is subjected.

At one place where our Pears, gathered from the walls, attained the highest degree of excellence, comprising, as they did, the finest varieties grown under the most favourable conditions, my attention was called to the glowing description given by a scion of the family, who was then stationed in the West Indies, of the Avocado Pear, *Persea gratissima*. Fruits of this so-called Pear were eventually sent home for endorsement of the high opinion, and probably could they have been served up under the torrid conditions of a West Indian sun their character would have been established, for there is always attraction in novelty; as it was the “*gratissima*” was a misnomer. Needless to add that comparative lines could not be fairly drawn between fruits of distinct species, but the moral is clear.

Are there, indeed, any good examples of British-grown fruits, hardy or exotic, but what stand far and away ahead of imported samples? Bearing in mind the skill and energy necessary to circumvent the vagaries of our climate, results are such as to place the British gardener on a high pedestal. On this head the fact may be noted that whilst many men, and good men, are waiting in our large nurseries for situations, that many good posts are filled privately over the dinner table (dessert table) by gastronomic influence solely, for “The proof of the—fruit is in the eating.”

With a desire to avoid partiality, one instance in which the distant shores appear to have practically ousted an important English-grown fruit from the dessert table must be noted. This is that noble fruit the Pine Apple, without which an ideal dessert is not complete. To various causes may this decadence of Pine growing be attributed. Perhaps in a dessert collection, where the table groans under the many good things furnished, the Pine is a fruit which is more called upon to do duty for appearance sake than for use, hence a St. Michael's Pine at 3s. 6d. is as good to look at from one point of view as the English specimen at a guinea, but here, again, comparison goes no further, and with a return of prosperity to many gardens I venture to predict a resuscitation of the defunct Pine pit.

In one of those inimitable productions of “Punch” may be noted a collier flinging down a sovereign for a Pine declined by a customer at 15s., with the remark, “Never mind the change mister, but tell us how to cook it.” This, I think, points a moral in the decline of English Pine culture. The superiority of the fruit is not questioned, but the frugal mind has, for the time being, placed it under a ban. Bananas sold at 1d. per finger do not, at first sight, leave an opening for their culture in our stoves, yet I have, in one instance, seen 19s. per lb. paid for English-grown fruit, and if the culture of *Musa Cavendishi* for fruiting was better understood it might be oftener seen.

It is unnecessary to touch on the various points of excellence which are looked for in high-class dessert fruit, yet there is one not so generally taken into account that is not to be despised—viz.,

perfume. The ultra-combination of good qualities is that appealing to the most of the senses—appearance to the eye, flavour to the palate, and perfume to the olfactory organs. In fruits of *Monstera deliciosa* we obtain, I think, the highest degree of the latter quality, even to a fault, which is not commendatory. Yet this noble Aroid is a plant which, from its striking foliage and novel and luscious fruit, is well worthy of a place in a tropical house. As a topic is now touched on not immediately concerning the character of our British fruit, this may be concluded with the comfortable assurance that for quality, which is most sought for, it is to be found at home.—INVICTA.

CIDER MAKING.

WE have read the notes on Cider Making (page 311) in your issue of the 26th ult. with much interest. They are well timed, as the glut of Apples is so great this year that quantities must rot if they are not converted into cider.

The question of "Farmers' Cider" is certainly an important one, and it is very desirable they should improve their methods. As it is, they supply such a detestable acetic fluid under this name to all the local publics that cyclists and tourists, having once tasted it, depart shedding maledictions broadcast whenever they hear the name of "cider" mentioned.

The most important omission in the article in question was that of an exhortation that would-be cider makers should keep their casks clean. The sediment, from a cider never racked, is usually left in the cask until the press vat is full. A bucket of pond water is then passed through the cask, and in goes the cider, with the result that it is immediately and incurably infected forthwith by acetic fermentation—a disease more catching to cider than small-pox to Red Indians.

Nothing will ever avail to help anyone to make cider, worth the name, who does not unhead and scrub out his casks within a day or two of the time they are emptied. It needs no special skill to head up a cask, and after an attempt or two can be done by any intelligent layman as well as by a cooper.

Also, for amateurs who cannot afford a filter, I should not recommend to leave the pulp standing after grinding, except for the first cask, to insure a healthy fermentation, which once established is easily communicated to other casks. I would recommend pressing at once, as the standing of the pulp makes the grated Apple flesh mix up more with the juice when it is pressed out, and thus much increases the difficulty of "fining" by racking. We have also found that it is best in the case of the first, and also a persistent fermentation, to keep the casks filled up quite to the bung, as in the first case foreign bodies will the more easily work out, and in the second the less oxygen afforded by absence of ullage checks fermentation, the yeast plant being inoperative, or at any rate quiescent, when short of oxygen, which is its natural food.

I should also advise racking twenty-four hours after the juice leaves the press, thus eliminating much slime and dirt forthwith, which afterwards will be difficult to remove, when it is travelling round the cask, forming points of departure for the carbonic acid.

The isinglass advised in the articles mentioned (1½ oz.) is excessive, half ounce being plenty at one time for 100 gallons. It is, however, so difficult to mix properly, without a proper grinding machine, that I would recommend your readers to use the best brewers' finings, one quart per 100 gallons, well diluted and beaten up in cider before adding, which should not be done before racking several times.

Sulphur matches are very dear to buy, and very cheap to make. Take calico in strips 1½ inch wide, melt your sulphur in a flat pan on a stove, and draw your calico through the fluid sulphur. Let it dry, and repeat the process three or four times. You have then a good sulphur match, a few inches of which cut off and suspended on a wire in the bung-hole of your cask will serve your purpose.

Your farm correspondent is quite right to advise not grinding crude or rotten fruit. The early, medium, and late sorts should be picked separately, and made in their due seasons, the juice being subsequently mixed during some of the later rackings.

If these few rough notes can be of any use to your readers please make use of them. We are busy drink making; on fourteen hours a day regularly. The fruit is very good, but not so good as in 1893, as July and August, the critical months, were by no means as sultry in that wonderful year.—PROFESSIONAL.

[We are very much obliged by this communication, written as it is by one of the best cider makers in the world—pure, sparkling, Apple wine, that would not extort the maledictions of cyclists, but their praise.]



CHRYSANTHEMUM SHOWS.

AS is usual at this time of the year we have received numerous intimations of Chrysanthemum shows which are to be held during the coming season. Space, however, can only be found for mentioning those which have been advertised in our columns. If any have been omitted we shall be glad to add them to the following list. We append the names and addresses of the respective secretaries.

- Oct. 30th and 31st.—KENT COUNTY.—F. J. Harwood, 37, Turner Road, Lee, S.E.
- Nov. 1st and 2nd.—CRYSTAL PALACE.—W. G. Head, Crystal Palace, S.E.
- „ 4th and 5th.—BATTERSEA.—J. O. Langrish, 167, Elsiey Road, Battersea, S.W.
- „ 5th and 6th.—HEREFORDSHIRE.—J. Ough, Hereford.
- „ 5th, 6th, and 7th.—NATIONAL CHRYSANTHEMUM SOCIETY (Royal Aquarium, Westminster).—R. Dean, Ranelagh Road, Ealing, W.
- „ 5th and 6th.—BRIGHTON.—The Secretary, 56, Queen's Road, Brighton.
- „ 6th and 7th.—BROMLEY (Kent).—W. Weeks, 29, Widmore Road, Bromley, Kent.
- „ 6th and 7th.—WOLVERHAMPTON.—J. H. Wheeler, The Gardens, Glen Bank, Tettenhall.
- „ 7th.—BIRKENHEAD AND WIRRAL.—W. Bassett, 23, Grove Road, Rock Ferry.
- „ 7th and 8th.—HARROGATE.—L. Hobkinson, 40, Cold Bath Road, Harrogate.
- „ 8th.—WINDSOR.—Mr. Finch, High Street, Eton.
- „ 12th and 13th.—KINGSTON-ON-THAMES.—F. J. Hayward, High Street, Kingston-on-Thames.
- „ 12th and 13th.—LIVERPOOL.—W. Dickson, 7, Victoria Street, Liverpool.
- „ 12th and 13th.—PLYMOUTH (West of England).—C. Wilson, 4, North Hill, Plymouth.
- „ 13th and 14th.—BIRMINGHAM.—J. Hughes, High Street, Harborne, Birmingham.
- „ 13th and 14th.—BOURNEMOUTH.—J. Spong, Landisfarne Gardens, Bournemouth.
- „ 13th and 14th.—BRISTOL.—E. G. Cooper, Mervyn Road, Bishopston, Bristol.
- „ 15th and 16th.—ECCLES AND PATRICROFT.—H. Huber, Hazel-dene, Winton, Patricroft, Manchester.
- „ 15th and 16th.—SHEFFIELD.—W. Houseley, 177, Cemetery Road, Sheffield.
- „ 15th and 16th.—BRADFORD.—J. Collier, 51, Midland Road, Frizinghall, Bradford.
- „ 19th and 20th.—LEEDS PAXTON.—J. Campbell, Methley Park Gardens, Leeds.
- „ 20th, 21st, and 22nd.—YORK.—J. Lazenby, 13, Feasegate, York.
- „ 29th and 30th.—ALDERLEY EDGE.—G. Leadbetter, jun, Fern Bank, Trafford Road, Alderley Edge.

CHRYSANTHEMUM EDITH RICHARDSON.

I HAVE the pleasure in submitting to your notice a bloom of a sport from Madame Desgrange that has been raised this season. The plant from which this bloom has been cut is a decided Desgrange, whilst the flower is quite distinct in shape and general character. The plant has been in bloom since the first week in September, and has been admired by several of the leading gardeners in the neighbourhood, who (along with my grower, Mr. J. Devanny) consider it quite a new and distinct variety. This being so I have named it after my daughter, "Edith Richardson," and shall esteem it an honour if you will kindly express your opinion about it at your earliest opportunity. The height of the plant is 3 feet and possessed three crown buds, of which the accompanying specimen is one.—CURATOR.

[Unfortunately most of the florets had shaken off on arrival, but so far as we could judge the sport appears quite distinct.]

SOME NEW WHITE CHRYSANTHEMUMS.

IT was, I think, last season that so many good new white varieties made their appearance, and judging by the beginning it looks as if some substantial additions are going to be made this autumn. Philadelphia

and Mrs. C. E. Shea, although shown last year, must properly be considered novelties of 1895. Then we have Miss Alice Love, a Japanese, certificated on the 25th September last. Emily Spilsbury, a cross between Condor and Miss Anna Hartshorn, large blooms, grooved florets of a dead white colour, is another. Madame Aug Gaché, a deeply built Jap., belongs to the same class. Lady Esther Smith, shown by Mr. Owen, is of the incurved Japanese type; it has very long florets, is a solid looking bloom, and the colour very pure. Madame Ad. Chatin is another good one of the class, as also is Mrs. R. Jones, which is a big flower with very long tubular florets.—P.

CHRYSANTHEMUMS AT DOWNSIDE.

LOVERS of Chrysanthemums, and there is an ever-increasing body, will now be looking out for any news of their favourites. Exhibitors of the autumn queen will be more anxious than the ordinary cultivator to hear how the plants of Mr. So-and-so promise. The collection that has been brought together by H. Tate, Esq., with the assistance of his gardener Mr. Mease, during the last four years, has become as famous in the southern parts as the once noted Orchids from the same garden. Therefore a note on the appearance of the plants at the present time will be interesting.

Mr. Mease was a prominent exhibitor in the Liverpool district before he came south, and no wonder his doings in the exhibition arena have been carefully watched. The prizes he has won of late in the best competition prove him a man of capacity and adoption to the difference in climatic influence, and it is idle to say there is none, even in the 200 and odd miles that separate Liverpool from Downside. Close on 1000 plants are grown, 800 for large blooms and the remainder for providing cut flowers, both early and late, therefore it would not be right to say that he devotes all his time to the plants for exhibition blossoms. As might be expected from a grower of the importance of Mr. Mease, all new and deserving varieties are added as they appear; consequently the collection is quite "up to date."

The plants on the whole are promising; the "Queens," perhaps, show somewhat less vigour than could be wished. The buds in all sections appear to be well timed, and will give blooms of the first quality over a long season. The plants are not tall, as in some instances of the same varieties, but are thoroughly matured. Very fine will be the blooms of the "Princess" family. This is a safe prognostication, if the buds at this stage is a criterion.

Naturally the Japanese section numbers the greatest in point of variety. Philadelphia, here as everywhere else, exhibits the same paleness of leaf and full rounded buds, betokening good form of blossoms later on. Phœbus, one of the most promising of yellow flowers growing beside Mons. Ch. Molin, another though bronzed yellow, and Mdle. A. de Gilbert, a loose petalled creamy white variety, form a trio of which all growers should make a note. H. J. Jones, although sent out as being one of the best, is, in my opinion, a long way from that mark. Souvenir de Madame Bullier grows fully 8 feet high, and should produce something notable in the way of bloom to compensate for its extreme height. Guirlande, Duchess of York, Mrs. W. H. Lees, Wordsworth, M. Joanny Molin, Duchess of Wellington, Mrs. Peter Blair, and Madame Carnot all give promise of future greatness. Mrs. C. E. Shea promises to maintain the flourish it was sent out with and the high price it obtained. A. H. Fewkes, one of the most vigorous of growers, yet so dwarf, promises to take a high place in the list.

Mr. Mease pays much attention to the incurved section; indeed, he has always proved a formidable opponent in the blooms of this more difficult division. Owen's Crimson, R. C. Kingston, Globe d'Or, C. B. Whitnall, J. Agate, and Robert Petfield are thought well of so far. D. B. Crane here looks more like a Japanese than an incurved variety. Nil Desperandum, Madame Darrier, Baron Hirsch, and, lastly, The Tecks, all promise pleasure to the cultivator here and trouble to his opponents. Taken altogether the Downside Chrysanthemums bid fair to maintain the reputation already gained.—A RAMBLER.

CHRYSANTHEMUMS AT BARFORD HILL, WARWICK.

GROWERS and lovers of the autumn queen in widely scattered districts seem to be unanimous in the opinion that the season which has just opened is likely to prove one of the finest on record for the magnificence of the blooms exhibited. During recent years such marvellous strides have been made in the production of new varieties greatly in advance of older ones, that it is absolutely necessary for would-be successful exhibitors to keep a sharp look out for novelties which promise to prove acquisitions.

This is what Mr. R. Jones has been doing during the last two years, and, thanks to the liberal support given by his employer, C. A. Smith-Ryland, Esq., the collection at Barford Hill is thoroughly up to date in the matter of varieties. That the plants are also well grown is evinced by the fact that Mr. Jones was successful in winning the premier position for twelve Japanese blooms at the recent exhibition of the National Society, and judging from the present appearance of his plants and fast-opening blooms, he is likely to be heard of again when the campaign begins in earnest. The plants are exceptionally strong and the size of the leaves remarkable, but having been grown in a thoroughly exposed position, the wood is hard and ripe and the leaves of a bronze hue. This latter characteristic is so pronounced that a local gardener, after inspecting the collection, remarked they were fine, but it was a pity they had the "disease so badly" (he was evidently not a Chrysanthemum man).

The majority of flowers are opening freely, and as yet have not

displayed a great tendency to "damp." This is no doubt to a great extent due to the precaution taken by Mr. Jones to have tiffany fastened under the roofs of the houses in which the plants are flowered. That disastrous early morning drip, which in some houses it is almost impossible to avoid, is in this way prevented from falling on the flowers.

Varieties showing promising flowers were the following:—Mrs. C. E. Shea (certainly a coming one), Chas. Blick, Mrs. W. H. Lees, Sir E. T. Smith, Lady Randolph, Duchess of York, Miss Dorothy Shea, Miss Rita Schroeter, Madame Carnot, Mdle. M. A. de Gilbert, H. L. Sunderbruck, Mrs. W. J. Godfrey, Mrs. E. G. Hill, Pallanza, Queen of Buffs, Eva Knowles, Owen's Crimson; incurved, Baron Hirsch, Chas. H. Curtis, W. Tunnington, Mrs. Dennis.

Several very promising seedlings are also fast expanding; one of a beautiful chestnut brown colour, of great size, will, I think, be much sought after when it is placed in commerce.—H. D.

CHRYSANTHEMUMS AROUND LIVERPOOL.

VERY soon we shall be in the midst of the Chrysanthemum exhibitions, and, as in former years, Liverpool growers are certain to be well represented judging from the conversation and interest centred in them by many of our leading exhibitors. There can be no two opinions respecting the esteem with which this beautiful flower is held, employer and employés alike evincing the keenest interest in their development. Much as I should like to speak of many collections grown but not publicly exhibited, I feel that space forbids it, and I could perhaps best sum up in a few words by saying that it would be difficult to find one collection among these non-exhibitors where anything but good results are obtained, each and every one striving to gain the highest results in culture.

The effect of the season on the plants was never better exemplified than by the condition of the rather early varieties during the hot weather of August and September, which helped to bring them into bloom with the greatest rapidity. Regarding the standard varieties, in every collection visited there is a capital prospect of good blooms; among the new ones perhaps the most favourably spoken of is Wilfred Marshall, the handsome broad-petalled yellow. I thought it somewhat strange, too, that the greatly praised Duchess of York should not be better thought of, but it was certainly the opinion of many growers that it would never become large enough to rank with the best for exhibition. As in former years, I am sending a few notes on some leading collections.

CAMP HILL WOOLTON.—This season Mr. Jellicoe has about 600 plants, admirably timed, well grown, vigorous, and likely to be seen and heard of. At present he has a house filled with early varieties of the large type, which are making a grand display, and which will be followed by the general collection. Very good and promising are Duke of York, Lord Brooke, Louise, Miss Dorothy Shea, Robert Owen, Madame Carnot, Sunflower, Marie Hoste, Florence Davis, Vivian Morel, Charles Davis, Mrs. C. H. Payne, Mrs. F. Jamieson, and Boule d'Or. Newer varieties are Golden Gate, Wilfred Marshall, International, James Myers, Mrs. Dr. Ward, Philadelphia, L'Isere, Madame Ad. Chatin, Mdle. Thérèse Rey, Silver Cloud, and Souvenir de Petite Amie. Incurved are just showing colour, and most promising, the majority being pinched in March. The Queen types are dwarf and strong, Princesses very strong, Madame Darrier, Baron Hirsch, Mons. R. Bahuant, C. B. Whitnall, John Salter, Owen's Crimson, and J. Agate being capital.

HIGHFIELD, WOOLTON.—Mr. Haigh grows his 600 plants superbly, a house full of such sorts as Bouquet des Dames, Mons. R. Bahuant, Baron Hirsch, and others, being now a picture. The Japanese are very strong. Vivian Morel, Charles Davis, Mrs. C. H. Payne, Robert Owen, Miss Dorothy Shea, Mdle. Thérèse Rey, Edwin Molyneux, Lord Brooke, Louise, Marie Hoste, and Waban are the best of older varieties. The late additions which seem to be developing handsome blooms, are Van Den Heede, International, Wilfred Marshall, Thos. Hewitt, Mrs. W. H. Lees, Thos. Wilkins, Richard Dean, Philadelphia, Duchess of York, and Souvenir de Petite Amie. Queens, Princess, John Salter, C. B. Whitnall, Baron Hirsch, D. B. Crane, Mr. J. Kearns, Robert Petfield, W. Tunnington, Owen's Crimson, and John Fulford, promise to give flowers of the highest quality. Mr. Haigh won great successes last year, and he ought not to be much behind this season.

THE HOLLIES, WOOLTON.—A thorough master in the art of growing incurved varieties Mr. Vaughan may well be termed, and I question if they can be seen so well done in this neighbourhood. Sheffield and Barnsley know him well, and he is as perfect this season. The Queens are just showing colour, the buds being clear and free from scales; Princesses are dwarf and strong. Others most noticeable are Baron Hirsch, John Salter, Lord Rosebery, R. C. Kingston, and Madame Darrier. Anemones and reflexed give great promise. The Japanese are strong and healthy, Duke of York, Miss Dorothy Shea, Col. W. B. Smith, Marie Hoste, Boule d'Or, Primrose League, Mrs. C. H. Payne, Vivian Morel, and Chas. Davis, the best of older ones; newer being Amos Perry, W. Bolia, Louise, Rose Wynne, Wilfred Marshall, E. L. Jameson, President Borel, Thomas Wilkins and M. C. Molin; 300 is the number of plants grown.

DOVE PARK, WOOLTON.—Three years in succession is the stipulation placed on the "Eccles Cup," and as Mr. Carling has won it twice he will this year make a great bid for it, as his plants, although a little later than those previously mentioned, are certain to make a fine display.

The standard varieties of Japanese are well represented. Newer ones rapidly developing fine blooms are Wilfred Marshall, Duchess of Wellington, Emily Doone, Mrs. E. G. Hill, Mrs. W. S. Trafford, Good Gracious, Commandant Blusset, International, L'Isere, Robert Flowerday, John Macher, Hairy Wonder, Duchess of York, M. C. Molin, Mrs. W. H. Lees, Silver Cloud, W. G. Newitt, Lily Love, Madame Carnot and Mermaid. Incurved, C. B. Whitnall, Lord Rosebery, Owen's Crimson, Mr. J. Kearn and Globe d'Or, with the older varieties will all turn out well.

OTTERSPOL, AIGBURTH.—The home where that well-known grower, Mr. David Lindsay, made his name as one of the leading growers, is now in charge of Mr. Geo. Dutton, who grows his plants well, and who figured prominently last season at the principal shows. The incurved are most promising, Queens and Princesses especially so, being fairly strong and well ripened. Japanese are looking all right, most of the older varieties coming clean. Of the newer ones Wilfred Marshall, Col. Chase, Madame Cambon and Commandant Blusset figure most prominently.

CLEVELEY, ALLERTON.—Mr. Cromwell, although not an exhibitor, is too well known as a most successful cultivator to be omitted from this list. The large corridor, which is filled during the season, and the various receptions held by Mr. T. Sutton Timmis, so that visitors may see the display, makes it quite imperative that only the highest quality must be aimed at. The corridor at present is a picture, containing as it does fifty plants each of Mons. William Holmes, Bouquet des Dames and Gorgeous—red, white and yellow, carrying three or four blooms each of excellent quality, and which will be over in time for the general collection to be staged. These number 500 plants, and so far give every promise to develop blooms of high merit. Those showing most prominently amongst newer Japanese are International, Mons. C. Molin, Mrs. W. H. Lees, Louise, Golden Gate, Mons. Panckoucke, Duchess of York, Niveus, Miss Maggie Blenkiron, and others. The incurved are looking remarkably well, the Princess family having good clean buds well timed. The early blooms of the Queen family are somewhat irregular, the hot September weather seeming to have had a marked effect on them. Another 100 bush plants are retarded so as to be in grand form at Christmas. Taking the collection of 750 plants altogether, there is every promise of a grand display.

BOSCOBEL, BIRKENHEAD.—To know and to speak with Mr. C. J. Procter, the esteemed President of the Birkenhead Chrysanthemum Society, is a sufficient guarantee that flowers of all kinds are deeply cherished by him, and none more than the Chrysanthemum. Mr. J. Williams, his head gardener, can grow them to the highest perfection, and his successes are well known. Japanese are a speciality, and there is abundant promise of fine blooms. Marie Hoste, G. C. Schwabe, W. H. Lincoln (very good), Col. W. B. Smith, E. Molyneux, Vivian Morel, Chas. Davis, Mrs. C. H. Payne, and Florence Davis are excellent. Newer varieties are Duchess of York, Wilfred Marshall, Duke of York, Sir E. J. Smith, Mons. Panckoucke, M. G. Biron, Mons. C. Molin, Miss Rita Schroeter, and Madame C. Molin. All the incurved section look well. That terror of last year, Golden Wedding, will be right this time, being represented by good buds. Fifty grown, one shoot to a 6-inch pot, for grouping are now showing buds equal to any others.

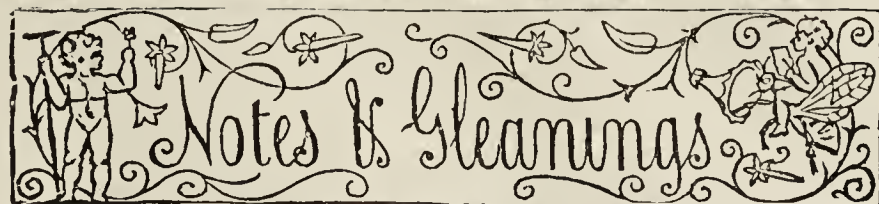
BLACKLOW HOUSE, ROBY.—The collection this year is quite up to the usual standard, the incurved section giving every promise of handsome flowers. All the well-known varieties are in fine condition. The best of the newer ones are William Tunnington, Owen's Crimson, J. Agate, John Falford, and R. C. Kingston. Globe d'Or is opening some enormous blooms, at present much resembling an incurved Japanese, but time will tell. The Japanese, too, are fine and strong, everything in the older varieties being well represented. The most taking amongst newer sorts are Wilfred Marshall, Duchess of York, Miss Goschen, Hairy Wonder, Triomphe de St. Laurent, Commandant Blussett, Philadelphia, Duchess of Wellington, Madame Paul Lacroix, International, Miss Maggie Blenkiron, and Mrs. W. H. Lees. Three hundred and twenty are grown for large blooms, and 100 in bush form. Anemones and Reflexed in variety are most satisfactory.—R. P. R.

CULTURE OF VALLOTA PURPUREA.

THOUGH this showy Lily is, as a rule, easily cultivated, yet I am induced to pen these notes for the benefit of those of your readers who may have found any difficulty in flowering it.

The few plants grown here were taken in hand the first week in March, shook out, and potted in good compost, consisting of fresh loam, decayed manure, with a good sprinkling of sand. The pots used were from 4 and 6 inches, according to size of bulbs. The bulbs were soon induced to make fresh roots, and kept growing in a temperate house till full growth was completed. They were then kept on the dry side for about a month, when the plants were transferred and plunged over the rims of the pots in a shady corner of the gardens in moderately poor soil, no further care being taken than to await the appearance of flower spikes.

The result is with me that good, sturdy spikes have thrown up on all the strongest bulbs, several having two, and even bulbs of moderate size one. Most of the spikes show three to five blooms on each. A good number, if grown to flower in a similar manner, should have a pleasing effect for the decorating of conservatories, blended with the earlier flowered Chrysanthemums. I may here mention that offsets taken from the old bulbs and treated as above stated have developed into good a size.—H. C., *Blackley*.



WEATHER IN LONDON.—The weather throughout the metropolis has on the whole been dry and pleasant during the past week. Slight fogs have prevailed in the morning, but on most days the sun has afterwards asserted its power for a short time. On Tuesday evening rain fell heavily, while at the time of going to press on Wednesday it was dull and cold.

— **MORE TREES IN LONDON.**—The London County Council is preparing to plant trees on the numerous open spaces under its control, and especially in Parliament Fields, which are at present somewhat bare. Twenty years hence Parliament Hill will be approached through a well-wooded avenue, which will add much to the beauty of this famous eminence.

— **ZONAL PELARGONIUMS FOR EXHIBITION.**—After reading "Exhibitor's" reply on page 341 to "Subscriber" on the above subject I must beg to differ from him in its taking two years to produce a good specimen from 3 to 4 feet in diameter. I have seen plants in 9-inch pots 5 feet through, carrying eighty to 100 good trusses of bloom, grown in eighteen months from the time of inserting the cutting.—DEVON.

— **PUBLIC PARK FOR BATH.**—At a meeting of the Bath City Council lately the Mayor announced the gift of Henrietta Park to the city from Captain Forester, who inherited the Bathwick estate from the late Duke of Cleveland. The park, which was formerly a private one belonging to the estate, is situated in the centre of the city, and will probably be laid out by the Council as a public pleasure ground. A resolution was passed gratefully acknowledging the gift.

— **APPLE ST. EDMUND'S PIPPIN.**—I was inquired of the other day at Reading as to the cropping qualities of this exceedingly handsome dessert Apple. That information I could not give, as I had not noticed it previous to its being exhibited at the recent Crystal Palace show in such beautiful form by Mr. M'Kenzie. I therefore read with interest mention of its free-cropping qualities in the excellent report of Messrs. J. Veitch & Sons' fruit nursery at Langley of last week's issue. That notice, and the beautiful as well as distinct appearance of the fruit, should it be also, as it seems to be, a good keeper, create a demand for the variety. Really it seems more fitly described as a Golden Russet. The latter appellation, in any case, would more correctly describe it than "Pippin" does.—A. D.

— **BRISTOL AMATEUR HORTICULTURAL SOCIETY.**—This young Society, which was formed about two years ago for the purpose of encouraging a love for and instilling a knowledge of horticulture amongst the amateurs of the district, has had a most successful session, and the last lecture for the year was given at Colston Hall by Mr. W. J. Pollard, a member of the Society, on the subject of "The Life of a Plant." The lecture, which was profusely illustrated with oxyhydrogen illuminated views, was an attempt to place the gist of the scientific phase of plant life before an audience of enthusiastic growers, and the reception accorded it fully justified the policy of the Committee in giving the members an opportunity of learning the cause and effect of plant life and development, as well as placing technical advice and instruction before them. At the close of the lecture a vote of thanks was awarded the lecturer.

— **HYBRID STREPTOCARPUS.**—For some time past Messrs. J. Veitch & Sons, Royal Exotic Nursery, Chelsea, have been paying close attention to the hybridisation of the Streptocarpus, and their splendid success is well known throughout the whole of the gardening world. A few days ago this firm forwarded to us a box containing a number of blooms taken from plants grown in pits in the Chelsea nursery, writing that "the flowers are now much smaller than they have been, but they are fairly representative of the colours we have obtained." The range of colour was very extended, much more so than we have previously seen, and though the blooms were somewhat shrivelled on arrival, it was very easy to see to what size and substance they had attained. Considering the distinct appearance of Streptocarpus, combined with their floriferousness and ease of culture, it is surprising they are not far more extensively grown.

— **RIPENED WOOD AND STEPHANOTIS.**—Mr. Pettinger desires to say in answer to his sceptical inquirer (page 350) that the soft growths of *Stephanotis* are cut back to firm ripe wood because it is ripe, and because no other can produce such long, strong, floriferous growths.

— **THE "Kew Bulletin"** announces that Sir Joseph Hooker has presented the Gardens with a replica of a portrait of the late Dr. T. Thomson, F.R.S. Dr. Thomson was the first botanist to enter the Karakoram mountains, and was for some time Director of the Calcutta Botanic Gardens.

— **A FINE APPLE.**—Having seen references made to large Apples, I am sending you one of ours, which when gathered, about twenty-one days ago, weighed 1 lb. 7 ozs., though it is lighter now. It is known here as "Norfolk Beefing," but I am not quite clear on the point, and shall be glad if you will kindly tell me, through the Journal, if this is right. The tree was a picture, being loaded with fruit of similar size. The soil here is good for fruit growing, being sandy loam resting on the chalk.—J. MORRIS, *The Gardens, Hungerford Park, Berks.* [We are of the opinion that the specimen sent is an exceptionally fine fruit of *Mère de Ménage*, though it is somewhat pale in colour for that variety.]

— **POTATOES IN IRELAND.**—The Irish Potato crop is this season a splendid one throughout the country. Disease is not absent, indeed it is often found in Antrim, Kilkenny, Limerick, and Down; but even in those counties, where moisture is so prevalent, there have been splendid results where spraying has been properly conducted. The greatest loss has been where the Champion has been cultivated; this variety has no stamina in Ireland, having lost its constitution by successive generations of cultivation from the same stock on the same land. The Champion might still be profitably cultivated in Ireland were seed obtained from good Scotch or English stocks. From pasture land and from the Potato fields Irish farmers have this year reaped good harvests, probably better ones than their confrères in England have.

— **THE DRIED PLANTS FROM SOMALILAND.**—Specimens of the above were presented recently to Kew, and collected chiefly by Miss Edith Cole, Miss Lort Phillips, and Mr. E. Lort Phillips, and have been critically examined by the authorities. The set contained some 350 species of plants, and of these sixty-nine were new and undescribed, and included three new genera. The new plants are described in the "Kew Bulletin" for September. They include one new Orchid, a *Habenaria*; and one new Fern, a *Pellaea*. There are four new species of *Leucas*, a genus of *Labiatae*, several new members of *Liliaceae*, *Amaryllideae*, *Convolvulaceae*, *Asclepiadeae*, *Compositae*, *Rubiaceae*, and *Leguminosae*, with a less number of species belonging to other orders. The new genera are *Edithcolea*, somewhat like *Stapelia*; *Phillipsia*, nearly allied to *Ruellia*; and *Cyclocheilon*, a genus of *Schrophulariades*.

— **SEPTEMBER WEATHER AT HODSOCK PRIORY.**—Mean temperature of the month, 59.4°. Maximum on the 24th, 82.2°; minimum on the 22nd, 33.5°. Maximum in the sun on the 6th, 132.7°; minimum on the grass on the 22nd, 28.0°. Mean temperature of the air at 9 A.M., 59.3°. Mean temperature of the soil 1 foot deep, 58.4°. Nights below 32°, in the shade, 0; on the grass, four. Total duration of sunshine in the month, 192 hours, or 51 per cent. of the possible duration. Total rainfall, 0.97 inch; rain fell on nine days. Average velocity of the wind, 4.5 miles per hour; velocity exceeded 400 miles on one day, fell short of 100 miles on eighteen days. Approximate averages for September.—Mean temperature, 55.5°; sunshine, 110 hours; rainfall, 2.26 inches. A very fine month, with bright hot days and light winds. The mean temperature is higher than any of the last nineteen years.—J. MALLENDER.

— **WAKEFIELD PAXTON SOCIETY.**—At the meeting of the members of this Society held on the 5th inst. Mr. B. Whiteley presided, and Mr. B. Edmondson was in the vice-chair. Despite the wet weather and other attraction there was a good attendance of members. The essayist was Mr. Thomas, gardener to the Bishop of Wakefield, and he gave a most excellent and very interesting essay on hardy climbers. Mr. Thomas pointed out the best varieties of fine-foliage and blooming climbers suitable for the adornment of mansions, villas, and cottages in this district, particularly mentioning different kinds of Virginian Creepers, Ivies, and Honeysuckle, Wistarias, and the Ayrshire Rose. The essay provoked a lengthy and most interesting discussion, in which some diversity of opinion was expressed as to the use of Ivy of various sorts for the adornment of dwelling houses, some of the speakers expressing it as their opinion that it caused dampness, whilst others said it prevented dampness. A vote of thanks to Mr. Thomas for his able and interesting essay was accorded.

— **CANADIAN FRUIT.**—It is stated that arrangements have been completed by which a firm of London shipowners will convey Apples and all other fruits grown for commercial purposes in Nova Scotia, from that favoured colony, via the Ship Canal to Manchester. By this means travelling expenses may be lowered, and the price per barrel reduced to the consumer.

— **ZINC IN DRIED APPLES.**—In a recent Consular Report furnished to the Government of the United States, it is stated that "for a number of years dried Apples in the form of slices, pieces, or rings, have been imported into Germany from the United States, and it has been observed that this fruit often contains zinc in such quantities that, according to medical authority, the consumption of it may be detrimental to health. The German authorities have, in consequence, endeavoured by every possible means to prevent the importation of American dried fruits containing zinc and to bring about the judicial punishment of the vendors of such merchandise." It is shown that the zinc gets into the Apples during the drying process, and is due to the use of zinc plates or trays in the fruit evaporators, the acid of the Apples chemically combining with the zinc, forming a malate of zinc. The use of zinc plates is said to give the dried Apples a fine light colour, but as stated in the report, "it would not seem to be advisable to employ such means for the sake of a comparatively small and purely external advantage." In place of zinc plates it is recommended that racks or frames of wood be used, or that the Apple slices be dried upon strings or cords. These methods "are often employed in Germany, and therefore the brownish colour of the products obtained through them would not put them to any disadvantage so far as their importation into Germany is concerned."—"Kew Bulletin.")

— **DEATH OF MR. M. WILKOMM.**—The death of Moritz Wilkomm, the eminent botanist and geographical explorer, is announced in the "Geographical Journal." Of his life we read:—"Born in 1821, at Herwigsdorf, in the kingdom of Saxony, after 1841 he studied medicine and natural science at Leipzig. In 1844 he for the first time visited the Pyrenean peninsula, which he subsequently traversed so often, sometimes by the year together, making thorough investigations into the botanical, geognostical, and geographical relations of the country. After having, in 1852, gained some experience as teacher of botany at Leipzig, and having been called thence first to Tharandt, and afterwards, in 1868, to Dorpat, he occupied the chair of Botany at the German University at Prague from 1873 until the receipt of his pension in 1892, being at the same time Director of the Botanical Garden in that city. He did much good work by his rich botanical collections, principally from Spain and the Balearic Isles, as well as by his special botanical works dealing especially with the descriptive side of the science; whilst as a geographer he did lasting service, not only in connection with the geography of plants—in particular in South-West and Central Europe—but also by his comprehensive geographical description of Spain and Portugal; and, above all, he threw light on the geography of Austria by his excellent work on the Böhmerwald (1878), which region he was the first to throw open to science in its most inaccessible parts, still at the time clothed with primeval forest."—"Nature.")

— **THE POTATO SCAB.**—This disease attacks the crop through infected tubers, and Professor Bolley showed that if these are immersed in a corrosive sublimate solution of the strength of one in a thousand—that is, 2 ozs. to 15 gallons of water—the crop will be essentially free from surface blemishes and have a greater market value. Dr. J. C. Arthur, Botanist of the Purdue Experiment Station, has lately issued an interesting bulletin on this subject, giving the result of three years' trials of the corrosive sublimate treatment, and these trials, taken separately or collectively, establish the efficient character of the remedy. The treatment is easy and cheap. The poison should be dissolved in a small amount of hot water in an earthenware dish and the solution added to the water in a wooden cask. The bath should be about an hour and a half long, although some variation in the time is immaterial. The solution may be poured off and used over and over again, as dirt does not injure it. Of course, great care must be exercised with so deadly a poison. Without making a study of the causes of this disease, Professor Halsted has also been experimenting on the New Jersey Agricultural College farm with sulphur as a remedy, using on one plot the flowers of sulphur at the rate of 300 lbs. per acre. The freshly cut tubers used for seed were rolled in sulphur, and the rest of it was sprinkled in the open row at planting time. In this plot the Potatoes came out practically free from disease, while in the adjoining plots, treated exactly in the same way, except that the sulphur was omitted, all or nearly all of the Potatoes were scabbed.—("Garden and Forest.")

— **GEORGIA PEAR CROP.**—The Pear crop in Georgia is this year the largest on record. It will exceed 300,000 barrels, which, placed end to end, would form a line 150 miles long. The contents amount to 800,000 bushels, representing in weight about 30,000 tons.

— **VINE PESTS IN AUSTRALIA.**—Another Vine pest, says "The Australasian," has been reported from South Australia. At the Pyap branch bureau examples were tabled with soft spongy excrescence, at the butt inside of which were found small white grubs. The General Secretary said the malady had been noticed on Vines growing on land which has occasionally an excess of water, but similar excrescences and grubs have been seen on Vines where no irrigation has been applied. At present no curative measures can be suggested.

— **WATER FOR PLANTS.**—Some interesting and curious results have been announced by a French man of science, M. Gain, as a consequence of his experiments on the individual requirements of particular plants in the matter of water. M. Gain says that there is an alteration in the requirements of plants for water. Continuous deprivation or continuous supply of water are, of course, contrary to the physiological requirements of plants, but it is not generally known that plants which are supplied with water at the two critical periods—viz., the commencement of the unfolding of the leaves and the beginning of the flowering period—and at no other time, did as well as those provided with a continuous supply of water during the whole period of vegetation. M. Gain also says that on damp soil a plant yields smaller seeds, which consequently tend to bring about the degeneration of the species.—("The Morning.")

— **THE MICHAELMAS DAISY.**—This North American Starwort first assisted to illuminate the British parterre about the year 1633, it having been brought, says the "Rural World," direct from Virginia by John Tradescant, jun., who visited the New World for the express purpose of collecting plants, his father having founded a garden of the first consequence in those days at Lambeth, and being also appointed gardener to King Charles the First. Botanists have named this species *Aster Tradescanti*, in compliment to his memory; but it has obtained the more familiar name of Michaelmas Daisy from its flowering about that season of the year, and the corollas being radiated and nearly of the size of the common Daisy. It grows from 3 to 5 feet in height, and is, therefore, not calculated for the small flower garden, excepting to form a shelter and background to the more tender autumnal flowers. It affords the bees a late and almost a last resource.

— **CALLICARPA PURPUREA.**—This shrub is just beginning to justify its generic name by the beauty of its clustered berry-like drupes which appear in the axils of every leaf. As seen in American parks just now the branches, often 3 feet in length, arch over almost to the ground under the weight of violet coloured fruit, and this, together with its clean light green foliage, makes the plant worth using in parks or large places, wherever it is desirable to produce special autumn effects. The flowers open in mid-August here; they are lilac-purple, but small and inconspicuous, although rather interesting, on account of the time when they appear. This shrub, which grows to a height of 4 or 5 feet, is a native of Asia, but there is an American species of the genus found from Virginia southward along our coasts. It is not hardy, says an American journal, as far north as New York, but where it will thrive its violet coloured fruit is even more handsome than that of its Asiatic relative. *Callicarpa purpurea* can be raised from seed, which is produced abundantly, and it will grow in almost any soil and with the simplest treatment.

— **TILIA AMERICANA.**—Our native Basswoods, says an American contemporary, have been less frequently planted than some of the species of western Europe, and yet they are most desirable trees for streets and parks. In good soil they grow rapidly and attain large size; the foliage is abundant and rich, deep green in colour; the flowers are delightfully fragrant, and much sought by bees, and they suffer less from insects than the foreign kinds. A Washington correspondent writes that the trying weather of the past summer has also demonstrated the superiority of *Tilia americana* over the European species for street shade trees. While all have suffered more or less from the drought, the European species lost many of their leaves before the weather began to tell on the native one. Besides this, it was scarcely touched by caterpillars in that city, while the others have suffered very considerably. The southern species, *T. heterophylla*, is rather smaller; a graceful tree with a pyramidal head, with larger flowers than those of *T. americana*, while its leaves, which are silvery white beneath, give it a singular beauty. It is perfectly hardy here.

— **PROTECTING TREES FROM SUN SCALD.**—More fruit and shade trees, says a transatlantic journal, are believed to be killed by sun scald than from all other injuries. Cornstalks furnish a simple means of shade and also protect from rabbits. Split each cornstalk in two and place the flat side against the trunk, using two or three loosely woven ties when the trunk is surrounded. Prof. Samuel B. Green believes that the trees are scalded in early spring as well as in the summer and fall, so the protection should remain on the trees through the year. He recommends inclining fruit trees to the south-west when planted. The trunks may be shaded by boards, woven laths, close wire screen, burlap or thick paper, and the crotches covered with hay rope. A bunch of corn fodder may be tied around the tree.

— **CANKER IN FRUIT TREES.**—A correspondent writes to a contemporary:—It may interest those who are troubled with this disease in Apple trees to know the result of an experiment made last winter at Gunton, with a view to its extermination. A row each of Lord Suffield and Potts' Seedling Apples in bush form were affected with this malady, so much so, indeed, that there was scarcely a clean branch visible in any one of the trees. Soluble paraffin was mixed with dry powdered clay and made of the consistency of paint, being afterwards well rubbed into the affected parts with a rough painter's brush. The result was that all the diseased portions healed up, and at the present time the trees present a very healthy appearance. No doubt canker is often encouraged by the roots being in an unsuitable medium, but some varieties are prone to canker in any soils and when well treated, hence the value of the above remedy.

EXHIBITION QUALITY IN POTATOES.

It is very evident that we are yet a long way from the Millennium so far as relates to consistency as well as wisdom in flower show judging. What the publication of the code of judging now in course of preparation may ultimately lead to it is difficult to say. Much, doubtless, depends on how far that code may be regarded as a text book by judges and committees, but the need for some such code and general acceptance of its requirements seem to be as great as ever.

Recollecting how very effective in creating better ideas with respect to Potatoes at exhibitions were the old International Potato shows, and also how a remarkable development in form, quality, and general excellence, even at those shows, grew with them, I was hardly prepared to find such astonishing Potato exhibits as were seen recently at an important vegetable show at Reading. True, the show was one organised by Mr. Fidler, who is great in Potatoes, for his own trade purposes, but there were all the same representative collections from Kent, Hants, Warwick, Stafford, Oxford, Somerset, and other counties, and the marked feature of the huge collection of tubers was that whilst some counties sent perfectly gigantic samples, others sent those that were for size, evenness, and appearance almost perfect.

The assumption is that very different ideas as to judging rule in various places, and that there are some where mere size dominates every other consideration. No doubt it was disappointing to exhibitors of twelve dishes of giant tubers, not unhandsome for their size, weighing from 16 to 20 ozs. each, and in their homes regarded as invincible, to find that tubers barely one-half of their size were placed in preference.

Thus Kent, through an old international exhibitor, Mr. Chopping of Sittingbourne, with singularly beautiful bright medium-sized samples, was to those who previously had not seen such samples, a valuable object lesson; indeed, it would have been difficult in any other vegetables to have furnished more striking diversities than was in this class. Hants came next, for Mr. Bowerman of Hackwood, who was so strong with handsome vegetables in other classes, had beautiful clear-skinned samples, but generally lacked that marked distinctness, which characterised the Kentish tubers.

Of white kidneys, Snowdrop, Reading Giant, and Colossal; of coloured, Edgemoor Purple and Mottled Beauty; of white rounds, Challenger and Prizewinner; and of coloured, Lillie Langtry, white striped red, and Sutton's Gem, purple fleshed white, were all very handsome. This latter variety is, curiously enough, a pure sport from Vicar of Laleham, and is very distinct and handsome, whilst Lillie Langtry is a seedling from the same variety. Fidler's Hercules, a strong-growing round, has tubers marked much like those of Lillie Langtry. Mr. Bresee seems to be regarded by some growers as the best red kidney, but it is of bad quality. The old International cropped up under other appellations, and as handsome as ever.

No doubt Potatoes do generally run very large this season, but then if a grower can pick out huge tubers that are fairly presentable, it is so obvious, did he better understand what is held to be Potato quality, that he could gather from his crop a far greater number of very handsome tubers much less in size. It was interesting to learn that whilst the competition in Potatoes was this year very large, yet that quality was on the average much better than last year. No doubt there will be as a result of this year's judging even greater advance, and it is thus hoped that size will disappear before the advance of quality. The show held in the Corn Exchange was entirely free to all, was open two days, and was visited by thousands of persons.—SPECIALIST.

GLADIOLUS CORMS DISEASED.

THE corms ("D.W.") arrived in excellent condition, and on examining the first one we found an abundance of the white "insect" you mentioned in your former letter. It is distinctly visible to the unaided eye, and clearly defined by an ordinary pocket lens. It belongs to the order Thysanura (Springtails) of the so-called group Aptera, but that is merely a matter of convenience, and is named *Lipura fimetaria*. It is not a "jumper," but a runner, is about one-tenth of an inch in length, white or nearly so, and velvety in texture. It may be found in damp earth throughout the year, especially in rich soil, or where there is decaying matter, and often feeds on the roots of plants, being especially fond of Carrots and Potatoes, but generally associated with parts that have been exposed to invasion by the attacks of other pests, such as scab and canker spots, as caused by fungi and insects. The insects may, however, act on their own account and cause decay by their depredations on living tissues, as they certainly do in the case of "roots," as Potatoes, but in your case they were confined in presence to the decaying sheaths of the "grass" enveloping the newly formed corm. They are fragile creatures and easily destroyed by a dusting of freshly slaked lime.

Removing the sheaths from over the corm we came across an orangish-yellow, leech-like creature of about the same size as the legged "animal" before seen, the *Lipura*, but with the head part protruded to a fine point. It is the larva or maggot of a dipterous fly, belonging to the *Syrphidae*, which includes some of the most useful insects, in the larval state, and some of the worst pests of crops. This pest often destroys Mignonette plants wholesale, especially in dry seasons, somewhat after the manner of the Cabbage and Onion maggots, the affected plants dying off suddenly, withering "without cause or reason." Rearing that up found on bulbs we saw it was a midge, a very active one too, and certainly not a British species, or if one, unknown to the highest authorities as such. We have only found it on imported bulbs and on Mignonette in rich ground, but we have not reared the latter.

Strong lime water appears the best cure for it, but we do not consider this pest the cause of the collapse in your plants, the attack being due to an excess of decaying matter in the soil, or of decay set up in the corms by another creature. The fly may be called the bulb midge (*Sciara narcissi*), as it is common on buds infested with the *Narcissus* fly (*Merodon clavipes*), or others that have been damaged, but your corms were not by anything large, and we are loth to identify them with the diseased parts. These, as you say, are or will become black. It has been attributed to "bacteria," we have never found any but septic, the cause or accompaniment of putrefaction in already dead tissues in connection with Gladioli. There were no fungal bodies, but of a saprophytic nature, which in many cases are endophytic, and live on both dead and living tissues, the latter by their secretions, and the origin of this is usually in decayed overlying tissues. This may be interesting to you and other readers interested in Gladioli culture.

Having examined many bulbs or corms of Gladioli, we had a strong suspicion of what we should find—a minute speck or specks clustered together, just or barely visible to the unaided eye, but a person of keen eyesight may discern them, and with a pocket lens they appear as a translucent, small pinhead-sized substance, like jelly. Taking one of these and placing it in a drop of spirit, say brandy, on the glass slide of a microscope, turning on the light, and using a lens of about fifty lineal diameters, we found a six-legged mite parading in the drop of spirit, and in capital condition for examination. With a higher power we see what the works of Nature and their Creator are—more than wonderful. There are the hairs on the legs and body, a masterpiece of evolution or development for specialised purpose.

It lives for a considerable time in 95 per cent. spirit, and is a wretched creature to have on the human person, causing intolerable itching, and even inflammation or minute smarting blisters, especially near the eyes, as it gets from the manipulating, and is very nasty. That is one of the delights of studying mites, especially those of the itch (*Sarcoptidae*) family. This is a next-door relative, a cheese (*Tyroglyphidae*) mite family representative, of the genus *Tyroglyphus* (Lat.), sub-genus *Rhizoglyphus*. It is Claparède's, *Hypopus Dujardini*; Fumouse's and Robin's *Tyroglyphus echinopus*, Boissudval's *Acarus hyacinthi*, and our present day *Rhizoglyphus echinopus*.

The genus is sometimes varied without "sense or reason," all the same, it is the same thing as first defined by Claparède, and figured by Fumouse, copied times out of number from Case XIV., Nos. 7, 8, 9, 10, Natural History Museum (Bethnal Green) branch, there never having been a better than Fumouse's of the larvæ (six-legged), as given in "Murray's Aptera," page 257. It exactly represents your mite when magnified 80 diameters. An excellent illustration is given in the *Journal of Horticulture*, April 5th, 1888 (page 285), of the perfect mite (B), but Fumouse's only is the correct thing of the larval or six-legged animal. This is the cause of the disease in your corms.

The mites destroy the skin in places, and the other creatures—the springtails, albeit they are not jumpers—and the maggots come to the feast, and saprophytic fungi and septic bacteria complete the devastation, performing a useful work in resolving dead matter into inoffensive, and hastening the supplies of food for vegetation. The mites swarmed here and there, and they have the advantage of the other "beasts," in that they live directly on the corm, therefore survive the drying season as well as the growing, they being able to subsist in a wet soil or in a dry; but they like warmth, yet are not by any means uncommon on the roots of Clover, or rather the crowns, and are introduced in potting soil

to feed on the bulbs of *Eucharis*, and especially *Vallotas*, also *Gladioli*, especially *G. Colvilli* var. *The Bride* or *alba*.

During the rest season the mites harbour at the base of the corms, "dig" into it there, and the plants made a poor growth the following season, turning yellow in the grass by or before the spike appears, and the bloom is poor or nil. This is the work of the mites, which fasten on the new corm as the old parts with its stored matter depart, and, as before stated, the "eagles are gathered together" to feast on the dying or dead corms. The question arises, and it is an important one, is the mite imported? We believe it is, for English Gladioli are much the healthiest, and all we have seen have been on the high-class and high-bred or tender varieties.

Of course, you want to know what to do. First burn all the infested corms. They would perhaps live over the winter, but the mites would feed upon them and destroy or greatly impair the basal part, so that they would start badly, if at all, next season. If you like to kill the mites and give the corms a chance steep them for an hour and a half in solution of mercuric bichloride (corrosive sublimate, finely powdered) at a strength of one part in one thousand in water, in a wooden (not metallic) vessel, and remember that the solution is a terrible poison, but not such at the strength named to cause injury unless taken into the stomach. You may disinfect bulbs or corms in future with it, first steeping them for a similar time in tepid water.

For the land apply a dressing of quicklime, about $\frac{1}{2}$ cwt. per rod, placing the freshly burned lime in little heaps, covering with a little soil till fallen, and then spread evenly and dig in lightly with a fork in the course of a few days. This will make quick work of the soft-bodied "gentry" in the soil, and of the decaying vegetable matter upon which they partly live and are mainly fostered by. Use chemical manures another season, those advertised being as good, and often better, than home-compounded.—G. A.

SMALL MATTERS OF GREAT IMPORTANCE.

AT the present time, when the work of preparing beds for the reception of their spring flowering plants is in full progress, it is important to take steps to destroy the many forms of insect life which usually abound in liberally manured soil.

This is especially the case where *Violas* are largely used, as I have often proved that the apparently mysterious collapse which takes place among them in the early summer months is entirely due to the depredations of a greyish coloured grub, which bores into the collar of the plant just below the soil. An effectual remedy for this evil I have found to be that of giving the beds a good dressing of freshly slaked lime, taking care to thoroughly incorporate it with the soil as the work of digging proceeds. Beds that have been manured annually for a number of years are not usually deficient in fertility, and this occasional dressing of lime has a beneficial effect in other ways by converting into available plant food accumulated yet insipid vegetable matter.

Violas are, however, plants which require liberal feeding to keep them constantly in flower from April till August, but they may be easily sustained by frequent dressings of chemical manures and soot during the growing season. Annual dressings of manure has also the effect of causing flower beds to become too full, unless the precaution of removing some of the old soil is sometimes taken, and this means a considerable amount of extra labour in flower gardens of great size.

An excellent way of compromising matters, with beneficial effect all round, is to use chemical manure every alternate year at the time of digging. Fertility is thus fully maintained without the bulk of soil being increased, and, moreover, the soil is kept more free from injurious insects than is the case when natural manures only are used. While the present spell of fine weather lasts, if these matters are carefully attended to, a good foundation will have been laid upon which to build success in the matter of spring and summer bedding.—H. D.

GRIFFINIA HYACINTHINA.

THIS bulbous plant, with its handsome flowers, is rarely seen in private gardens, and is consequently not generally known. A short time back a correspondent sent flowers, and requested information as to a good method of culture. We are now able to give an illustration (fig. 59), showing the inflorescence, and to print the system of culture adopted by one of the most successful growers. The stout scape of flowers so beautifully tipped and edged with blue and white, and the bold handsome foliage, render the plants most charming for winter flowering, and it is remarkable they are so seldom seen in gardens where the floral display for the winter months is a source of constant anxiety.

"An intermediate heat, such as that of a vinery where a little fire is used, will answer for them quite as well as a warmer situation, but they should never, except in hot weather, be subjected for a long time to a greenhouse temperature, even when they have completed their growth and are at rest, or they are liable to suffer. The only drawback to their more general cultivation is difficulty in propagation through their slow habit of growth, a circumstance still further aggravated by keeping them quite dry when at rest. Nothing can be more injurious to any

evergreen bulb than this kind of treatment when carried too far, and especially in the case of Griffinias. Unlike *Eucharis amazonica*, Griffinias cannot be grown and periodically rested so as to induce them to flower several times in the year; on the contrary, they need a long

few succeed in raising them from seeds, the failure being often attributable to the seeds being covered with soil, whereas they should be allowed to remain on the surface of the soil in the pots, otherwise they will decay.



FIG. 59.—GRIFFINIA HYACINTHINA.

season to become fully developed, and want a long rest afterwards before flowering, during which the soil should be kept much drier than when they are in active growth, but should never be so dry as to cause the leaves to flag. Another reason why these plants are scarce is that so

“Griffinias can also be increased by separation of those bulbs that are produced as offsets in the same manner as with *Amaryllis*, but their progress is very slow, and the roots are so closely interwoven as to render their separation almost impossible without considerable mutila-

tion. When they are to be divided, the ball should be turned out of the pot and the whole of the soil washed very carefully from amongst the roots, by which means they may be more readily disentangled without so much breakage. They should then be placed singly in from 4 to 6-inch pots, according to the size of the bulbs, and treated as hereafter described for plants raised from seed. After blooming in summer or autumn the seeds make their appearance, growing to the size of Potato apples, but in appearance more like small green unripe Tomatoes, being corrugated and irregular in shape. They must be allowed to remain on the plants until they either fall off of their own accord or can be removed by very slight pressure, and should then be sown immediately. For this purpose use an ordinary seed-pan proportionate in size to the number of seeds, put an inch of drainage in the bottom, and on this a little sphagnum or turfy material."

THE FLORISTS' TULIP.

[By JAS. W. BENTLEY, Hon. Secretary of the Royal National Tulip Society.]

DESCRIPTIVE CATALOGUE. (*Continued from page 329.*)

CALIPH (Gibbons).—Bizarre. Shape good, base pure; much like the once famous Pilot, being like it a red-flamed bizarre, but having a narrower beam.

CAMILLA (Battersby).—Rose. Shape good, base pure; best as a flamed flower when the marking colour is very refined and a bright red in colour. It suffers from a tinge of blue at the base of the beam, which detracts from its value as an exhibition flower. A seedling from Lady Crewe.

CAMILLUS (Dutch).—Rose. Shape rather long, base pure; a constant and good flamed rose, formerly esteemed, but not grown now.

CAMUSE DE CRAIX (Dutch).—Rose. Shape not very good; petals wide and stout, base apt to be streaked with yellow well flamed with bright red; comes late into bloom. It was introduced in 1790, and for more than sixty years considered first-rate. Now obsolete.

CANDIDA (H. Goldham).—Bybloemen. Dwarf; good shape, base very pure, handsomely flamed with pure light purple on clear white ground, and very constant in its markings. This variety, notwithstanding its great merits, will never be prominent as an exhibition variety, as it lacks the continuous feathering now considered indispensable. Almost all of Mr. Henry Goldham's seedlings (and they may be numbered by hundreds) fail in this most important property. It is a seedling from Catharina, alias Queen of the North × Gipsev.

CAPTAIN RUDDOCK (Knowles).—Bizarre. Shape good, base pure; a good dark feathered bizarre, but generally small in size; not a robust grower, and very scarce. Raised by Mr. James Knowles of Staleybridge.

CAPTAIN SLEIGH (Gibbons).—Bizarre. Red flamed, in the way of Pilot, but not pure; first broken in 1842, and now valueless.

CAPTAIN SPEKE (H. Goldham).—Bizarre. Red brown flamed on pale yellow ground; valueless as an exhibition flower. A seedling from Hamlet × Caliph.

CAPTAIN WHITE. Syn. of SAN JOSÉ.

CARBUNCLE (Headly).—Bybloemen. Resembles Adonis closely, and by many supposed to be merely an alias of that variety. I am of opinion that the two are distinct, as Carbuncle does not grow so high, increases much more slowly, and is richer in the colour of its purple flame than Adonis.

CATALANI (Dutch).—Rose. Dwarf; shape fair, base very pure, richly flamed with scarlet on a clear white ground. Introduced in 1787, this variety was a great favourite for over seventy years, and was also called Ponceau tres Blanc, Cerise Blanche, La Tendresse, Madame Catalani, Minerva.

CATAFALQUE (Dutch).—Bizarre. Tall; pure; shape too globular; feathered with dark brown on pure yellow ground; when flamed was called Castrum Doloris. Introduced in 1790, and was a famous flower in its day.

CATAFALQUE SUPERIEURE (Dutch).—Bizarre. Shape good; base pure; feathered with brown on an orange-yellow ground; the feathering was apt to flush. Introduced in 1798, and now obsolete.

CATAFALQUE SURPASS (Dutch?).—Bizarre. Shape good; base pure, feathered with brown on a clear yellow ground. This variety can make a fine flower even yet, despite its hundred years. When flamed it is impure, and used to be called Grandeur Superb.

CATHARINA (Clegg).—Bybloemen. Dwarf; pure; shape too long. A famous feathered flower fifty years ago, but now only seen in flamed state, when it is of little value. Raised near Royton, Lanc., by Mr. Clegg, it got by some means into the hands of Mr. Hepworth, who sent it out, called Queen of the North, by which name it was better known.

CATHARINE (Gibbons).—Rose. Tall; shape rather long, pure. Was thought highly of as a flamed flower and breeder forty years ago, but little grown now.

CERISE A BELLE FORME (Dutch).—Dwarf; shape fair, pure. An universal favourite as a fine flamed rose fifty years ago in the South. Introduced 1779.

CHANCELLOR (Battersby).—Bybloemen. Tall; base very pure. Is a fine exhibition variety when flamed, as it is very constant and refined. The feathering is purple, and the beam, although very distinct, is much paler in colour. Its great fault is its sleepiness, or its want of power to open properly. It is about thirty-five years old, and still one of the very

best of our flamed bybloemens, and by it chiefly its raiser, the late Mr. Battersby of Mansfield, is remembered.

CHARLEMAGNE (Hepworth).—Tall; shape fair, very pure; petals of stout substance, finely flamed with black-purple. A fine, late-blooming exhibition variety; and although it has been out over twenty years, as it increases slowly, is still very scarce.

CHARLES X. (Strong).—Tall; shape rather long, not strictly pure. A grand feathered bizarre in its day, but rarely seen now. It was generally called Royal Sovereign in the Midlands, and also had other names, such as Platoff, Waterloo, George IV., Duke of Lancaster, Le Conquerant, and Defiance. It is worthless when flamed, and has been cultivated about eighty-five years.

CHARBONIER (Dutch).—Bizarre. Formerly much esteemed as a dark flamed flower. The shape was good, base pure, yellow ground, pale, and the marking most unsteady. It was introduced about 1772, and rejoiced in the following aliases—Charbonier Noir, Emperor Alexander, Cenotaphium, and Mason's Black Catafalque.

CHARLES DARWIN (G. Hardwick).—Bizarre. Best as breeder, being fine red brown in colour; base pure, shape rather too globular. A good grower, but has not made any mark as a broken flower as yet.

CHARLIE FLATHER (Hepworth).—Bizarre. Best as a breeder, having a fine shape, very pure, and stout petals of an orange brown colour; not of much value when broken. Syn., Hepworth's 14/63.

CHARLES GILL (C. Gill).—Bizarre. Shape good, base pure; when feathered is dark brown on a rich yellow ground; it can make a correctly flamed flower also, but is rather undersized, and a poor grower.

CHARLES H. HOPWOOD (Storer).—Bizarre. Dwarf; pure, shape good, feathered with scarlet on a pale lemon ground, and is very constant and attractive. Being a poor grower it will, I fear, never get into general cultivation. Named by myself, as the variety had neither name or number by which it could be identified.

CHARLES KINGSLEY (H. Goldham).—Bybloemen. Flamed with purple on good white ground. A seedling from Victoria Regina × Gipsev.

CHARMER.—Syn. of MABEL.

CHATSWORTH (Thurstan).—Bizarre. Shape good, base pure. It is a seedling from Dr. Hardy × Sir Joseph Paxton, and is a good flamed flower. It is an improved Sir Joseph Paxton in shape, and is marked more in the style of Dr. Hardy. A promising new variety, still in the hands of the raiser, Mr. James Thurstan of Cannock.

CHELLASTON BEAUTY (Gibbons).—Bybloemen. Dwarf; shape good, and base pure, marking colour dark purple. This was in its day one of the best of Mr. Gibbons' celebrated Chellaston varieties, being esteemed for its short cup and correct marking in both feathered and flamed states, but is rarely seen now.

CHRISTINE (H. Goldham).—Bybloemen. Flamed with rosy purple on good white ground. A seedling from Britannia × Gipsev.

CLARA (H. Goldham).—Rose. Tall; pure, shape good, well flamed, with dull rose on good white ground. A seedling from Claudiana × Pass Lac.

CLAUDIANA (Dutch).—Rose. Tall; pure base, shape too globular. Was much esteemed fifty years ago as a feathered flower, although it was very inconstant in its markings, and was often slightly stained in the upper portions of the petals.

CIRCE (Headly).—Rose. Shape good, base pure; petals of good substance, beautifully flamed with bright cherry red on a good white ground. It is very similar to Sarah Headly, but is, I believe, distinct, although undoubtedly a near relation. It is fairly constant and a good exhibition variety.

CLEOPATRA (Dutch?).—Bybloemen. Best when feathered; shape long and base creamy. An excellent marking variety, in great favour in the South fifty years ago.

CLIO (Clark).—Rose. Pure; was a good flamed flower in the early part of the century. When feathered only, the feathering was dense and rich red in colour which aged to a purple. The feathered strain was called Madame Vestris and Princess Sophia of Gloucester.

CLIO (Oldfield).—Rose. Pure; shape good and flower large. It comes in both feathered and flamed states; the marking colour is crimson rose, and it is inconstant. A good flower at times, a strong grower, and increases well.

COLBERT (Slater).—Bizarre. Dwarf; pure, best when feathered, but now generally flamed. It was first broken in 1850, and is a striking bed flower, with its dark chocolate flame on a rich golden yellow ground.

COMMANDER (Marsden).—Bizarre. Pure; shape good, best when feathered, having a bold, heavy, dark feather on a rich yellow ground. It is unsteady and apt to be too heavy in colour, but is one of the best of feathered bizarres when right, of no particular value when flamed.

COMTE DE VERGENNES (Dutch).—Rose. Tall; very pure, shape poor, the petals being too long and the outer ones stand apart, giving the flower a triangular appearance. It is best when feathered; the colour is crimson rose, ageing to a purple, and is often grizzled. This variety, named after a celebrated French statesman, has been grown for over 120 years, and is still useful as an exhibition flower. It is a good grower and is cheap and plentiful. Syns., Count, Comte, Lady Wildair.

CONINGSBY (Dymock).—Bybloemen. Shape good, base yellow on opening, and very difficult to bleach. Only of value when feathered, when the bold heavy dark feathering is very beautiful. This variety, but for its creamy base, would be one of the very best of feathered bybloemens, as it is steady. It is not common, as it increases rather slowly. Syn., Connorsby Castle.

CORIOANUS (H. Goldham).—Byblœmen. Pure; shape good, but petals rather pointed, flamed with rich dark purple. A seedling from Prince × Gipsey.

COUNTESS OF WILTON (Groom).—Rose. Pure; shape fair; much esteemed forty years ago as a flamed flower, but not now grown.

COUNTESS OF BURLINGTON (Hepworth).—Rose. Dwarf; pure; a flamed rose much like Heroine flamed in colour, but a better shape. A poor grower, and not of much value.

COUPE D'HEBE (Gibbons).—Byblœmen. Pure; feathered with rich dense purple. Not grown now.

CRITERION (Gill).—Bizarre. Pure, shape good; is a striking red-brown breeder, of no great value when rectified, although it sometimes makes a passable feathered flower.

CROWN PRINCE (———).—Bizarre. A favourite feathered variety in Lancashire forty years ago, but now obsolete.

CURION (Slater).—Bizarre. Pure; shape good. This variety was thought highly of as a feathered flower thirty years ago, but is not grown now.

CYGNET (———).—White self. Shape fair, not very pure, and being a weak grower the flower is generally rather small.

CYRIL (Schofield).—Bizarre. Shape good, base pure; a very steady red flamed bizarre, but does not open well, except in sunny weather.

CYCLOPS (Clegg).—Bizarre. A favourite red flamed bizarre in Lancashire forty years ago.

CZAR (H. Goldham).—Bizarre. Flamed with brown on yellow ground. A seedling from Perfection × Strong's King.

(To be continued.)

FEATURES OF ABERPERGWYM.

SOME weeks ago there appeared in the pages of the *Journal of Horticulture* two short paragraphs anent the success of Mr. Chas. Foster, gardener to M. S. Williams, Esq., Aberpergwm, Glyn Neath, with vegetables at shows in South Wales, one of the prizes taken being a gold medal. The reading of these caused the writer, as doubtless did it many readers, to speculate on what like a man this could be, and how the garden looked as a whole whence these examples came. That it was something out of the common was immediately concluded, but this did not satisfy, and eventually the railway station was sought, and shortly afterwards the train started, not by any means quickly, for Glyn Neath.

Twining through the Vale of Neath this iron road brought at every few yards fresh points to interest the traveller. On the one hand might be seen high, verdure-clad hills, while on the other, more, still higher, standing out against the sky, formidable in all their massive beauty. Surely it was such that called forth the words, "The Cambrian mountains stand, Like the ramparts of the land." Still further, and passing glimpses are caught of coal pits from which the "black diamonds" are rapidly being brought. Again, winding through the fertile valley, the Neath flows on its rapid, and at times turbulent, course. One by one these objects pass before as a beautiful pastoral panorama—such an one as Nature alone can paint, so far is it beyond the most cultured works of man. At last, arriving at Glyn Neath, our destination is practically reached. What a relief to step on to the platform, rendered charmingly rural by the aid of flowers, to stretch the cramped limbs, and to allow the cool breeze to blow the cobwebs from the brain.

Accosting an official the road to Aberpergwm is asked, the information being given with ready courtesy and in such a direct manner that it seems impossible to mistake the route. Such proves to be the case, and soon the drive, through what is apparently an extensive park, is found leading past the owner's residence to the walled-in gardens. Slowly traversing this carriage road we cannot but notice the fine trees that abound, and which add an air of old age to the estate.

SOME GRAND OLD TREES.

Speaking of trees renders mention of some of the stately specimens with which the place is studded, singularly appropriate, for there are many staunch monuments of bygone ages, whose gnarled trunks and spreading branches have borne the brunt of many a winter's storm. Not that all have come through the ordeal unscathed; on the contrary, traces of damage done either by frosts or winds are here and there in evidence. A notable instance of this may be cited in an old Mulberry tree on the lawn, which was blown down during one of the severe storms that have visited the Vale of Neath. But though stricken in such a manner its vitality was little impaired, for it now spreads out its branches on the sward, and good crops of fruit are produced year by year. Well may it be said that thus Nature shows her strength and asserts her wondrous power. Tall and stately stands a Tulip tree (*Liriodendron Tulipifera*), while near by a shapely Lawson's Cypress sways in the breeze. The frosts of last winter have left their marks on some of the trees, such as Cupressus sempervirens and the broad-leaved China Fir, *Cunninghamia sinensis*, of both of which there are such examples as would be ornaments in any position, and cause a flutter to pass through the breast of the arboriculturist.

The day is hot, but we have not far to seek for shelter from the searching glare of the August sun, for before us stands an ancient Cedar, under whose extensive branches space might be found for scores of travellers. However, there are only two, both intent on the garden, so despite the pleasant coolness to be had the wanderings are shortly

recommended. Many square yards of ground are covered by great spreading Yews and the unkind branches of *Araucaria imbricata*. The specimens of *Abies*, including *nobilis* and *canadensis* more particularly, are grand indeed. They are not represented by one or two, but by large numbers, all in splendid condition, and of imposing stature. Besides these there are Scotch Firs, Austrian Pines, Oaks, and many others, some large, others enormous, but all good. The *Arbutus*, seen often as a shrub, is here a tree, or rather trees, for there are scores; but, alas! many of them were severely dealt with last winter, and do not look as though they would ever regain their past glories. We linger yet within the shadow of the trees until we remember that the more time here the less in the garden, a thought that lends vigour to the footsteps, and the embowered gate is quickly reached.

Mr. Foster, always at his post of duty is quickly found, and we are soon enjoying a chat on gardening. This successful grower and exhibitor is a comparatively young man imbued with love for his avocation, comprehending that it is a noble one, and determined to do his utmost to become a figure in the midst of it. Whether his praiseworthy ambition will be achieved remains for the future to prove, but with a continuation of his present health and strength it can scarcely be doubted that success will crown his efforts. Speaking of him to one of the leading gardeners of England, we were informed in an emphatic manner, "He is bound to make his way in the world;" and we can but hope that the prophecy of a man who has grown grey in gardens will be fulfilled. Schooled in good places, learning one branch of the craft here and another there, Mr. Foster has a long life before him and a wide field for the development of his talents, and no plausible reason can be adduced against his ultimate victory.

What of the garden? readers may be asking, so we will pass from the man to his work. There is no modern air here; the great Yew hedges, the scores of Cluster Roses, resplendent in all their summer glory, the old fashioned greenhouses, the thick walls, all tend to show the garden has been established for many generations; but the methods of cropping are right up to date. A few years ago weeds and young forest trees grew apace in this fine old garden, but each of these has now been relegated to a position without the walls, and now there is a pleasing lack of either. Though both may be good in their places, it is difficult to find where weeds are beneficial, unless it is after they have gone through a fiery ordeal. If there was a sparsity of spade work prior to Mr. Foster's advent, there has not been since, for the whole garden has been worked deeply and well, with the result that splendid crops of any kind may be grown with certainty. Thorough soil cultivation we learned was one of the mottoes in constant use here.

AMONGST THE VEGETABLES.

In many establishments vegetables are accorded a secondary position, but here it is different, for morning, noon, and night are spent amongst them, seeking their requirements and supplying everything that may improve either their quality or appearance or both. Under such conditions nothing but of the best could be expected, and the results must certainly be gratifying both to the grower and his interested employer. To enumerate all the crops that are grown would serve no useful purpose, so we will mention those only that are above the average in merit. By the average is not meant that of gardens in general—everything is above that—but the average as laid down in this particular spot. By an admirable system of cropping each individual plant has ample room, while not an inch of space can well be termed wasted. This is just as it ought to be, and very high credit is reflected on the management thereby.

Passing now to the crops themselves we regard a row of Leeks with admiration, not less being accorded to the Carrots. One of these is lifted from the ground, and we behold a straight clean root, large without being coarse, and such as would be certain of a few points in a collection of vegetables. The label at the end of the plot says Sutton's New Intermediate. A little beyond is a fine bed of Parsnips, that is to say, if tops may be taken as a criterion. These again possess those desirable attributes mentioned in the case of the Carrots, and the same may well be said of the Beets. Of the former The Student is relied on, and of the latter Sutton's Blood Red. Other vegetables receive their meed of attention the same as those mentioned; in fact all are tended by the gardener himself, his assistants having abundance of other work demanding their attention.

Potatoes are very extensively grown, and as digging was going on at the time of the visit we could easily see how well the vast proportion of the roots were yielding. The tubers were not particularly large, ranging chiefly from about 4 to 6 ozs., but they were clean, even, and with a few eyes. Many varieties are of course grown, as it is necessary in exhibiting that a selection can be made, and of these Sutton's Satisfaction and Windsor Castle were prominent as being amongst the best. For general purposes, besides the early varieties, a large breadth of Magnum Bonum, from which, if top growth is anything to go by, there would be a very fine crop. Then there are the Onions. Such splendid bulbs, not perhaps up to the 3-pounders of Mr. Bowerman, but still sufficiently good to command admiration and insure attention. The finish was all that could be desired. The bulbs were as hard as rocks, and such as should keep well for an almost unlimited space of time. For showing purposes Ailsa Craig is relied on, as it combines a fine solidity with almost faultless shape, while for general purposes Sutton's A1 is the mainstay of the establishment. Though root crops are so well grown they are in no respect superior to the green vegetables in quality and appearance. The Cabbages are grand; the Sprouts look

like giving high returns; the Cauliflowers are of milky whiteness; while the Kales, Savoys, and Broccoli give every promise of future greatness.

Tomatoes are a great feature at Aberpergwm, where they are grown both on the walls and in the greenhouse with the greatest success. The seedlings are raised in good time, so that when the season for planting out comes the plants are already carrying one bunch of fruit on the stout, strong stems, the consequence being an early and a good crop of fruits that all ripen well. All the side shoots are removed to concentrate the energies on to the main, thus practically insuring a good return. The majority of the plants out of doors attained to a height of about 4 feet 6 inches, those under glass, of course, being allowed to extend up the roof, and consequently these were much higher. The fruit in the greenhouse was a little larger in size and of more intense colour, the quality of both being excellent. Sutton's type of Perfection occupies the place of honour.

FRUIT AND FLOWERS.

Hardy fruits are not grown so largely as might have been expected, but throughout they are of good quality, the trees or bushes, as the case may be, receiving constant attention. Apples largely preponderate, many of them being local varieties of no particular merit, whilst others are capital, both in respect of quality and appearance. Pears appear to thrive remarkably well, good crops being secured both from trees in the open and on the walls. The growths made are clean and straight without being coarse and unfruitful. One tree on a wall covering a large area of space was especially noticeable by reason of the number of handsome fruits it was carrying. The variety was the popular Louise Bonne of Jersey. Strawberries in their season are a great feature, and supplies are maintained over a very extended period. For insuring this a good selection of varieties suited to the soil is made, and so there is little or no fear of failure. Then there are Plums, Currants, Gooseberries, and Raspberries, all in highly creditable form, and which add their share to the supplies of the establishment. These trees are all in the kitchen garden, but in an orchard outside are more Pears and Apples, and from here good numbers of medium-sized fruits are taken annually. Of the latter Blenheim Pippin and Wellington are the best this year.

The walls are devoted mainly to Pears, the majority being old trained trees, though young cordons have been planted in the bare places, and their present condition augurs future success. Many of the best dessert varieties have been utilised here, and their value will be great a few years hence. As mentioned in one of the preceding paragraphs, Tomatoes are given a place on those walls adapted to them, as also are Peaches and Nectarines. Numerically these do not obtain so much prominence as those previously named, but their condition warrants their inclusion in these notes. The trees were in bearing in August, and the fruits were, as a rule, very fine, and the crops heavy. The growth made is not large, but it is of fine colour, carrying dark healthy green leafage, is hard, and ripening well, all these points being conducive of a good crop again next year. It is everywhere apparent that Mr. Foster has been as well coached in fruit as in vegetables, and as well in flowers as either. Under glass fruit is represented only by Grapes, of which Black Hamburgs and Muscat of Alexandria are fine. The bunches are of good average size, as also are the berries, the finish of which is very creditable.

Flowers, though not made a great specialty here as in some establishments, are nevertheless very beautiful, consisting mainly of hardy kinds that grow and flower freely. There is really only one structure devoted to flowering and foliage plants, but this was in excellent condition as regards the occupants, though the house itself is by no means faultless. It is divided in the centre, one half of ordinary greenhouse temperature, and the other much warmer. In the former Zonal Pelargoniums are a blaze of colour, while in the latter Ferns and Palms received the major portion of the space. Health, insured by good culture, is the predominating feature. Out of doors many hardy perennials are in evidence, and of these *Anemone japonica alba* (exceptionally large and fine), *Solidagos*, *Delphiniums*, *Pyrethrums*, and others flourish in the borders. Then there are the Roses growing and blooming on the terrace at the top of the garden, rambling over doorways and pillars and covering two walls near Mr. Williams' house. The Hybrid Perpetuals make a handsome show, but can only be given second place to the many old-fashioned Roses that abound. Singularly beautiful are the two walls, or rather the plants on them, for they are a mass of flowers, which perfume the atmosphere in the evening. No formal bedding is done—and rightly, for the effect would not by any means enhance the beauty of this old time garden. The springy turf of the lawns is splendid to walk on, and its neatness is most pleasing to the eye.

These are a few of the features of Aberpergwm, not all, for in portions of the estate remote from the residence are coal mines, from which tons of anthracite are taken daily, and much as the "squire" appreciates the garden, its products, and its gardener, he would doubtless, for obvious reasons, place his mines before them. An artist of no mean merit, his home contains many pictures, besides old furniture, and armour such as would delight the antiquarian, for it has been purchased by a "master" who knew just what was worth having, and what to avoid. Now we must leave Aberpergwm, but its beauties, its features, and its anthracite will ever remain green in our minds. To the owner for allowing us to wander where we listed, and to Mr. and Mrs. Foster for their homely and hearty hospitality, our warmest thanks are due, and willingly accorded by—NOMAD.

CLETHRA ALNIFOLIA.

WHEN this dwarf, hardy summer-flowering shrub is blooming freely, it is extremely attractive. Spikes of flowers, many of them much larger than those shown in the engraving (fig. 60), are produced from every axil; indeed, so freely have we seen the flowers produced that the low bushes bristled with them. They are creamy white in colour, delicately fragrant, and, associated with the fresh-looking light green foliage, are admirably adapted for vase decoration. Being a native of the swamps of Virginia it requires moist, deep, and tolerably rich soil. It is worthy of a suitable position in the front of shrubberies, or even in large borders of herbaceous plants that are grown for affording flowers for cutting. It is deciduous, quite hardy, and although introduced in 1731 is not so generally grown as it might be. It is of close and rather compact habit, and grows about 3 feet high. During the present month is a good time to plant this useful shrub.

ROYAL HORTICULTURAL SOCIETY.

DRILL HALL, OCTOBER 15TH.

THE exhibition held at the Drill Hall on Tuesday last was a great success in every respect, the products staged being of grand merit. Each Committee had before it a fair amount of work. Orchids were large in number and high in quality, as also were flowering and foliage plants. Chrysanthemums did not make such an imposing display as was generally expected, but doubtless more will be seen at the next meeting. Fruits were numerous, and with vegetables were splendidly shown.

FRUIT COMMITTEE—Present: P. Crowley, Esq (in the chair); with Rev. W. Wilks, Dr. Hogg, and Messrs. G. Bunyard, T. F. Rivers, J. Cheal, J. H. Veitch, T. J. Saltmarsh, G. Norman, J. Smith, F. Q. Lane, G. Reynolds, G. Wythes, W. H. Divers, T. Fitt, G. Sage, J. Hudson, A. Dean, and J. Wright.

Mr. E. C. Banks, Waterville, Nova Scotia, sent Apples of the Red Gravenstein, with fruits of the ordinary Nova Scotian Gravenstein; but this differs from the German, or original Gravenstein, and no award was made. Mr. Empson again sent his new Grape, Mrs. Wingfield, from Amphill House. It more resembles the Morocco than any other variety. It was requested to be seen in March for testing the keeping properties—the good keeping qualities which the thick skin suggests. It was thought there was not much room for it as an autumn Grape. Mr. Empson also sent Monster Pippin Apple, not equal to Golden Spire; also a new Melon, Anthony's Favourite, rather unripe, a variety of promise; to be seen again.

Mr. John H. Miles, Portsward Road, Southampton, sent a large and entirely red fruit of the Blenheim Pippin Apple; the colour, it was suggested, having resulted from applying sulphate of iron and soot to the soil during the past five years (vote of thanks). F. Wills, Esq., Leighton Buzzard, sent a dish of Lindura Pippin, a pretty, wax-like, yellow Apple, but it did not gain a certificate. Mr. A. W. Warren, Hampton, sent a Melon Warren's Seedling, a dark-netted fruit, but not in condition to merit an award. Full flavour cannot be developed so late in the season.

Mr. Will Tayler, Hampton, sent very good outdoor Grapes named Reine Olga de Wurtemberg. The correct name is Chasselas Rose. Chasselas Noir was even better ripened (vote of thanks). A fine bunch of the small-berried Grape Black Monukka was sent from Chiswick, the fruits of splendid colour and quality; a charming little Grape for connoisseurs.

Mr. Bishop, The Gardens, Westley Hall, Suffolk, sent Westley Hall and Westley Hall Companion Melons, but they did not find welcome companionship at the table; also one was sent named R.H.S., better than others and might be good in the summer. Mr. Wythes had a vote of thanks for Beauty of Syon Melon, previously certificated.

Mr. Rivers sent fruits of *Rivers' President* Plum, a large purple Plum of the character of Grand Duke, but ripening ten days later. It is a fine looking cooking Plum, likely to be of service when most others are over (award of merit).

Mr. Harrison Weir showed an Apple which he said had been changed in character by a series of grafting from stock to stock. It began as Duchess of Oldenburg and seems to have ended in a hard green crab-like fruit. If Mr. Weir can now work backwards until he restores the lost character, and thus obtains the Duchess again, he will achieve a feat of which he may well be proud.

Mr. J. T. Bradshaw, The Gardens, Hillsborough Castle, Co. Down, sent large bunches of Marchioness of Downshire Grape, but neither in colour nor quality—greenish white—did it create a highly favourable impression, though the berries were fine. Mr. J. McIndoe sent fruits of Charles Ernest Pear—large fruits with hard flesh, and lacking in quality. No award was made. Mr. A. W. Young, Stevenage, Herts, sent a box of Tomatoes—Young's Eclipse—medium-sized bright fruit. Passed.

Mr. Owen Thomas, Royal Gardens, Windsor, sent a dish of Apples The Princess, smallish, conical, soft, but lacking in quality; also Frogmore Dessert, synonymous with the Snow Apple (*Pomme de Neige*), and better than the preceding; glossy red and handsome. Messrs. Paul & Son, Cheshunt, sent a new Apple Captain Sanders, very large and firm, a seedling from Waltham Abbey Seedling, but quite distinct. Requested to be seen in the spring, as large autumn Apples are so plentiful. Messrs. Spooner & Sons sent Apple The Baron, a medium

sized, flattish, and attractive Apple. Lost an award of merit by one vote. Mr. G. Palmer, Andover, sent Apples of Stubb's Seedling or Winter Quarrenden, very showy. It was decided to send a dish to Chiswick, for testing the keeping properties of the fruit. Mr. Hill, The Gardens, Tring Park, sent Doyenné du Comice Pears, magnificent fruits, and beautifully coloured. A cultural commendation was unanimously awarded.

Mr. Deverill, Banbury, sent gigantic specimens of Onions, and a vote of thanks was awarded. Mr. W. H. Divers sent Celery Man of Kent as a long keeping variety. Referred to Chiswick for trial. Mr. Henry Wells, cottager, Mint Street, Lincoln, sent three dishes of Potatoes, beautiful samples, worthy of any exhibition, and was accorded a cultural commendation.

Many collections of fruit and vegetables were arranged in the hall, making quite a large exhibition, and several medals were awarded. Messrs. Dobbie & Co. sent splendid Onions and Parsley, also Kale, single Cactus Dahlias (silver Banksian medal). Mr. Jones, The Gardens, Greenford Place, Sudbury, sent Leeks blanched to an unusual length (cultural commendation). Messrs. T. Rivers & Son arranged a large collection of splendid Apples and Pears (silver-gilt Knightian medal). Messrs. Paul & Son, Cheshunt, had a good assortment of Apples and Pears (silver Banksian medal). Mr. Richmond, gardener to the Dowager Lady Freake, Fulwell Park, Twickenham, showed a large collection of Apples (silver Banksian medal). Messrs. James Veitch & Sons had an extensive and excellent assortment of Apples (silver Knightian medal). Mr. W. H. Divers, Belvoir Castle Gardens, sent twenty-five varieties of Celery (silver Banksian medal). Mr. E. Beckett, Aldenham House Gardens, Elstree, exhibited a magnificent collection of vegetables (silver-gilt medal and special cultural commendation). Mr. H. W. Ward was accorded a vote of thanks for six fine fruits of the Earl's Favourite Melon.

Mr. H. A. Orr, Bedford, exhibited his patent storing trays for fruit, Potatoes, bulbs, or other articles. Each tray holds half a bushel of fruit in a single, or a bushel in a double layer. They may be piled in tiers to any desired height, and are then perfectly firm, the air circulating freely under and above what may be stored, while space is obviously economised. This was not considered by any means a toy contrivance, but a method of storage of substantial use in gardens, and a silver Banksian medal, also a mark of high commendation, were awarded by the Committee.

FLORAL COMMITTEE.—Present: W. Marshall, Esq. (in the chair) and the Rev. H. H. D'Ombrian, with Messrs. J. Fraser, Owen Thomas, C. T. Druery, H. B. May, H. Herbst, J. H. Fitt, Robert Owen, R. Dean, G. Stevens, C. J. Salter, J. Jennings, H. Cannell, H. J. Jones, H. Briscoe Ironside, E. Beckett, J. Walker, C. E. Pearson, E. Mawley, Chas. E. Shea, J. T. Bennett Peck, J. D. Pawle, H. Turner, G. Paul, C. Blick, G. Nicholson, and Chas. Jeffries.

Messrs. Jas. Veitch & Sons, Chelsea, sent a variety of plants and flowers, which included fine examples of *Lilium longiflorum* Harrisii, a collection of seed pods of *Physalis Francheti*, a most useful plant for winter decoration. Plants of new *Begonia* Mrs. Heal and *B. acerifolia*, Carnations Mrs. Leopold de Rothschild and J. Gardiner Muir, with fine examples of *Amasonia punicea calycina*, and *Caryopteris mastacanthus*. H. Briscoe Ironside, Esq., Burgess Hill, Sussex, showed examples of his "rotary flower stand," which is an excellent revolving arrangement, well suited for showing Chrysanthemums and other flowers to advantage.

Mr. H. B. May, Upper Edmonton, staged a large and varied collection of highly coloured Crotons, which included, amongst others, Warreni, Morti, Mrs. Dorman, Massangeana, Laingi, Nestor, formosum, majesticus, Sunrise, Newmani, Thomsoni, Gordoni, elegantissimum, and Chelsoni. Plants of a new large-flowered scarlet Carnation, Leonidas, and another, Primrose Day, whose colour is portrayed in the name, were noticed, together with plants of a new Fern, *Pteris cretica* Wimsetti (silver-gilt Flora medal). A tasteful arrangement of plants, in which *Nepenthes* predominated, was shown by Mr. G. Wythes, gardener to Earl Percy, Syon House; effectiveness had been studied in the staging, and amongst the Pitcher Plants were noticed *Nepenthes Hookeriana*, Chelsoni, Mastersiana, Dicksoniana, Curtisi, superba, mixta, Curtisi formosa, and Hookeriana elongata. Crotons, Dracenas, Adiantums and Palms added finish to the display, which was much admired (gold medal). Messrs. F. Sander & Co., St. Albans, were represented by a small but striking collection of rare plants, which included pillar *Begonias* Duchess of York, Prince of Wales, and Princess of Wales, *Sonerila* Pride of the Market, James Hamilton, John Mason and Silver Queen, and a fine plant of *Sarracenia Drummondii* major.

Mr. J. Seward, Hanwell, sent blooms of a large yellow Japanese Chrysanthemum John Seward. From Mr. H. Shoesmith, Woking, came flowers of yellow Japanese Chrysanthemum Phoebeus, and Mr. French, gardener to Mrs. Barclay, Wimbledon, sent examples of Japanese Chrysanthemum President Armand. From Messrs. Dobbie & Co., Rothesay, came a collection of single Cactus Dahlias, which included Queen Mary, Ivanhoe, Brenda, Alice Lee, Guy Mannering, Earl of Ravenswood, Kenilworth, and Lady Rowena.

Messrs. Paul & Son, Cheshunt, staged hardy flowers, comprising Phloxes Aurore, Henry Murer, Pantheon, and Le Soleil, *Coreopsis lanceolata*, seedling Gaillardias, with Montbretias, Delphiniums, Campanulas, Asters, Pyrethrums, and Heleniums in variety. The same firm also sent plants of Tea Rose Paul's Winter Bloomer and perpetual climbing Rose Alistair Stella Gray, and a fine specimen of *Abies Douglassii glauca pendula*. Mr. C. Penford, Leigh Park Gardens,

Havant, sent flowers of Chrysanthemum Madame Capitante. From Mr. Robt. Owen, Maidenhead, came Chrysanthemums Yellow Gem, M. Backmann, Commandant Blussett, Lady Esther Smith, and Lady Ridgway. Mr. W. Wells, Redhill, staged a collection of Chrysanthemums, containing fine blooms of Surprise, Madame Adrien Armand, Mrs. E. S. Strafford, Boule d'Or, Calvat's var., Frank Wells, Mrs. C. Harman Payne, W. H. Lincoln, Commandant Blussett, Wilfred Marshall, and Souvenir de Jambon.

From Messrs. H. Cannell & Sons, Swanley, came flowers of single Violet Princess of Wales, Canna Queen Charlotte. Japanese Chrysanthemum Pride of Madford, together with a small collection of single Zonal Pelargonium flowers. Messrs. B. S. Williams & Son, Upper Holloway, sent plants in flower of *Nerines Moorei*, sarniense, Meadowbanki, and flexuosa. Mr. Anthony Waterer, Woking, Surrey, sent flowers of *Spiraea* "Anthony Waterer." Mr. Owen Thomas sent a collection of fine Chrysanthemum flowers from the Royal Gardens, Frogmore, which included Mrs. C. Harman Payne, Edwin Molyneux, Avalanche, Viscountess Hambledon, Louis Boehmer, Coronet, Madame Carnot, and Eda Prass; also flowers of new single Violet Princess



FIG. 60.—CLETHRA ALNIFOLIA.

of Wales. Mr. H. G. Green, Colchester, sent a well flowered plant of *Hippeastrum striatum maculatum*. Mr. R. Francis, gardener to A. Laurie, Esq., Sevenoaks, sent plants of golden leaf Pelargonium "Francisi."

Mr. W. J. Empson, gardener to Mrs. Wingfield, Ampthill, sent a pleasing collection of small stove plants, which included sturdy specimens of Crotons Queen Victoria, Prince of Wales, Countess, Golden King, Laingi, and Mrs. Dorman, Pandanus Veitchi, Dracenas, Grevilleas, and Palms. Mr. Empson also sent a plant of early flowering Chrysanthemum Mrs. Anthony Wingfield (silver Banksian medal). Mr. T. S. Ware, Tottenham, made a fine display with single Dahlias, Nerines, and other flowers. Amongst the former Victoria, Duke of York, Yellow Satin, Eclipse, Duchess of Fife, Mrs. W. C. Harvey, Miss Roberts, Maud, F. L. Temple, Mikado, and Kate were very striking (silver Flora medal).

A distinct feature in the show was the fine bank of Chrysanthemums set up by Mr. H. J. Jones, Lewisham; tastefulness in arrangement was noticeable, and many fine flowers shown. Amongst others were A. H. Fewkes, Pallanza, Lady Smith, Commandant Blussett, President Armand, and Mrs. C. E. Shea. Mr. Jones also staged cut blooms of Emily Spillbury, Mrs. E. G. Hill, Eva Knowles, Mrs. J. R. Taylor, Mrs. C. Harman Payne, Guirlande, and Mr. W. R. Seage (silver-gilt Banksian

medal). Mr. Salter, gardener to T. B. Haywood, Esq., showed flowers of seedling Chrysanthemums T. B. Haywood and Mis. H. B. Higgins. Mr. E. Mawley, Berkhamsted, sent flowers of single Dahlia Beauty's Eye.

ORCHID COMMITTEE.—H. J. Veitch, Esq. (in the chair); with Messrs. J. O'Brien, De B. Crawshaw, H. M. Pollett, Chas. Pilcher, J. T. Gabriel, F. Hardy, E. Ashworth, W. Thompson, H. J. Chapman, E. Hill, W. Cobb, J. Douglas, S. Courtauld, Thos. Statter, H. Ballantine, T. B. Heywood, and H. Williams.

Messrs. Charlesworth & Co., Heaton, Bradford, staged a very bright collection of Orchids, comprising *Cattleya labiata*, *Vanda cœrulea*, *Catasetum Bungei*, *Cypripedium Charlesworthi*, *Vanda Kimballiana*, and others. All the plants were well grown and flowered (silver Banksian medal). Mr. W. Stevens, gardener to W. Thompson, Esq., Walton Grange, Stone, Staffs, exhibited a small but choice collection of Orchids. Among these were *Vanda Kimballiana*, *Cattleya labiata cœrulea*, C. I. Thompson's variety, *Cypripedium Charlesworthi marginata*, and spikes of *Odontoglossums* and *Oncidiums*.

Orchids interspersed with foliage plants came from Messrs. B. S. Williams & Son, Upper Holloway, the effect of which was very pleasing. A splendid piece of *Oncidium incurvum* occupied the centre, *Cattleya labiata*, *Pleiones*, *Pescatorei Lehmanni*, *P. klabochotum superbum*, and *Cypripediums* in variety being arranged on each side. Two plants only of Orchids were sent by Mons. A. A. Peeters, 62, Chaussée de Forest, Brussels, one a handsome variety of *Cattleya labiata* named *Peetersi*, and the other a *Cypripedium* called *François Peeters*, of which the parentage was not recorded. W. Cobb, Esq., Tunbridge Wells, showed *Miltonia Cobbiana*; De Barri Crawshaw, Esq., Sevenoaks, a plant of *Vanda Kimballiana*, Mrs. Studd's var.; Mr. Duncan, gardener to C. J. Lucas, Esq., Horsham, *Sobralia Lindenii*; Mr. W. H. Young, gardener to Sir F. Wigan, East Sheen, *Coelogyne pandurata*; Mr. Davis, gardener to J. G. Fowler, Esq., South Woodford, *Vanda Sanderiana*, Fowler's variety, that was very handsome; and Mr. Johnston, gardener to T. Statter, Esq., Stand Hall, Manchester, *Pescatorea Roetzlii* album. *Oncidium tigrinum*, a seedling *Cypripedium*, and a hybrid *Miltonia* were staged by Mr. Paterson, gardener to S. G. Lutwyche, Esq., Eden Park, Beckenham; and *Cirrhopetalum Rothschildianum* by Mr. Hill, gardener to Lord Rothschild, Tring.

A first-class certificate was awarded to Mr. W. Murray, gardener to Norman Cookson, Esq., Wylam-on-Tyne, for *Cattleya labiata* Cooksoni, which is described below. The Orchids exhibited by Messrs. F. Sander and Co., St. Albans, were very beautiful, and by their quality attracted a large share of attention. *Cypripediums cœnanthum superbum*, *Niobe*, *Tityus*, and *Albert Truffaut*; *Lælia Perrini nivea*, *Lælia marginata*; *Cattleya labiata lilacina*; *Mormodes* species, and *Buccinator*; *Catasetum* species, and *Dendrobium Phalaenopsis Schroederianum* (silver Banksian medal).

Messrs. J. Veitch & Sons, Chelsea, as is customary, staged Orchids more conspicuous for their quality than for their numbers. Noticeable were *Lælio-Cattleya Fortuna*, L.-C. *Parysatis*, L.-C. *eunomia superba*, L.-C. *Isis*, and *Cattleya Mantini*. Mr. Davis, gardener to J. Gurney Fowler, Esq., South Woodford, arranged a collection of Orchids in which *Cattleyas* largely preponderated, though a piece of *Oncidium Godseffianum* was very prominent (silver Banksian medal). *Cattleyas* and *Cypripediums* composed the major portion of the exhibit from Messrs. Hugh Low & Co., Upper Clapton. The same firm also showed *Cattleya labiata Lowi*, receiving for it an award of merit. A graceful exhibit of Orchids with Ferns was staged by Mr. P. McArthur, Maida Vale, W.; *Oncidiums*, *Cypripediums*, *Dendrobiums*, and others were included in the arrangement.

CERTIFICATES AND AWARDS OF MERIT.

Abies Douglassi glauca pendula (Paul & Son).—A fine ornamental *Abies* with a graceful weeping habit, the branches drooping to the base of the plant (first-class certificate).

Begonia Mrs. Heal (J. Veitch & Sons).—The result of a cross between a variety of *B. tuberosus* and *B. Socotrana*. This is very handsome. The flowers, bright crimson in colour, are of good size and splendid substance (award of merit).

Carnation J. Gardiner Muir (J. Veitch & Sons).—Dwarf in habit, sweetly scented, free in flowering, this is a *Carnation* likely to attain to a high position. The colour is white flushed rose, all the petals being deeply serrated (award of merit).

Cattleya labiata Cooksonæ (W. Murray).—One of the finest Orchids staged at this show. The broad petals and the narrower sepals are pure white in colour, the lip being purplish crimson edged with white (award of merit).

Cattleya labiata cœrulea (W. Stevens).—The sepals and petals of this *Cattleya* are very pale lavender, deep mauve being the colour of the lip (award of merit).

Cattleya labiata Lowiæ (H. Low & Co.).—This is an extremely handsome variety of the type. The sepals are creamy white, and the petals pure white. The outer portion of the lip is white with a large purple blotch, the throat being veined with yellow, of which colour there is a patch on each side lobe (award of merit).

Cattleya Mantini (J. Veitch & Sons).—Numerous as have been the new *Cattleyas* that have emanated from this firm, still another was exhibited at this meeting. It was a hybrid between *C. Dowiana* and *C. Bowringiana*, of which the former was the pollen parent. The prevailing colour is intense rosy purple, there being on the lip a blotch of velvety crimson (award of merit).

Cattleya labiata, Thompson's var. (W. Stevens).—Very large are the bright rose-coloured sepals and petals of this variety. There is a large

blotch of velvety crimson on the lip, which is margined with rose, and has yellow side lobes (award of merit).

Chrysanthemum Boule d'Or, Calvat's variety (W. Wells).—An incurved Japanese of good size. The florets are broad, and nankeen yellow in colour (award of merit).

Chrysanthemum Lago Maggiore (H. Briscoe Ironside).—Brilliant yellow in colour, with long reflexed florets. This variety is sure to find favour (award of merit).

Chrysanthemum Lady Esther Smith (R. Owen).—A creamy white incurved Japanese of chaste appearance (award of merit).

Chrysanthemum Phæbus (H. Shoesmith).—A yellow Japanese of great substance. The florets are broad and stout (award of merit).

Chrysanthemum Pride of Madford (H. Cannell & Sons).—An intense crimson Japanese from Australia. The reverse is silvery. The flower is somewhat flat (award of merit).

Chrysanthemum T. B. Haywood (C. J. Salter).—This is a fine white Japanese seedling, raised in Australia, of good substance, with large florets slightly curled at the tips (award of merit).

Chrysanthemum Yellow Gem (R. Owen).—A yellow fimbriated Pompon variety that is very charming (award of merit).

Cypripedium Alfred Hollington (E. Ayling).—Several *Cypripediums* now bear the name of Hollington, and this is equal to its predecessors. The dorsal sepal is white, flushed green, and striped with brown. The reddish brown petals have numerous deep brown spots, the pouch being broad, and of a greenish brown hue (award of merit).

Lælia-Cattleya Gattoiana rosea (F. Sander & Co.).—The sepals and petals of this Orchid are salmon pink in colour. The lip is large and rosy purple in colour, with a paler margin (award of merit).

Miltonia Cobbiana (W. Cobb).—This is said to be a natural hybrid. The sepals and petals are brown barred with yellow, the lip being white, blotched with lavender (award of merit).

Physalis Francheti (J. Veitch & Sons).—This is a decided improvement on *Physalis Alkekengi* (the Winter Cherry), the pods being much larger and of greater brilliancy; the large, conical pods are borne all up the stem, and for winter decoration it is very striking (first-class certificate).

Sobralia Lindenii (G. Duncan).—Delicate blush is the prevailing colour of this *Sobralia*, but the lip has deep rose markings (award of merit).

Violet Princess of Wales (O. Thomas and H. Cannell & Sons).—A large flowered sweetly scented *Violet* of great beauty (award of merit).

JOTTINGS FROM SAWBRIDGEWORTH.

FRUIT here, fruit there, fruit everywhere! Was there ever such an abundance? No matter where we travel it is the same—the chief source of conversation; yea, and in many instances a cause of great anxiety. It seems almost needless to add why, as doubtless many growers for profit are at this moment anxiously scanning the price lists, and wondering where the most remunerative market is to be found. The question is a serious one, and in these days, when the utilisation of land for planting fruit trees with an idea of profit is occupying the attention of so many, the abundant crop of 1895 forcibly suggests that "over-production" must also be thought of. However, be that as it may, the writer has no intention in these notes to raise any argument on this point beyond simply to add that never in the history of our country has the question of fruit culture for profit, yea, and also for pleasure, been considered of such vital importance as at the present day. And the quality of this year's fruit; has it ever been so fine? No, I think not; at least if the comments heard at the recent Crystal Palace show are anything to go by. The perfections of pomology were to be seen adorning the long lines of tables along the centre transept, and to use the words of Sir Trevor Lawrence, uttered at the luncheon on the opening day, "Such an exhibition of hardy fruit has never before been seen in this country."

But what has this to do with Sawbridgeworth? Well, certainly it has something, for on almost every table might have been seen some sample or other, the raising of which was closely connected with the well-known name of Rivers. No appellation is better known in the fruit-growing world, for wherever trees are cultivated, not only in this country, but on the Continent, America, and even far-off Australia, may be found varieties originating from Sawbridgeworth, no other firm having been responsible for so many new introductions. And how has this been brought about? Well, in the first place through the untiring energy of the Messrs. Rivers, both past and present; and secondly, by the happy inspiration that led the father of the present proprietor to the introduction of orchard houses. To use a Yankee expression, it was there he "struck oil," and since that time the fame of the firm has advanced by leaps and bounds, greatly owing to the increased facilities afforded by the system of growing trees under glass for the purpose of raising new varieties. Take, for instance, Peaches and Nectarines. Any visitor to the Temple show in May last will have vivid recollections of the superb display of these trees fruiting in pots, shown by Messrs. T. Rivers & Son, and it is connection with these fruits that the name of the firm is best known, though a visit to the Nurseries proves beyond doubt that they are but one item in the large sum total of trees under cultivation.

Try to imagine an area of something like 300 acres devoted almost entirely to fruit trees and Roses, and you have some idea of the extent of the Sawbridgeworth Nurseries; nor is this the maximum, as year by year more land is enclosed and planted, and if the present movement in

"profitable fruit growing" creates a "demand" for trees, then surely Messrs. Rivers are in a position to provide the "supply." After a long tramp round on a broiling day, such as we rarely get at the end of September, our expression was, "Why, you have trees enough to stock a nation!" and really it seemed so. We ventured an interrogative as to the number under cultivation, but the question, as might have been expected, was too difficult. A thousand trees seems a large number, but tens of thousands would be nothing like the total. The first portion to claim our attention was an area of about 60 acres, all fresh land, as Mr. Rivers' method is to plant young trees on new ground. The aspect leaves nothing to be desired, sloping gently towards the south-west, and the soil is of a rich moderately strong loam. Not a yard seemed to be wasted—trees everywhere, of all sorts and sizes, as bewildering in variety as they were large in quantity. Apples, Pears, Plums, Peaches, Nectarines, and many others in all stages and shapes, each occupying its own quarter, and in every instance displaying that healthy short-jointed growth which fruit growers love to see.

To endeavour to enumerate the varieties would be a task too great. Let it suffice to say that none of any recognised value is omitted. Many of the larger Apples were bearing fruit, others had been gathered, and thousands planted between have not yet arrived at a bearing condition. Small trained trees of Peaches and Nectarines were in themselves a feature, many of which will shortly be removed for the fulfilment of orders. Over a fence, across a road, and we were in another field, about half the size of the former, there to find a splendid collection of Apricots trained to stakes, prior to being dispatched for wall trees; Apples, also subjected to the same treatment; and long, seemingly almost endless, rows of pyramid Pears, Cherries, and Plums. Scores of young Apple trees, only a few feet high, were noticed, bearing half a dozen, and in some instances more, large highly coloured fruit, showing how ready, even in its infancy, the Apple is to respond to good culture.

Away, however, to the homestead itself our steps were next directed, and after rest and refreshment, both very acceptable on such a broiling day, the fruit trees in pots claimed attention—a collection perhaps unequalled in the country. We were, of course, too late to see the fruit on those far-famed Peaches and Nectarines, as the majority, hundreds of them, were standing in various positions outdoors, the wood displaying maturity and plumpness which speaks volumes for the future crop. All, did I say? nay, not quite, for in a large span-roofed house was a magnificent pyramid tree of that fine late variety Salway, 12 feet high, and carrying seven or eight dozen perfect fruits. A little further on was an interesting specimen of Violette Hâtive Peach forty-five years old, the oldest in the nursery, and amongst the first grown by the late Mr. Rivers. Grow on old tree, and long figure as a pioneer of English Peach culture! The plants, we learnt, are potted one season and top-dressed the next, and when the fruit is about the size of a Walnut a surface-dressing composed of kiln dust and horse droppings soaked in liquid manure, and left about three days, is applied in a thickness of 2 or 3 inches, and the manner in which the young fibres ramify into it prove its suitability.

Though, as already stated, the Peaches were over, we were just in time for the pot Pears and Apples, large numbers of them being plunged outdoors; several vacancies were noticed, caused by the plants being taken out for the Palace show, we learnt. The plants are grown in the orchard houses until the fruit is approaching maturity, after which they are plunged outdoors. The samples were superb. Pitmaston Duchess, of size enormous, and Conference, one of Mr. Rivers' own introductions, were carrying perfect fruits. This is a large pyriform fruit with salmon coloured flesh, melting, juicy, and rich. The tree is robust and hardy, making strong growth on the Pear and Quince stocks. It ripens in November, and will doubtless prove a good market sort. Superb samples of Doyenné du Comice were noticed. This is a large delicious Pear, and forms a compact pyramid on the Quince. The fruit is superb both in quality and appearance, and when grown in an orchard house ripens on the tree in November, when it may be gathered for table.

Scores of others might be enumerated, each with its own qualification, but space forbids, so we pass on to the Apples, there to find Peasgood's Nonesuch large in size and colour superb, a small tree in a 13-inch pot carrying a dozen grand fruits. Another, Bijou, in a 14-inch pot was burdened with no less than forty-five fruits of medium size, brilliant crimson, and a most ornamental Apple for pot culture. The colour of Cox's Orange Pippin grown under glass was grand, and Lord Derby was of its class no less fine, while the deep rich colour of Cox's Pomona branded it as perfect. Many others well known and some almost unknown were seen growing and fruiting under similar conditions, all marked with the same characteristics—sturdy, healthy growth, ripe wood, and richly hued fruit.

Plums, too; trees of Coe's Golden Drop and Pond's Seedling, laden with fine samples, together with that excellent introduction Late Transparent, a truly fine addition to the Transparent Gage class, as it completes the season, ripening fully ten days after the latter. What! something more recent still? Yes, and in the shape of a rich golden red Plum, only just received the name of Primate. Try one? With pleasure. The flavour was delicious, and with its late qualities we predict a great future for this variety.

Fruiting Vines came next, trained in 11-inch pots, such as Golden Queen, Alicante, White Tokay, and Trebbiano, carrying twelve bunches each of fair average size and quality, proving that amateurs with only limited space might easily grow Grapes in pots to advantage. In a long lean-to range of vineries was hanging a fine crop of Black Alicante,

Madresfield Court, and others, exhibiting high colour and finish, while in other structures we noticed pot Vines in great numbers, proving that Messrs. Rivers' trade in this department is no small one. The canes were all stout and well ripened, destined under proper treatment to produce, perhaps, first prize bunches—who knows? Oranges form another of the many items of interest, and many trees, some just rooted and others bearing fruit, were noticed.

Away, again, into another bewildering maze of fruit and forest trees our steps were turned, there to see Copper Beeches and Chestnuts, Weeping Willows, and a hundred others in various stages of growth. Nuts are extensively grown, and are propagated by inarching the better varieties on the common stock. We passed through acres of land planted in orchard style with fine standard specimens of the Plum Monarch, and here we learnt that after two crops of young stuff have been taken off the ground it is utilised for the above purpose. Thousands of well trained Apples, such as Emperor Alexander, Rivers' Codlin, Gascoigne's Seedling, and Ribston Pippin took our attention in this quarter, as so did excellent trained specimens of Early Rivers Nectarine. "What, another patriarch!" we exclaimed, on seeing an old Plum tree with its branches propped up all round, and fastened to the stem was a printed board which stated that it was the original tree of Early Rivers Plum, raised and planted by Thomas Rivers in 1834. Old and time-worn is its appearance now, but its gnarled stem and creaking branches bear the impress of honoured age. Another new introduction is near at hand—a late Plum, not yet ripe—recently named President, and not, of course, in commerce. It bears a medium-sized purple cooking fruit of attractive appearance, and considering it comes in after the glut is over it will doubtless be heard more of later on as a valuable market variety.

Only a brief word about the Roses, which form a large item at Sawbridgeworth, large houses being devoted to Maréchal Niel and pot climbers, such as Climbing Niphetos, Devonensis, and many others, while outdoors were extensive plantations of dwarf Hybrid Perpetuals and standards, but as the season for the queen of flowers is over the interest is somewhat diminished, therefore this short reference must suffice. In conclusion, we may add that it is the endeavour of Messrs. T. Rivers & Son to send out nothing but high-class produce, all cankered or otherwise unsuitable trees being consigned to the rubbish heap, and everywhere the condition of cleanliness and good order reflects great credit on Mr. Rivers and his no less capable sons.—G. H. H.

ISLE OF WIGHT FRUIT SHOW.

THE Isle of Wight Horticultural Improvement Association, a society formed for helping forward the movement of the County Council towards the technical instruction of the people in horticulture, determined to take advantage of a good Apple season to hold an exhibition of fruit in the central town of Newport. Specimens were invited by advertisement and circulars, and the carriage of fruit offered to be paid. Certificates of merit only to be awarded.

The result was a grand exhibition of Apples and Pears, with a few dishes of other fruits, such as never have been seen in the island before, over 800 dishes being shown, and the large Drill Hall filled with a very imposing and creditable collection. Messrs. J. Cheal & Sons, Crawley, staged a very fine collection of 100 dishes, which helped considerably towards the exhibition. The collection contained many of the newer varieties, conspicuous being a fine dish of Royal Jubilee and a large mound of fruit of the Australian Apple Bismarck, with some small trees bearing fruit to show the prolific character of this variety. Mr. William Sheath staged an interesting collection from growers in Ventnor and the Undercliff, containing many old or local varieties. Mr. Frank Orchard sent thirty-eight varieties from the garden of H. Mitchell, Esq., Undermount, Bonchurch. Mr. Tribbick, gardener to C. Seeley, Esq., Brook House, exhibited twenty-seven varieties of Apples and Pears of very high quality, amongst which was a very fine dish of Beurré Hardy Pear. Mr. Wilkins of The Castle Gardens, St. Helens; and Mr. Martin, gardener to Major Stratford, Freshwater, sent excellent collections of first-class fruit.

Mr. C. Orchard staged a small but interesting exhibit, grown in his garden on reclaimed land at Bembridge Harbour, which was especially mentioned by Mr. Cheal in his address as enlightening to fruit growers; the fruit showing very high colour. The Rev. C. E. Jeans sent a pretty collection, containing good out-of-door Peaches—the Dartmouth Crab, a very large and showy fruit for decorative purposes. All the above were awarded certificates of merit.

Certificates for single dishes were also awarded to Mr. Woolford, gardener to H. Grosse Smith, Esq., The Priory, St. Helens, for Peasgood's Nonesuch, weighing from 1½ lb. to 1½ lb. each; Mr. Wm. Hayles, for an extra bright dish of King of the Pippins; Mr. C. Orchard, for Cellini, very fine and highly coloured, and for Potts' Seedling; Mr. Tribbick, a fine coloured dish of Beurré Hardy Pear; and to Mr. Mathews, Carisbrooke, for Emperor Alexander and Blenheim Orange. Other very excellent collections were shown.

During the afternoon and evening a Conference was held. Gerald Fox, Esq., J.P., Chairman of the Technical Committee of the Isle of Wight County Council, opened the exhibition, and addresses delivered by Mr. J. Cheal, on "Fruit Growing and the Codlin Moth;" Mr. C. Orchard, "Notes on the Exhibits;" and papers by Mr. E. K. Toogood, on "Cultivation of Rare Fruits;" "The Cultivation of Apples and Pears," by Mr. Tribbick; on "Gathering, Storing, and Packing," by Mr. Barkham; and an excellent paper on "The Utilisation and

Distribution of Garden Produce," by the Chairman of the above Association (Dr. Groves, B.A., F.G.S., J.P.), to whom, ably assisted by Mr. S. Heaton, F.R.H.S., the Technical Instructor in Horticulture under the County Council, the horticulturists in the Isle of Wight are indebted for inaugurating this and various other meetings throughout the season.
—C. ORCHARD.



FRUIT FORCING.

Peaches and Nectarines.—*Earliest Forced House.*—The trees are now at rest and promise well, the buds of the standard forcing varieties, such as Royal George and Stirling Castle, not being too large. This is a good sign, as Peaches and Nectarines subjected to forcing year after year are liable to have the buds swelled to a large size, and these not unfrequently fall when they should be starting into blossom. Some kinds are more prone to this defect than others. Of the very early varieties, Alexander and Waterloo are the worst, often casting most of the buds, and it certainly is due to over-development, as the buds on sub-laterals (as occurs from stopping on the standard system) are retained and the blossoms develop perfectly and the fruit sets profusely, while on the lateral or first made shoots the buds are large and drop in showers.

Hale's Early, the very best of the early Peaches taking quality into consideration, casts many buds, being little better than Early York, which drops the blossom buds alarmingly. Noblesse, however, stands at the head in liability to cast its buds, then comes Gros Mignonne, and both these have a tendency to form double or triple fruit buds without a wood bud at the same joint, also to form buds with two or three pistils in embryo, in due course developing into twin or triplet fruit. This is what is meant by over-maturity of the buds, and is common to all large-flowered varieties of Peaches and Nectarines, which probably arises from a prolonged season of growth, with a decided tendency to over-production.

The small-flowered varieties, such as Early Albert, Early Louise, Stirling Castle, Royal George, and Dymond Peaches, retain the buds well, and the three last are the best of early forced, being high in colour and of unquestionable quality. Of Nectarines Early Rivers and Stanwick Elruge are excellent for early forcing. Bud-casting seems influenced to a great extent by treatment, and in the case of early forced trees it is necessary to keep them as cool as possible after the fruit is gathered consistent with their safety, even shading where the panes of glass are large and the weather bright and hot for prolonged periods, and remove the roof lights when the wood becomes sufficiently mature. Where this has been done the borders have got thoroughly moistened to the drainage, and when that is the case and the buds are not over-matured there is little danger of their falling.

The trees should be pruned, the house thoroughly cleansed, lime-washing the walls with a handful of sulphur added to a pailful of limewash, and the trees washed with tepid softsoap, preferably carbolic, 1½ oz. to a gallon of water, using a brush and taking care not to dislocate the buds. This may be followed by a more powerful insecticide, the petroleum emulsions, and indeed all oils properly saponised, emulsified, or made soluble and innocuous to vegetation, having fungicidal as well as insecticidal value. Tie the trees to the trellis, forwarding everything so that a start can be made without delay when the proper time arrives. The lights should remain off until the time of closing the house, or if the lights are fixed, which is a great mistake, as it causes the trees to be subjected to alternating fluctuations and depressions both of heat and moisture. The inside border must not lack moisture, but be made and kept in a damp state down to the drainage, and air be given to the fullest possible extent. No amount of frost will injure properly matured wood, and the buds are never injured by frost until they commence growing.

Second Early House.—For second early forcing there are no better varieties than Hale's Early, A Bec, Stirling Castle, Royal George, and Dymond Peaches; Rivers' Early, Lord Napier, Goldoni, Stanwick Elruge, and Dryden Nectarines. The trees have for the most part cast their leaves, the roof lights having been off some time, for if kept over the trees longer than usual, as sometimes is necessary when the wood is strong to mature it properly, they must now be removed. The ventilating lights both top and bottom may remain, so that the unfixing and refixing of them is obviated, whilst the trees have complete exposure to atmospheric influences. The exposure has an invigorating effect; it secures perfect rest, and the rains do much to free the trees of insects, besides thoroughly moistening the borders. When the foliage is all down the necessary pruning, dressing with an insecticide, and the cleansing of the house should be proceeded with, removing the surface soil down to the roots and supplying fresh material, but not covering the roots deeper than 2 or 3 inches. In the case of fixed roof lights watering may be necessary. Under no conditions must the trees be allowed to become dry at the roots.

Midseason Houses.—The trees in these are just in the right condition for lifting. It should be done with dispatch when it is decided on,

having all the materials in readiness. It is not, however, safe to operate until the major part of the leaves have fallen, yet not wise to wait till the green leaves on the laterals mature, as these will not drop for some time, and they may be useful in promoting root action in lifted trees. Provide efficient drainage, shortening back any strong roots, and bring any that are deep nearer the surface, laying all in the top foot of soil and employing the compost compactly. Good loam, rather strong, with an admixture of a sixth of old mortar rubbish, will grow Peaches and Nectarines perfectly. If the soil be light add a fourth of clayey marl, dried and pounded, and if very strong a similar quantity of road scrapings, avoiding manure except the soil be poor, then add a fifth of decayed cowdung to light and a similar quantity of horse droppings to heavy loam.

Give a good watering after lifting and replanting, and the trees will soon get established in the fresh compost. Trees judiciously treated at the roots seldom fail to set and stone the fruit satisfactorily. Borders containing soil in a soapy mass, where it is not possible to remove it, may have a dressing of air-slaked lime, an inch thick is not too much, mixing it, after lying a few days with the surface soil as deeply as the roots allow without much disturbance. Nothing, however, is so effectual as lifting and renovating the border.

Latest Houses.—Except from the latest varieties, of which Golden Eagle is one of the best, the fruit is all gathered. Trees from which it has been gathered should have the bearing wood of the current year cut out, leaving no more wood of this year's production than is required for filling vacant space and affording fruit next year. The foliage should be thoroughly cleansed of dust or insect pests by a few good washings from the syringe or garden engine. After that the trees will not require syringing, dryness with thorough exposure of the wood to light and air being essential to the perfecting of the wood and buds. Where this is not effected the house may be kept rather close by day, so as to secure a good heat, there being of course enough to secure a free circulation of air, and the house should be fully ventilated at night. Any trees that have too gross wood should have a trench taken out as deep as the roots, and about one-third the distance from the stem, leaving it open a fortnight, then filling it up firmly.

Figs.—*Early Forced Trees in Pots.*—Trees intended for affording fruit at the close of April or early in May will now need dressing with an insecticide, carbolic softsoap 3 ozs. to a gallon of water answering, applying in a tepid state with a brush, being careful not to injure the points of the shoots or rub off the embryo fruits. Very little pruning will be necessary, the trees having been regularly stopped during the season, but if the growths are too crowded and irregular they may be thinned to render the trees symmetrical. The house in which the trees are forced should have the woodwork and walls washed with hot water, afterwards whitewashing the latter with hot lime and sulphur. A mild bottom heat is almost a necessity to a successful swelling and perfecting of the earlier crop, the pots being raised upon loose bricks, pedestal-fashion in the positions they are to occupy in the bed, and the pit filled with Oak or Beech leaves pressed firmly. The depth of the pit needs to be about 3 feet, with a mixture of stable litter and leaves, one-third of the first to two-thirds of the latter; for leaves alone the depth should be 4 to 4½ feet.

Care must be taken to avoid overheating, not allowing the temperature about the pots to exceed 65° until growth takes place. The trees should be started about the middle of November, bringing them forward very gently, keeping the house close and moist by sprinkling twice a day in bright weather, employing fire heat to maintain a temperature of 50° at night, 55° by day, and with sun heat 60° to 65°. The soil in the pots must be brought into a thoroughly moist condition by needful watering.

Early Forced Planted-out Trees.—The trees should now be untied from the trellis and the needful pruning effected. Those with the roots restricted to small borders will only require to have the shoots thinned where too crowded, cutting back growths extended to the limits of the trellis-work and useless for fruit production, so as to allow space for the successional growth. Trees that have not the roots restricted will require cutting back at the upper part of the trellis, allowing room for the extension of the lower fruitful branches; but luxuriant trees may be root-pruned, or the cutting out of growths will only tend to render the trees more unfruitful. The trees may be washed with soapy water as advised for those in pots, and be secured to the trellis loosely. Cleanse the house thoroughly, remove the loose soil, remains of mulching, point over with a fork, and apply a surface dressing of fresh loam, and sprinkle over that 3 or 4 ozs. per square yard of steamed bonemeal, and on that a light mulch of partially decayed manure, lumpy yet short. Give a good watering, ventilate freely at all times, except when frost prevails, then keep closed and turn on heat to exclude it.

Succession Houses.—The trees are not ripening the wood well in some cases, and it will be wise to turn on the heat in the morning, and admit air only to induce a circulation, throwing the ventilators open at night, the heat having been turned off at midday. This will assist the maturation of the foliage, but any unfruitful trees must be root-pruned and the roots restricted to moderate sized borders, depending more on active feeders near the surface, encouraged by light mulching, than a large extension of roots. These operations must be performed when the leaves give indications of falling. Make the soil firm, employing one-sixth of old mortar rubbish and a similar proportion of road scrapings. Fig trees always do better with roots restricted to moderate sized borders, and are more manageable and fruitful when the roots are confined to limited space than those with an unlimited rooting area. Prune the trees when the leaves have fallen, cleanse the house, put everything in order. Dress the trees that have been infested with insects with an

insecticide, it being good policy to do this as preventive of attack. Keep the house cool and dry, yet exclude severe frosts.

Late Houses.—Excessively luxuriant trees should be lifted and root-pruned as advised above. Trees in unheated houses ought to be given free ventilation, and when the leaves fall the trees must be unloosed from the trellis. Have the branches tied together in convenient bundles, and made safe against frost with some straw or fern over them, encasing the bundles in mats. In heated houses this is not necessary, but the trees in those must not be exposed to severe frosts, or they are liable to be injured, therefore a little warmth will be necessary in severe weather. Trees in cool houses should have the roots, especially at the collar, protected by a covering of dry material.

THE KITCHEN GARDEN.

Cabbage.—Those planted two or three weeks ago are disposed to grow more strongly than desirable, the warmth of the ground favouring this. Unless checked the chances are many of the plants will be badly crippled during the winter. Any way, it is advisable to plant more now, as those last put out will not make much progress beyond becoming established in the ground. The smaller varieties, such as Ellam's Dwarf Spring and Wheeler's Imperial, should be planted somewhat thickly, 12 inches apart in rows 15 inches asunder answering well.

Celery.—Ravages of the leaf-mining maggot have been marked everywhere, and the plants are not nearly so strong in consequence. The Celery will not be so good in quality, and more than ordinary care will have to be taken of it, otherwise it will keep badly. During November we sometimes experience severe frosts, and the final moulding of the earlier rows ought not to be delayed much longer. The stalks should be surrounded with some of the finer soil, and about one-half of the leaves be buried, finishing off neatly and at a rather sharp angle, so as to throw off heavy rains and snow. If slugs abound dust lime and soot very freely among the plants and over the soil, according as it is moved. A start ought to be made with the moulding up of the later rows.

Celeriac.—This, the Turnip-rooted Celery, is not sufficiently hardy to stand all weathers. The roots may either be stored in cool sheds or heaps, or be heavily moulded over where they are.

Endive.—Under ordinarily good cultivation Endive is very strong this season. That left somewhat thickly in the seed beds is already well closed up by pressing against each other, and the hearts are blanching beautifully. Beds of Endive ought to be roughly protected by placing strong stakes and boards round them with cross-bars to support mats, strips of canvas, or other coverings whenever frosts are imminent.

Storing Endive.—Only a moderately severe frost will damage the points of Endive leaves, and rapid decay soon sets in. In order, therefore, to be certain of a continuous supply of well blanched hearts throughout the late autumn and winter months protection must be afforded the bulk of the plants grown. Frames, pits, borders in vineries, Peach houses, and such like, could all be utilised for the purpose of storing Endive, as it is only during frosty weather that protection is desirable. Select a dry day for the work, tie up the plants to facilitate moving, lift with a ball of soil about the roots of each plant, and move from one place to another on a handbarrow. Replant somewhat closer than they were outside in good moist soil, and loosen the ties. Keep them in a moist state at the roots, and if fire heat cannot be turned on when frosts are anticipated protect with mats and litter. The Broad-leaved Batavian keeps the longest; but some of this should be blanched as required for mixing with the Green Curled variety.

Vacant Ground.—Weeds are very plentiful in places, and are especially noticeable when the crops are cleared off. The simplest way of getting rid of them is to turn them into the ground. Trenching may well commence now, as when thus early completed there is good time for the ground to settle down firmly prior to cropping. Some ground is improved by being thrown up into ridges; in other instances, merely laying it up roughly answers best. Occasionally more harm than good results from autumn or early digging, owing to the soil "running" badly. Each cultivator has to discover what treatment best suits his particular soil, and should act accordingly.



APIARIAN NOTES.

STIMULATIVE FEEDING.

BEGINNERS are apt to make mistakes, but unfortunately they are as often led into them by reading books not in accordance with Nature's teaching. It has been proved that when hives are trimmed up in the autumn with provisions to last till the time honey may be expected from spring blossoms stimulative feeding does no good. I do not deny that it may at times cause the queen to deposit more eggs than she would otherwise do, but these eggs are seldom, if ever, allowed to hatch.

Queen bees have not an inexhaustible store of eggs, prolific as they are, nor can they deposit eggs continuously. Any strain on the queen tells against her at the time when she may be expected

to deposit most eggs, while the profit of the hive is very often reduced, and not unfrequently is lost. Bees will tolerate a barren queen, or one partly so, from September till February, but after that they are liable to mutilate or kill her outright.

Bees store both pollen and honey for future uses, and these are sometimes carried into the hive in great quantities when breeding had been suspended. Although the bees of these hives are termed by some old bees, they are youthful enough to make profitable hives. If stimulative feeding could make hives more advanced than those unfed we should have discovered it long before this; but, on the other hand, unfed hives have always been the most profitable. To save the queens, save the bees, and have plenty of the latter at the right time should be the endeavour and motto of every bee-keeper.—A LANARKSHIRE BEE-KEEPER.

RACES OF BEES.

WHAT breed of bees is the best? Opinions differ somewhat on this question, as well as other things, and it is my intention to refer only to the good and bad qualities of the various races of bees as they appeared under my own observation.

LIGURIANS.

The Ligurian, or Italian Alp bee, was the first of the foreign bees that were imported into this country, which took place about the year 1860. They came with a great reputation as honey gatherers; their probosces were supposed to be longer than the black bee's, consequently they would be enabled to obtain honey from the Red Clover and other flowers from which our native bee was debarred owing to the shortness of its proboscis, and for a long time there was a great rage amongst the more advanced bee-keepers. In their pure state they were good workers and good tempered, and owing to their handsome appearance much admired. The Ligurian is easily distinguished, if of pure breed, by three bright yellow bands on the upper part of its abdomen, though they vary very much in colour, some being much darker than others, and showing the yellow bands in a much less degree.

The difficulty has been to keep them pure in this country, although the same may be said of all the foreign races of bees that have at different times been imported, but when crossed with our native black bees they are usually very spiteful, and will sometimes follow and attack a person a long distance from their hives. The hybrids are good workers, and I may say good stingers, and for this reason they are not favoured by the majority of bee-keepers.

CYPRIONS.

These are the most handsome of all the bees with which I am acquainted, and were introduced to this country about the year 1880 by Mr. Frank Benton, who spent both time and money in travelling through different countries in his endeavour to discover new races of bees. When introducing this variety of bee he described them "as smaller and more active than the Ligurians, exceedingly prolific, and excellent honey gatherers, they are the bees for the skilled specialist." The bright yellow bands on their bodies are very prominent. These bees are not to be recommended to the general bee-keeper, as they are very irritable, and are even worse in that respect than the hybrids from the Ligurians. Many bee-keepers have of late years discarded them in favour of the more even tempered black or brown native bee.

CARNIOLANS.

Carniolans are a variety of our black bee, and were introduced a few years ago from Carniola, in South-West Austria. They may be distinguished from our native bee by the bluish cast on their bodies, but when crossed they are very difficult to detect. They are very even tempered and good workers, but, like the majority of the foreign bees, have rather a propensity for swarming.

PUNICS.

Punics have come under notice of late years. They are a black bee, evidently a variety of Carniolans, but are inveterate swarmers, and what is more annoying to the bee-keeper just in the midst of the honey flow than to have all his colonies in an uproar with the swarming mania? and as the seasons are so short there is a great loss of time and energy. It is quite a common thing to find from twenty to thirty queen cells in various stages of development in a hive at one time. For this reason they are not to be recommended, although some bee-keepers speak highly of them as honey producers.

NATIVES.

Black or brown native bees, although some bee-keepers imagine it is not possible to find these in a pure state in this country, owing to so many foreign bees that have been introduced, are pure enough for all practical purposes, as under intelligent management they will fulfil all the conditions required of them. They are hardy, and if proof is required in this respect I may point to my own apiary of over thirty stocks that came through the last severe

winter without the loss of a single colony, although they were all standing in the open, and several of the hives had only single sides.

They are good honey producers, either for extracted or in the comb, and are easily managed on the non-swarmling system, as only in exceptional cases are they troubled with the swarming mania. They are easy to manipulate—a combination of good qualities I claim for them that no other race of bees possesses.—AN ENGLISH BEE-KEEPER.

TRADE CATALOGUES RECEIVED.

W. Fromow & Sons, Chiswick.—*General Plants.*

J. Jefferies & Sons, Cirencester.—*Centenary Catalogue of Roses and Trees.*

R. J. Looymans & Zonen, Oudenbosch, Holland.—*List of Trees.*

J. R. Pearson & Sons, Chilwell, Notts.—*Roses and Fruit Trees.*

William Rumsey, Joyning's Nurseries, Waltham Cross, N.—*Roses and other Plants.*

Louis Van Houtte, Père, Ghent, Belgium.—*General Plant Catalogue.*

H. W. Weguelin, Shaldon, Teignmouth, Devon.—*Carnations and Picotees.*



* * All correspondence should be directed either to "THE EDITOR" or to "THE PUBLISHER." Letters addressed to Dr. Hogg or members of the staff often remain unopened unavoidably. We request that no one will write privately to any of our correspondents, as doing so subjects them to unjustifiable trouble and expense.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Bee subjects, and should never send more than two or three questions at once. All articles intended for insertion should be written on one side of the paper only. We cannot reply to questions through the post, and we do not undertake to return rejected communications.

Cherry Plum (Somerset).—The names you mention are synonymous.

Carnation (F. G.).—Your specimen will be closely examined and the results given in our next issue.

Lady Downe's Grape not Colouring (J. J. C.).—Having in view your admitted success as a grower of some of the best Grapes in the kingdom, this particular case of failure is the more interesting. We will publish the deductions suggested by a close microscopical examination next week.

Six Varieties of Largest Gooseberries for Dessert (Reader).—Red, Companion and Ploughboy; white, Lady Leicester and Snow-drop; yellow, Broom Girl and Mount Pleasant. If you want a green add Green Overall.

Drying "Apple Rings" (S. Jermen).—We do not know of any book that treats of this subject. The Apples must be pared, cored, and sliced, and to do this quickly an Apple parer, corer, and slicer is necessary, costing 18s. This machine cuts them into a spiral, and that cut once through forms the well-known ringlets. There is another for cutting whole ringlets, priced £1 7s. 6d. Both—the "Electra No. 1" and "Simplex" respectively—may be had of Ph. Mayfarth & Co., 16, Mincing Lane, E.C. The ringlets may be dried in an oven, taking care that the steam can escape, the object being to dry them without cooking or burning. It is not practicable to dry them in a room, and the art of drying in an oven is matter for judgment, and requires care. For home use we have known fruit that would otherwise be wasted dried well in ovens, but a commercial article is a different thing, and necessitates the use of an evaporator, so that the work may be done expeditiously and the ringlets prepared in manner fit for the market.

Black Hamburgh Grapes Shrivelling (Inquirer).—Sometimes the berries shrivel from shanking, and are very inferior in quality. This is caused by a disease, and chiefly is manifested at the time the Grapes commence ripening and during that process, the footstalk of the berries shrinking and turning brown or black in a more or less circular manner and completely encircling the footstalk. This malady generally arises from defective root action, the roots not being in a border of suitable material, of proper staple, and thoroughly drained. Another cause of Grapes shrivelling and occurring after they are ripe is dryness at the roots both before they were finished and afterwards. Once this commences after the Grapes are ripe, or only partially so, they cannot be restored to plumpness by watering at the roots or moisture in the atmosphere, for they have attained more or less to the condition of raisins, and will decay if moisture be given at the roots and in the atmosphere, usually falling a prey to the ripe rot fungus (*Glæosporium Berkeleyi*).

Weed Infesting Lawn (T. W. L.).—We presume the *Prunella* is the common All-heal, *P. vulgaris*. You do not say what the nature of your soil is, but if a good loam and inclined to be moist you may apply sulphate of ammonia at the rate of 1½ oz. per square yard, 3½ lb. per rod, 5 cwt. per acre, using it in dry weather, or now if the autumn be fine and likely to continue so. This will no doubt brown the lawn, giving it a "seedy" appearance, enhanced by killing weeds, Daisies, and Plantain; but it will come again, the grasses growing famously, and as these grow the weeds diminish. To insure even distribution crush fine and mix with an equal quantity of dry loamy sand. If you do not want the lawn browned use half the quantity now and the other half in March, always during dry weather; but it is hardly possible to use the dressing to kill the weeds without spoiling the appearance of the lawn for a time. If the lawn is of a light nature use nitrate of soda, half the amount named now and the remainder in March. The nitrate also must be crushed fine, and evenly distributed. If wet now defer dressing until spring, especially in the case of the nitrate of soda, then give the full dose in March when the soil is moist, but with a prospect of fine weather, or use half then and the rest six weeks later. What you want is more grass and less weeds, this treatment will give it, and then you can use a good all-round manure to keep the lawn in proper order.

Cherry Tree Leaves Skeletonised (A. B.).—The leaves appear to have been infested by slugworm—the larva of the Cherry sawfly (*Selandria atra*, Westwood; *Tenthredo cerasi*, Linn. and Curtis), which have cleared away the whole of the soft substance of the leaf in places. The larvæ or slugworms usually drop to the ground at the end of September or beginning of October, which they enter, and there form an oval cocoon covered outside with earth, and inside that become pupæ, in which state they remain till June or July, when the sawflies emerge, pair, and the females deposit eggs just beneath the cuticle of the upper surface of the leaves of Cherry, Pear, and other rosaceous plants or trees. To prevent the recurrence of the pest the only plan is to skim off the surface of the ground where the cocoons are and burn it. Of course, it is necessary to ascertain how deeply the cocoons lie, and remove the soil accordingly. We have found that soaking the soil early in this month with gas liquor diluted with six times its bulk of water destroys the pests, also the pupæ of other sawflies. It is an excellent manure either for fruit trees or grass, and frees them of destructive larvæ, including wireworm and cockchafer grubs. For the larvæ there is nothing better than dusting the infested trees with quicklime, or they may be sprayed with petroleum emulsion, tobacco water, or carbolic soap solution. The thing is to act promptly on the first appearance of the filthy creatures, also foul smelling, by which they may be readily detected without seeing.

Vines Producing Shankled Grapes (Melton).—The berries are small in size and badly shanked, which are not clear indications of the Vines being in a favourable rooting medium or deriving from it proper sustenance. Of course, management has a great deal, and in some cases everything, to do with Grapes shanking or otherwise, but it is difficult to make them shank with the rooting medium or feeding area in a suitable condition, yet the conditions there may be all right under judicious management, and good crops of perfect Grapes secured, whilst by over-watering, over and improper feeding, the soil may be practically useless, and shanking follow in consequence. With the roots in a well made border, and both inside and outside, there ought not to be any shanking of consequence under proper management. The Vines being so near the hot-water pipes is not good, and it would be an advantage to shift them if you can, so that the stems will not be affected by the heat. The proposed top-dressing would do good, the loose surface soil being taken out down to the roots, removing some of it from amongst them and supplying fresh material, raising any roots you can nearer the surface, but do not cover the topmost more than 2 or 3 inches. Good turfy loam, moderately strong, with plenty of gritty matter or small stones in it, would be best, not using any manure, but give about 4 ozs. of some advertised fertiliser on the top, and water in moderately. Do not keep the soil very wet during the winter, or if now wet allow the soil to become dry during the winter, and next year water carefully, only supplying it when absolutely necessary, yet keeping the foliage from becoming limp. Allow a good spread of foliage, but no more than can have full exposure to light, keeping closely pinched after the space is covered.

Lapageria Leaves Falling (J. F. W.).—The leaves have the appearance of being scorched, and fall because their juices have been abstracted by thrips, of which we found some specimens in the perfect or winged state, but no larvæ or eggs. The damage to the leaves is of long standing, and they simply fall because of no use to the plant, being prematurely matured or destroyed by the ravages of the thrips. That is what is the matter with them, but there are also some white or *Lapageria* scale, which are far worse than the thrips, and some of them are in the egg state and others in the larvæ condition, beneath the body and "shell" of the parent or old scale. We advise you to have the plant carefully sponged on the under side of the leaves and everywhere with the following:—Place a quart of soft water in an iron pan, heat it to boiling, with 4 ozs. of softsoap, then remove from the fire and at once add a tablespoonful of petroleum, stirring briskly until the oil amalgamates with the softsoap solution, and when cool enough sponge the plant with it. After the plant has been sponged, syringe with water at a temperature of 120°. This will give you a clean plant, and it will push fresh growths from the stem that may do good service, but that depends entirely on their being kept free from insects. There cannot be anything wrong with the roots, or there would not be strong growths pushed from the collar. That is as it should, and care must be taken to keep such

healthy, otherwise the result will be same as you experience with the current growth. We suppose you are aware that the plant is not suited for growing in the full glare of the sun, but requires to be grown in subdued light, as that of the north side of a span-roofed house, with the ends running east and west, or to have a slight shade from powerful sun in summer, also to have damp surroundings as compared with greenhouse plants generally, otherwise it neither grows freely nor escapes thrips. It also requires abundant supplies of water at the roots, it not being possible to overdo it if the border be thoroughly drained and the soil open in texture.

Prairie Roses (H. L. D.).—These are climbing Roses of vigorous habit and rapid growth, well adapted for covering walls, banks, wire trellises, and trunks of trees, but they are not much grown in this country, and little propagated by nurserymen, because in small demand. In your locality it would be necessary to give the plants a warm situation, preferably a wall or bank with southern exposure. On the latter they should be planted about 6 feet apart, and the growths may be pegged on the ground after the shoots are full grown and becoming ripened. They are beautiful as standards trained as "weepers," but the plants in this form are difficult to obtain. The only varieties we know to be cultivated in this country are Baltimore Belle, pale blush; and Caradori, flake white.

Skeletonising Leaves (Novice).—Nearly all leaves may be skeletonised, but some require a longer time than others to become macerated. For instance, the seed vessels of the Winter Cherry, Henbane, and Poppy require a fortnight or three weeks if the weather be hot. Leaves of *Ficus elastica* (Indiarubber Plant) and *Magnolia grandiflora* require several months; leaves of the Tulip Tree, Poplar, and Maple a fortnight; leaves of the Holly and Ivy two or three weeks. Ferns require a long time, and so do the leaves of Beggars' Broom, Butchers' Broom, the Orange, Lemon, and Camellia. Great care must be taken in choosing the leaves, as the smallest speck spoils one. Many more should be placed in the water than are needed, as not more than one in twenty will be perfect. The time required depends on the weather. Beginners examine them too soon. The leaves should be put into soft water in a sunny situation, taking care that they are covered with water. Evergreen leaves may be skeletonised at any time, but deciduous leaves not before the end of June or beginning of July. Seed vessels must be operated upon when nearly ripe. When quite ready for skeletonising put the leaves into boiling water to remove the offensive smell. Remove the scum from the water. Brush off the pulp with a rather hard brush. If the leaves are tender bump them gently, which removes the pulp without disturbing the nerves of the leaves. Pour clean water over them until quite clean; put them on blotting paper to dry—a piece of glass is useful to brush them on. Tender leaves should be floated in water and caught on a card, as are fine Seaweeds. Bleach with chloride of lime, and then wash them thoroughly with clean water, otherwise they become yellow. It is better not to bleach them until required for setting up. Thistles and Teazels look well when bleached, and aid much in arranging a group.

Names of Fruits.—Notice.—We have pleasure in naming good typical fruits (when the names are discoverable) for the convenience of regular subscribers, who are the growers of such fruit, and not collectors of specimens from non-subscribers. This latter procedure is wholly irregular, and we trust that none of our readers will allow themselves to be made the mediums in infringing our rules. Special attention is directed to the following decision, the object of which is to discourage the growth of inferior and promote the culture of superior varieties. *In consequence of the large number of worthless Apples and Pears sent to this office to be named, it has been decided to name only specimens and varieties of approved merit, and to reject the inferior, which are not worth sending or growing.* The names and addresses of senders of fruit to be named must in all cases be enclosed with the specimens, whether letters referring to the fruit are sent by post or not. The names are not necessarily required for publication, initials sufficing for that. Only six specimens can be named at once, and any beyond that number cannot be preserved. *They should be sent on the first indication of change towards ripening.* *Dessert Pears cannot be named in a hard green state.* (T. C. M.).—1, Greenup's Pippin; 2, Cellini; 3, Nonesuch; 4, Tom Putt; 5 and 6, not known, perhaps local. (J. G.).—1, not known; 2, Autumn Bergamot; 3, quite unripe; 4, possibly Charles Ernest; 5, General Toddleben. (W. J. P.).—1, Flemish Beauty; 3, Calabasse; 4, Dumelow's Seedling; 5, Fearn's Pippin; 6, Warwickshire Pippin. (F. J. Gray).—1, Summer Beurré d'Arenberg; 10, Beurré Diel; 44, Beurré Bosc; 72, not known, worthless. (A. S. B.).—13, Hawthornden; 15, Dumelow's Seedling; 16, Warwickshire Pippin; 17, Rosemary Russet; 18, Carlisle Codlin. (T. R. B.).—The dark Apple is Winter Greening, and the others are local seedlings unnamed. (J. J. S.).—6, Bonne d'Ezès; 10, Doyenné Boussoch; 14, Maréchal de Cour; 20, not known, the others rotten. (J. J. D.).—1, imperfect fruit, not known; 2, Beurré Superfin; 3 and 4 are too hard for identification, possibly the latter is Vicar of Winkfield; 5, Cox's Pomona; 6, Minchull Crab. (W. C.).—1, Souvenir du Congrès; 2, White Doyenné; 3, Cox's Orange Pippin; 4, Golden Reinette. (A. C.).—1, Sturmer Pippin; 2, Kentish Golden Knob; 3, unripe; 4, Beauty of Kent; 5, Hollandbury; 6, Brabant Bellefleur. (H. R.).—Fearn's Pippin. (Horncastle).—Not known, probably local. (W. H. Y.).—1, Bedfordshire Foundling; 2, unknown; 3, Fearn's Pippin; 4, Aromatic Russet; 5, Beurré d'Arenberg. (J. C.).—1 and 3, Flower of Kent; 2, Bedfordshire Foundling; 4, Claygate Pearmain; 5, Beurré Bosc; 6, Beurré d'Arenberg.

Names of Plants.—We only undertake to name species of plants, not varieties that have originated from seeds and termed florists' flowers. Flowering specimens are necessary of flowering plants, and Fern fronds should bear spores. Specimens should arrive in a fresh state in firm boxes. Slightly damp moss, soft green grass, or leaves form the best packing, dry wool the worst. Not more than six specimens can be named at once, and the numbers should be visible without untying the ligatures, it being often difficult to separate them when the paper is damp. (Sussex).—1, The white form of *Cydonia* (*Pyrus*) *japonica*; 2, *Cratægus flava*. (Dormi).—Possibly a form of *Lælia elegans*. (A. B.).—1, *Cratægus Lelandi*; 2, *Escallonia macrantha*; 3, *Ceanothus rigidus*; 4, *Thuia dolabrata*; 5, *Biota aurea*. (F. D. M.).—1, *Dendrobium chrysotoxum*; 2, *Odontoglossum hystrix*.

COVENT GARDEN MARKET.—OCTOBER 16TH.

FRUIT.

		s.	d.	s.	d.			s.	d.	s.	d.	
Apples, per bushel	1	3	to 3	0	Filberts, per 100 lbs.	..	35	0	to 0	0
„ Nova Scotia, per							Grapes, per lb.	..	0	6	1	6
„ barrel..	0	0	0	0	Lemons, case	..	10	0	15	0
„ Tasmanian, per							Peaches, per dozen	..	1	0	0	0
„ case	0	0	0	0	Plums, per half sieve	..	2	6	4	6
Cobs, per 100 lbs.	35	0	40	0	St. Michael Pines, each	..	2	0	6	0

VEGETABLES.

	s.	d.	s.	d.		s.	d.	s.	d.		
Beans, per bushc	1	0	to	2	0	Mustard and Cress, punnet	0	2	to	0	0
Beet, Red, dozen	1	0	0	0	0	Onions, bushel	3	6	4	0	0
Carrots, bunch	0	3	0	4	Parsley, dozen bunches ..	2	0	3	0		
Cauliflowers, dozen	3	0	6	0	Parsnips, dozen	1	0	0	6		
Celery, bundle	1	0	1	3	Potatoes, per cwt.	2	0	4	0		
Coleworts, dozen bunches	2	0	4	0	Salsafy, bundle	1	0	1	6		
Cucumbers, dozen	0	9	1	6	Seakale, per basket	0	0	0	0		
Endive, dozen	1	3	1	6	Scorzenera, buudle	1	6	0	0		
Herbs, bunch	0	3	0	0	Shallots, per lb.	0	3	0	0		
Leeks, buuch	0	2	0	0	Spinach, bushel	1	0	1	6		
Lettuce, dozen	0	9	1	6	Tomatoes, per lb.	0	3	0	4		
Mushrooms, punnet	0	9	1	0	Turnips, bunch... ..	0	3	0	0		

PLANTS IN POTS.

	s.	d.	s.	d.		s.	d.	s.	d.		
Arbor Vitæ (golden) dozen	6	0	to	12	0	Ferns 'small', per hundred	4	0	to	6	0
Aspidistra, dozen	18	0	36	0	Ficus elastica, each	1	0	7	0		
Aspidistra, specimen plant	5	0	10	6	Foliage plants, var. each	2	0	10	0		
Ohrysanthemums, per doz	6	0	18	0	Heliotrope, per dozen ..	4	0	6	0		
Coleus, per doz.	2	6	4	0	Lilium lancifolium, 12 pots	12	0	18	0		
Dracæna, various, dozen ..	12	0	30	0	Lycopodiums, dozen	3	0	4	0		
Dracæna viridis, dozen ..	9	0	18	0	Marguerite Daisy, dozen ..	6	0	9	0		
Ericas, various, per dozen .	0	24	0		„ Yellow „	9	0	18	0		
Euonymus, var., dozen ..	6	0	18	0	Myrtles, dozen	6	0	9	0		
Evergreens, in var., dozen	6	0	24	0	Palms, in var., each	1	0	15	0		
Ferns in variety, dozen ..	4	0	18	0	„ (specimens)	21	0	93	0		

AVERAGE WHOLESALE PRICES.—OUT FLOWERS.—Orchid Blooms in variety.

	s.	d.	s.	d.		s.	d.	s.	d.	
Arum Lilies, 12 blooms ..	4	0	to	6	0	Marguerites, 12 bunches ..	1	6	to 3	0
Asparagus Fern, per bunch	2	0	4	0	Orchids, various, dozen	1	6	18	0	
Asters (English) dozen	4	0	8	0	blooms	1	6	3	0	
Bouvardias, bunch	0	6	1	0	Peas, Sweet, doz. bunches..	4	0	9	0	
Carnations, 12 blooms ..	1	0	3	0	Pelargoniums, 12 bunches	4	0	9	0	
Chrysanthemum, dozen	1	0	4	0	Primula (double), doz. spys	0	6	1	0	
blooms..	1	0	4	0	Roses (indoor), dozen ..	1	0	2	0	
doz. bunches	3	0	6	0	„ Tea, white, dozen ..	1	0	2	0	
Dahlias, dozen bunches ..	2	0	4	0	„ Yellow, dozen (Niels)	3	0	6	0	
Eucharis,dozen	2	0	3	0	„ Safrano (English),	1	0	2	0	
Gaillardias doz. bunches..	1	0	2	0	dozen.. .. .	0	6	0	9	
Gardenias, dozen	2	0	3	0	„ Yellow, dozen blooms	1	0	1	6	
Geranium, scarlet, doz.	4	0	6	0	„ Red, dozen blooms ..	4	0	8	0	
bunches	4	0	6	0	„ various, doz. bunches	2	6	4	0	
Lilac (French) per bunch	4	0	5	0	Smilax, per bunch	2	0	4	0	
Lilium lancifolium, twelve	1	6	2	6	Stephanotis, dozen sprays	2	0	3	0	
blooms	4	0	6	0	Sunflowers (small) dozen	2	0	3	0	
„ longiflorum, 12 blooms	1	6	2	6	bunches	0	2	0	4	
Lily of the Valley, dozen	4	0	6	0	Tuberose, 12 blooms.. ..	1	6	2	0	
sprays.. .. .	1	0	2	0	Violets, dozen bunches ..	1	6	2	0	
Maidenhair Fern, doz. bchs.	4	0	6	0	Violets Parme (French),	3	6	4	6	
					per bunch	3	6	4	6	



ASPECTS OF HOME FARMING.

FARM produce for the household at the Hall was the primary object in the management of our home farm, the disposal of surplus produce being regarded as quite a secondary affair however profitable it might prove. Very comprehensive is this term of household supply in its relation to the farm. Milk, cream, butter, eggs, chickens, turkeys, ducks, geese, guinea fowls, pigeons, pork, hams, bacon, lard, mutton, flour, Potatoes, in full and unfailing supply the year round, or when in season. Special efforts were made for early spring chickens, ducklings, and turkey poults. After the first turkey poult was

sent to the kitchen they, and in due course older birds, were in constant request till the end of the season.

Very easy is it to run glibly through such a list, but by no means easy is it to prevent the occurrence of faults in the supply. Butter and new laid eggs in the winter will perhaps give most trouble. Butter will occasionally go wrong, especially in the winter; and as to eggs, why we soon found that to trust to one source of supply alone was to run much too serious a risk of failure to be safe. Two of the gamekeepers had suitable poultry houses provided near their cottages, and they were placed on their mettle by the promise of extra pay dependent on the number of eggs sent in. One of them had already a considerable number of so-called "ever-lasting" layers under his care, but he could make no hand of them for this work, and he had to turn to other breeds, eventually settling down to White Dorkings and thus becoming our champion winter egg man.

In this important matter breeding tells but the selection of fine healthy pullets from March, April, and May broods is the main thing. Birds must be had which commence laying just when the supply from older hens is falling off in early autumn. This means plenty of early March pullets, and it must not be forgotten that they may only lay freely for a short time and then moult. It is here precisely that younger birds tell, keeping up the egg supply, and continuing to do so if only they have every advantage of snug clean quarters, made warm and comfortable at night, with a closed commodious run by day, well lighted and ventilated, with a clean floor kept well supplied with dust and grit, among which a little corn may be thrown occasionally. Warm food twice a day is, however, of the utmost importance, and as the fowls are so much confined extra care must be given to cleanliness in every part of the interior of the fowl houses and runs. Nesting places and perches must not be overlooked; both are frequently found infested with vermin and clogged with filth.

All this points to systematic management, close attention to detail, and intelligent supervision. A very different thing this to the common easy-going custom of opening and closing the fowl house morning and night, throwing down some whole corn (of which sparrows often have a big share), and taking no further care or notice of the fowls. Yet a glance at them on a cold day should arrest attention; they make no attempt to wander or go near their summer haunts, but gather under any available shelter and remain there drooping and uncomfortable. They go to roost very early on perches often on a level with the eaves of the building, under which there is a bitter draught rushing in on them through the long winter night. It is no wonder that under such conditions winter eggs are a rarity, or rather unknown.

The remarks on poultry having extended somewhat farther than was intended the rest of our space this week may be usefully devoted to it. To the lover of Orpingtons, or of any of the Mediterranean breeds, we may say that all of them are good for winter eggs if only sufficient attention is given to the selection and management of pullets as has been indicated. The day has gone by when barndoor mongrel fowls were allowed to predominate at the home farm, when old hens were suffered to go on long after they had ceased laying freely. The whole of them should be closely examined, as they go off laying in autumn, only exceptionally good ones being kept over. Of the others, destroy all that are unhealthy and use up the others for the stock pot, taking care that proper arrangements are made with the kitchen authorities as to the number that can be taken weekly for this purpose.

Let the bailiff make it a special matter to see personally that no doubtful old hen is so used. It is within our experience that the whole of the soup has been spoiled by a hen that ought never to have left the farm. An oversight? Well, it might

have been; but the farm manager who attends very closely to detail, and regards so-called trifles as important, is by no means too common.

(To be continued.)

WORK ON THE HOME FARM.

Showery weather has brought up winter corn with a rush, owing to the land being so warm from the great heat of September. Parched pasture is already looking better, and with the weather so mild growth of herbage is remarkably brisk. Wonderful is the contrast presented by the luxuriant herbage in the High Peak of Derbyshire to the bare pastures in much of the south Midlands. In the Peak the complaint is of a want of sufficient stock, while in Leicestershire it has been difficult to obtain food for the stock, and the agistment of cattle has been a matter of necessity on many a farm.

This refers to poor pasture that is never brought under anything like a systematic application of manure, and we are bound to say that our use of chemical manure on about 100 acres of pasture in the very centre of a parched district this year has proved once more a safeguard against drought. Of course there is a check to growth from drought, but it is never so severe on land that is rich in available plant food.

Push on the clearance of the Mangolds now while the work can be done quickly and well. If keeping is scarce the sheep may follow for a few days to clear up the tops. In any case set the ploughs going as soon as possible after the land is cleared, and get it ridged up for winter if it is not to be sown now, then follow with the Swedes that are to be placed under cover for winter. White Turnips are a grand crop, and are now being folded with hoggets. Late sown Swedes are small in size, and will be left out as usual for spring folding. The last crop of Lucerne has been very useful, as indeed has each successional crop of this grand forage plant.

The nights grow colder, heavy rain showers, with cold, cutting wind at night, and frosty mornings may now be expected, and dairy cows should go into the yards at night, unless there is ample provision of open hovels on the pasture. Shelter must be had, and it is also well to remember that when pasture is sodden by heavy rain at this season of the year, there is much risk of harm to cattle and horses having to lie down to rest on it. Look to the flock now for indications of foot-rot; we were through a flock recently said to be free of it, and we discovered two limping sheep.

OUR LETTER BOX.

Feeding Cows (Inquirer).—1, The best dietary for your purpose is meadow hay, crushed oats, and bran. If you have enough home-grown oats, the bran may be dispensed with; but if food has to be purchased, then give preference to the mixture. 2, Your cows will require about 60 lbs. of food daily, or thereabouts, according to size. But we should prefer to give each of them 6 lbs. of the corn twice daily at milking time, and as much hay as they can clear up. 3, No, roots are not absolutely necessary. If they can be had use a few Carrots till the end of the year, then Mangolds; avoid Swedes and other Turnips altogether. Some Cattle Cabbage or Kale in moderation is a valuable addition to a winter dietary. 4, Cows out of milk require no corn. 5, The bull will require no corn; hay and oat straw should suffice to keep it in healthy condition. Beware of exposing such delicate cows to cold and wet. Jerseys ought certainly to lie-in at night now, and after this month to be withdrawn altogether from the pasture, and be settled in the yards for the winter.

METEOROLOGICAL OBSERVATIONS.

CAMDEN SQUARE, LONDON.

Lat. 51° 32' 40" N.; Long. 0° 8' 0" W.; Altitude 111 feet.

DATE.		9 A.M.				IN THE DAY.				Rain.
1895. October.	Barometer at 32°, and Sea Level.	Hygrometer.		Direc- tion of Wind.	Temp. of soil at 1 foot.	Shade Tem- perature.		Radiation Temperature		
		Dry.	Wet.			Max.	Min.	In Sun.	On Grass.	
	Inchs.	deg.	deg.		deg.	deg.	deg.	deg.	deg.	Inchs.
Sunday .. 6	29.608	54.4	53.8	N.	54.9	58.6	53.9	68.1	51.1	0.050
Monday .. 7	29.762	50.0	47.8	W.	54.6	59.2	43.7	101.8	37.6	0.162
Tuesday .. 8	29.385	53.9	52.1	E.	54.0	56.9	50.1	64.6	44.1	0.295
Wednesday .. 9	29.103	51.6	50.2	N.W.	53.9	55.1	49.9	77.6	48.8	0.014
Thursday .. 10	29.640	48.9	46.1	N.	53.2	52.1	44.1	68.9	36.9	—
Friday .. 11	30.083	48.1	45.1	W.	51.9	56.2	36.6	90.1	29.7	—
Saturday .. 12	30.130	53.1	49.3	S.W.	51.8	61.4	43.0	96.4	40.6	—
	29.673	51.4	49.2		53.5	57.1	46.6	81.1	41.3	0.521

REMARKS.

6th.—Heavy rain from midnight to 3.30 A.M., and from 5.30 A.M. to 9 A.M., then drizzly till noon; overcast afternoon; fair evening.
7th.—Fine and generally sunny till 2 P.M., overcast after.
8th.—Rain from 1 A.M. to 4 A.M.; overcast day, with slight rain at intervals; almost incessant rain after 7.30 P.M.
9th.—Continuous rain till 4 A.M.; dull damp morning; fair afternoon, with gleams of sun.
10th.—A little rain in small hours; dull damp morning; fair afternoon; clear night.
11th.—Fine and generally sunny.
12th.—Dull early, sunny and pleasant after 11 A.M.
Another considerable decrease in temperature; but the fall of the mean maxima of 21.7° in a fortnight has only brought the temperature down to about its true average.
—G. J. SYMONS.

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Journal of Horticulture.

THURSDAY, OCTOBER 24, 1895.

THE PLANTING SEASON.

SHOULD severe frosts keep off a few weeks longer, planting will surely be conducted this season under exceptionally favourable circumstances. Trees and shrubs of every description have made good if not luxuriant growth. This has been well ripened by the glorious weather of the last two months, and the recent rains have rendered the soil sufficiently moist to keep the roots of newly planted trees plump and healthy, and yet not wet enough to cause it to become pasty under the planter's tread.

The soil is, moreover, still warm with the heat of summer, and thus we are favoured at the same time—and at the right time—with the two natural conditions so essential to secure success in planting. It is, therefore, incumbent upon cultivators far and wide to see that such a golden opportunity is not allowed to pass by without making a great effort to do as much as possible of the planting which falls to their lot before the land becomes cold and wet, or is perhaps held in the iron grip of frost.

There is usually a good deal of transplanting to be done in the way of removing fruit trees or shrubs from one part of the garden to the other. This should be taken in hand first, so that when consignments arrive from the nurseries the whole of the available time may be devoted to them. When alterations are in progress in the pleasure grounds it is often desirable to secure large trees and shrubs for filling up gaps, and producing a quick effect. These may generally be obtained from other parts of the grounds, as there is a good deal of thinning required among shrubs, as they develop if their permanent beauty is sufficiently considered. In such instances if care is exercised large bushes may be transplanted without suffering a very severe check.

In taking out the trench around trees and shrubs before removal it is always a wise policy to commence at a sufficient distance from the stool or stem, as it is an easy matter to gradually cut away the soil till there is as much left as can be conveniently lifted in a ball, without running the risk of breaking it during the process of transplanting. Holes proportionately large should, of course, be previously prepared

for their reception. When I write proportionately large, I do not mean just large enough to cram the roots of the transplanted shrub into, but large enough to supply them with a free root run for several years. Those having balls of earth 3 feet in diameter ought to have holes 5 or 6 feet across prepared for them, and in cases where young trees are removed to positions near old-established ones even more than this, otherwise the roots of the older trees will rob those of the younger ones of the full benefit of the prepared soil. It is also a good plan to place a layer of manure in the bottom of the holes, but this should, of course, be covered with soil, so that the roots do not come in contact with it till they have begun to grow freely.

Too often nothing is done towards enriching the soil of shrubberies, and under such circumstances good growth during a long succession of years cannot reasonably be expected. In those instances in which large roots have to be severed when transplanting shrubs, some of the top growth should also be cut away, to restore the balance between root and branch, and secure strong, clean, future growth, instead of the reverse.

Turning to the fruit garden, there is always a certain amount of re-arrangement to be done. Feeble or worthless trees have to be uprooted, younger ones thinned out, or perhaps an additional quarter planted. Many good fruit growers adopt the plan of buying annually a few maiden trees of Peaches, Plums, Pears, and Cherries for growing against walls wherever a vacant space may occur between the permanent trees. In a couple of years these are converted into good trained trees, and are ready for transplanting into permanent positions; when a good stock of suitable trees of this description are always at hand the tendency to allow old and unprofitable ones to encumber the ground and cover valuable wall space is greatly lessened.

When preparing the sites for wall trees the work should be done thoroughly. Holes 5 or 6 feet in diameter should be made. On light soils the depth may be 2 feet 6 inches; on heavy soils 6 or 9 inches. In either case a layer of broken bricks or clinkers ought to be placed in the bottom, and covered with straw or other rough material. If possible the whole of the soil taken out of the hole should be carted away, and good turfy loam substituted for it. Many cultivators are, however, not able to procure good loam in sufficient quantities for this purpose. In such instances burnt refuse mixed with some of the best of the old soil will do for filling in the bottom half of the hole, but good loam ought to be used in the upper layers.

Wherever it is intended to plant fruit trees the holes should, if possible, be prepared at once, so that the additional trees required and ordered from one of our many reliable nurserymen may be planted as soon as they arrive. By forwarding work in this way the energetic gardener is often able to do the greater part of the necessary planting before severe weather sets in, a matter of vital importance, especially when a severe and protracted winter is followed by a dry spring and early summer, such as we experienced last year.

In planting these nursery trees the greatest care should be exercised, because it is of course impracticable to lift and dispatch them with good balls of earth, such as those transplanted from one part to another of the same garden would possess. Nurserymen especially prepare their trees for sending long distances by frequent transplanting to obtain abundance of fibrous roots, but unless the purchaser exercises intelligence in planting the best results cannot be obtained. Assuming, therefore, that when a consignment of trees arrives everything is in readiness for planting, this should be done as soon as possible. When the trees are unpacked if the roots are found to be in the least dry they ought to be soaked in tepid water for an hour, the damaged roots and points of the others being first cut away. The holes should in the meantime be partly filled with the prepared compost; this ought to be trodden firmly when it happens to be rather heavy or wet. As the trees are placed in position it is important to see that the

surface roots are just below the ground level, as deep planting is the cause of innumerable evils.

Each layer of roots must be spread out in various directions, covered with soil, and pressed firmly; in fact so arranged that every rootlet has space to push into the surrounding soil without being forced against its neighbour, the upper layer being covered with about an inch of soil, which surface should form a slight mound above the ground line, so that when the usual subsidence has taken place the whole surface will form one level. The latter remarks apply to medium and light soils. On heavy land the upper layer of roots ought to be above the general ground level, mounds, of course, being formed around them. After planting wall trees should have the main branches lightly fastened to the wall, but the regular training must not be done till the spring, so as to allow them to sink with the soil into their natural position.

All newly planted trees in open quarters should, on the other hand, be securely staked to prevent loosening by wind, a condition under which they cannot succeed. A mulching of short manure or leaves completes the operation. Whenever trees or shrubs arrive at times when they cannot be planted they should, to use a familiar expression, be "laid in by the heels," care being taken that the surface roots are sufficiently covered to prevent injury by frost. Trees treated in this way will on removal in spring often exhibit numbers of white rootlets, and this alone is a strong argument in support of autumn planting, as it is obviously a great advantage to have the trees in their permanent positions before this stage of root development has been reached. These well known facts, I maintain, serve conclusively to show that every effort ought to be made to do all the planting possible during the autumn and early winter months. This is a golden rule, which cannot be too strongly or too often impressed on the mind of the British fruit grower, a class of men who, whatever failings they may exhibit, have this great merit, when once they are thoroughly convinced of the soundness of a practice, do not allow trifles to deter them from carrying it out.—H. D.

HARDY FLOWER NOTES.

CALM, sweet days delighted us for long, and day by day the garden seemed to grow more beautiful as the Asters came into flower, as if Autumn had been striving to show that she, like the sister seasons which have passed away, had grace and beauty enough to beguile us into thinking grey days would never come. Pleasant was it to sit in the garden arbour or to stroll along the walks and admire the flowers, that appeared to delight in the warm sunshine and the calm air which seemed hardly to ruffle a leaf. But the dreaded change has come, and with it many flowers have vanished from our gardens for the year, although some may revive should frost delay. Not as we expected, however, did it come, for no chill north wind came, as it is wont to do at this season, to bring frost to shrivel and blacken leaf and bud and flowers. Instead, fierce western gales, with heavy rains and showers of hail have wrought their unbridled wills among the garden plants. The taller Sunflowers and Michaelmas Daisies have suffered much, and now these delight-giving plants with "dripping boughs bewep their beauty lost."

In the bright days now gone, mayhap never to return, these tall plants were pictures of beauty and of grace. In our lack of language worthy to express the form of some of these plants we call them "pyramids," as if the word inseparably associated in our minds with the great piles of masonry on the Egyptian wastes could convey any impression akin to or descriptive of the elegance of form so many of these plants possess naturally. In giving the support needed to enable them to withstand as far as possible the stormy winds it is necessary that they should not be left to their fate, but should be properly staked and supported in the least obtrusive way. With this carefully done their beauty of habit is not destroyed and their value is increased, as when the storms have blown past they will, to some extent, revive and flower for some time longer. The old English name is more attractive than that of Aster, which reminds us more of the annual Callistephus which has so long appropriated that name. Although, then, one has no intention of confining themselves at this time to the

Michaelmas Daisies, their usefulness in the garden at the present is so paramount that some of them must take the first place in these notes, written when they are in the zenith of their beauty, although obscured temporarily by the fierce winds and the unkindness of Jupiter Pluvius.

One of the prettiest at the time of writing is *A. puniceus pulcherrimus*, of which I have but a small plant, but which is so charming that I should like to see it represented in my garden by a larger clump. It is one which has received the merited distinction of being marked XXX by the Committee appointed by the Royal Horticultural Society, and, as is usually the case with anything so recognised by that body, one can only say that this "hall mark" is deserved. It is a beautiful Starwort, growing somewhere about 4½ feet in height, and bearing "pyramidal" heads crowded with large flowers of an exquisite blush white with a yellow centre. The petals are very elegantly incurved, and this combination of beauty of colouring, grace of form, and large size renders this a very valuable Michaelmas Daisy. The typical *A. puniceus* and *A. p. lucidulus* I have not grown; but if at all equal to the variety *pulcherrimus* they should not be long absent from this garden. They have also obtained the XXX mark, so that one need have no doubt of their merit. This mark is an excellent guide in the selection of additions to one's collection of the Starworts.

Another beautiful Michaelmas Daisy which commenced to flower immediately after the preceding one is that known as *A. novi-belgi Juno*. This also grows about 4½ feet high, and has pretty purple blue flowers of smaller size than those of *A. p. pulcherrimus*, but of good form and colour. There are several other beautiful varieties among the New York Starworts, such as *A. n.-b. Archer Hind*, *superbus*, *Ianthe*, *John Wood*, *Robert Parker*, *Purity*, *Harpur Crewe*, and that little beauty better known by its old name of *A. longifolius formosus* than by that of *A. n.-b. lævigatus*. Something—or rather a good deal—could be said of several others, but as someone else will probably be speaking more in detail of the Michaelmas Daisies I shall only refer for a little to the old "Goldy Locks," formerly known as *Chrysocoma Linosyris*, but now called *Aster Linosyris*, *Linosyris* being the principal name used by the older authors, and, according to Johnson's edition of "Gerarde's Herbal," thus given: "Forasmuch as this plant is stalked and leaved like common Flax (*Linum*), and thought by some to be *osyris*, the new writers have called it *Linosyris*." The name of "Goldy Locks" or "Goldilocks" has been applied to several flowers, but appears to have become more firmly attached to this *Aster* than to any of the others.

It is often remarked that we have too many yellow composites in autumn, but this old flower, introduced into cultivation as far back as 1596 if not before that time, looks more like heads of little yellow balls than anything else, and has no resemblance to the Sunflowers and similar flowers, of which we have so many. It grows from 18 inches to 2 feet in height, and, although not what I should call a choice flower, is rather a showy one in the border. The leaves, as will be seen from the extract from "Gerarde's Herbal," are Flax-like, and thus light and pleasing in appearance. *A. Linosyris* grows in any ordinary soil.—S. ARNOTT.

APPLE BORSDÖRFER.

A FEW weeks ago reference was made to this Apple, as grown by Mr. R. Webb at Beenham, near Reading. Since then Mr. Webb has sent us fruits of this variety, which were so beautiful that we have had one of them engraved. Mr. Webb describes it as a favourite autumn dessert Apple, and the tree as bearing fairly well. In the "Fruit Manual" Dr. Hogg describes the fruit as shining pale waxen yellow in the shade, and bright deep red next the sun, strewed with dots which are yellowish in the sun and brown in the shade. Tree a free grower and very hardy, not subject to canker, and attains the largest size; is very prolific when it has acquired its full growth, which, in good soil, it will do in fifteen or twenty years; and even in a young state it is a good bearer. If grafted on the Paradise stock it may be grown as an open dwarf or an espalier. The bloom is very hardy, and withstands the night frosts of spring better than most other varieties.

This, above all other Apples, is the most highly esteemed in Germany. Diel calls it the Pride of the Germans. It is believed to have originated either at a village of Misnia, called Borsdorf, or at a place of the same name near Leipsic. According to Forsyth it was such a favourite with Queen Charlotte that she had a considerable quantity of them annually imported from Germany for her own private use. It is one of the earliest recorded varieties of the continental authors, but

does not seem to have been known in this country before the close of the last century. It was first grown in the Brompton Park Nursery in 1785. It is mentioned by Cordus, in 1561, as being cultivated in Misnia, which circumstance has no doubt given rise to the synonyme "Reinette de Misnie;" he also informs us it is highly esteemed for its sweet and generous flavour, and the pleasant perfume which it exhales. Wittichius, in his "Methodus Simplicium," attributes to it the power of dispelling epidemic fevers and madness!

There is a proverb in Germany which says, "Ihre wangen sind so

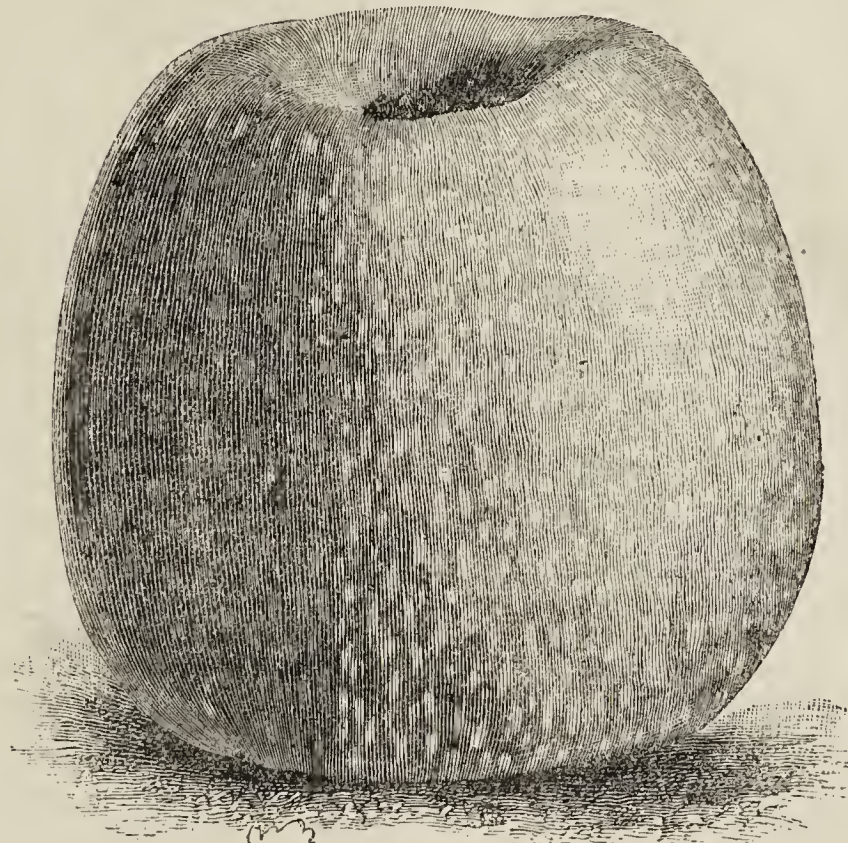


FIG. 61.—APPLE BORSDÖRFER.

roth wie ein Borsdörfer apfel" (Her cheeks are as red as a Borsdörfer Apple).

We are much obliged to Mr. Webb for the beautiful samples, one of which is represented in fig. 61.

LESSONS BY THE WAY.

IN SUSSEX.

IT was on one those sultry evenings, for which the early autumn of 1895 will long be memorable, that I found myself in what in ancient phrase is known as "Sleepy Sussex." However appropriate the term may have been in past days, it has, except in perhaps some of the remote rural districts, become a mere vulgar anachronism. Brighton, for instance, is lively enough in the "season," and it would be hard to find more activity, human and ornithological, than is apparent in feeding chickens by machinery round about Heathfield. In this work some of the natives are wide awake enough, for they will give 2s. or so for "birds" in Ireland and in three weeks sell them for 6s. or 7s. each in London in "Parlyment time;" and when this is done by scores of thousands, as is the case, the aggregate profits must amount, as the typical Sussexer will tell you in his moments of leisure, and in his leisurely way, to a "tidy little bit." But this is by the way, and we were not in quest of chickens on that particular journey (it was not the season), but of fruit. It is in Sussex that "the Dr." (no need to say which, for there is only one fruit doctor) has his cherished collection, and he has of late been curing canker by grafting, which is in many cases the easiest way of all. His fruit was plentiful and splendid, in colour magnificent; due possibly to the iron in the soil, for Sussex is famed for its ancient "forges;" and the "Forge Apple," which bears its loads of fruit in many gardens, is somewhat of a county institution. Oh no! don't write about my fruit now; if you want something to write about better go to Cheal's."

It may be perceived that "Cheal" is a household word in that part of the country—in Sussex, Surrey, Hants, and, indeed, far beyond their borders, and made so by a combination of enterprise, knowledge, industry, and trade integrity—just those qualities which have made famous other firms in the same line, and which are heard of now and then through the columns of the Journal. It is, perhaps, not known by everybody that though Crawley is in

Sussex the Lowfield Nurseries are in Surrey, though not far from the border line that separates the two counties. Mr. Cheal, sen., the estimable nonagenarian—a most gentle, loveable character, now ripening for the harvest—established a quiet local business and an honoured name; his sons developed this business under prudent guidance, and have made it what it now is—one of the leading provincial nurseries of the kingdom. They deserve all the success they have won so fairly and so well.

Those who could see the bleak and bare Lowfield Heath not so many years ago, and see it now, would not be led to think that England is going down the hill, but up it. The value of the once treeless tract of flat, cold, and stubborn land must have been raised enormously by the art of cultivation. It has been warmed by draining, ameliorated by deep, thorough, intelligent working, and made to answer the purpose so well to which it is now devoted. Treeless no longer, but, to coin a term, tree-full. No longer an open expanse of grass and grain, or whatever may have been grown, but a series of avenues and enclosures, the large compartments being bounded by narrow trim hedges some 10 or more feet high, and this over scores of acres. Within these sheltering living walls are trees for use and for ornament of almost all imaginable kinds grown in this country. Flowers, too, in great profusion, but among these Dahlias enforced their ascendancy at the time by their numbers, stateliness, and beauty. Acres of them in the different types, but more particularly those of a decorative character, of which so many leading forms originated there, told of the public taste and demand in this particular line of garden adornment. Dahlias of every shape and colour of bloom, and stature of plant, from the pigmies to the giants, make the nurseries brilliant in their season, and many an exhibition, national and provincial, brilliant, too. But the flowers must be left for a glance at the fruit.

Mr. Joseph Cheal is an authority on hardy fruit. He has written a book about it, and a very good book too. In this he notes the "tens of thousands of bushels of Apples, handsome in appearance, regular in size, and uniform in quality" that are imported into this country, and goes on to say "the people will be sure to buy such samples until we can supply them with a sufficient quantity of better fruit at home." Truer words were never uttered, and they go to the very root of the whole matter of competition in production; and if this country is to succeed in the contest, fruit, as Mr. Cheal says, "must be *cultivated*, not allowed simply to *grow*." It is a fact that for generations Apple trees have been allowed to linger far too long, until their products could not possibly find a sale, when the better samples from "cultivated" trees came within the reach of purchasers. The produce of exhausted trees in inferior varieties will fall lower and lower as time goes on. This is as certain as barbarianism must yield to civilisation. But as in the past, so in the future, some people will go on in the old, haphazard way, losing and grumbling, while others will gain by their skill in cultivation and methods of disposal of their wares.

Like the rest of their friends and purveyors of fruit trees, the Messrs. Cheal foresaw that the quick production of the most approved varieties would best meet popular demands, and at the outset gave attention to the influence of stocks, and by far the greater majority of the forest of fruit trees grown by them are on approved dwarf stocks, which incite healthy growth with early productiveness. The greater number of the trees so raised are in the ordinary free bush form in the most useful recognised varieties. These and cordon trees are in the greatest demand, as may be seen by the provision made to meet it; but there are for various gardens, also for orchard purposes, other kinds—in fact, all kinds, low and lofty, trained and free, as well as a long list of varieties—represented by few or many trees according to requirements. Without giving a string of names, it must suffice to say that all are grown by skilful hands under the trained eyes of watchful chiefs, and, as one of these quietly observed in response to a word of praise on the excellence of the trees, he "thought there was not much the matter with them." As a matter of fact, growing trees is much the same as growing fruit, and it cannot long pay anyone to grow either if there is "much the matter" with the samples. It is satisfactory to know that there are no better fruit trees in the world than those which are grown by British nurserymen who give special attention to and have won for themselves fame in this department; and the trees are grown so well and sold so cheaply, also true to name, that it is foolish for inexperienced persons to lose valuable time in attempts to raise their own. They might about as well try to make their own boots.

But though there is no intention to dwell on varieties just one Apple must be named as inseparable from a remarkable example of early productiveness. It is not often that the writer of these lines is surprised by feats in cultivation, or anything of that kind. He has seen rather too much in his peregrinations for that; but he

was compelled to look twice and thrice at a notable quarter of Bismarck Apples. There were, in fact, three sets of the same Apple on three different stocks, and the difference was most striking. The trees on the English Paradise presented a remarkable sight. They were only of two seasons' growth from the bud, yet were bearing magnificent fruit, this looking like a glowing mass as the trees were planted in the ordinary nursery fashion. A request was made that the fruit be counted and weighed. This will no doubt be done, if it has not been done already. Something was done, however, in the way of a forecast made about a month ago, and it is given, so that we may perhaps learn in the course of time how far the estimate was from the realisation. The estimate of the proprietors is as follows:—

"We have carefully ascertained the number of Bismarck Apples on the piece of ground which you saw. The area of the ground is $18\frac{3}{4}$ rods, and there are on the piece 1011 trees, carrying a crop of 5232 fruits. We have measured and weighed fruit of the average size, and find that it works out to 54 bushels and 2 gallons for the piece, and this at per acre amounts to 512 bushels. The fruit, however, is still rapidly swelling, and we feel sure in the course of another week or two the increased size and weight will bring up the quantity to near on 600 bushels the acre. The fruit has improved wonderfully in size and colour since you saw them, and to see them in an early morning with the dew on them is really a sight of marvellous beauty. We have tried to photograph them, but cannot at all satisfy ourselves with the result."

We sometimes read of baby shows in America. If our enterprising transatlantic friends can furnish a better record of a baby fruit tree show than the one on Lowfield Heath they had better send it along. They do wonderful things on the other side, but one of the most notable is in moving stolid John Bull out of the old tracks and learning him to grow his own Apples.—INSPECTOR.



THE AUSTRALIAN DENDROBIUMS.

As is well known, the great majority of this genus are natives of India, China, and other Asiatic countries, but the acquisition of *D. Phalænopsis*, the most noteworthy of recent years, has been the means of attracting more attention to the comparatively few but fine species that inhabit Australasia. Unfortunately, several of these are rather difficult to establish, or more correctly, they are tardy of starting into growth after they arrive in this country. To take the species named above, it is not at all unusual for plants when newly imported to remain dormant for months after their arrival, but patience is usually rewarded by their growing strongly afterwards. Then the plants are safe, and if properly treated are in a fair way to long-continued health and a bountiful inflorescence.

Among a large number of plants purchased some two years ago, the greater number produced flower spikes before any signs of root or growth were apparent, and although this would seem to be injurious to them they subsequently started just as well as the others that did not flower. It would appear by the behaviour of these plants that the basal eyes are easily injured by the long drying inseparable from the process of importation, and the energies of the plants not finding an outlet in that direction force out the embryonic flower spikes, so to speak. Happily there are also growth buds in an undeveloped state, and, favourable conditions existing, these eventually break and become the means of establishing the plants; but as these are as often as not pushed from the centre or the top of the stems it is not advisable to place them in their baskets or pans until the shape of the coming plants can be seen. Then the stems may be cut or bent as may seem most desirable to make a good specimen, and bring the base of the new growths in juxtaposition to the compost.

There is no better holding for *D. Phalænopsis* than a thin layer of peat fibre and sphagnum placed over efficient drainage in small suspending pans. The small twining and interlacing roots cannot enwrap a great body of material, or even penetrate through it to the sides of a pot or pan; but in the manner described above they are sure to thrive, other conditions being suitable. The first of these is a strong moist heat while the plants are making their growth, plenty of sunlight, and an abundant supply of water to the roots. These are all easily obtainable during the summer months, and the late tropical autumn weather ought not to be without its

good effects on this species, but very frequently the growths commence to push just as the winter is beginning, and it is in this case that care and judgment are necessary.

A winter temperature as usually advised for such deciduous kinds as *D. Devonianum* or *Pissardi*, or even the ordinary ever-green kinds, would not be high enough for the species in question when in growth, but an unduly high and moist temperature during very cold weather would be almost equally injurious. The happy medium must be aimed at during the short dark days of winter—just enough heat to keep them gently moving, but not sufficient to cause a weak attenuated growth. Of course, when the plants start to grow naturally in spring the cultivator's task is made comparatively easy, as they thrive well in company with the other kinds. The flowers of this fine Orchid are too well known to need description, their wondrous diversity being by no means the least of their attractions.

D. superbiens, again, is another beautiful kind, in its better forms thriving well under similar conditions. The flowers of this are produced on long elegant racemes, fourteen or fifteen on each, and are mostly of pretty shades of purple, this colour on the sepals being especially rich. *D. Goldiei* is even more brilliantly coloured than this, and is a rare and truly beautiful kind. This must be very carefully grown indeed, and excesses of drought, heat, or moisture studiously avoided, during the winter months especially. *D. bigibbum* is of a differing style of beauty, the flowers being smaller, but having more substance in the sepals and petals. The colour is bright rosy purple. *D. speciosum* and its varieties are all easily grown plants, but some growers find a difficulty in inducing them to flower.

There is one point in their culture that needs attention, and that is, they must be well dried after the growth is finished, standing them right out of doors in the full sun, and giving them no water, or only a very little. It does not matter if the bulbs shrivel a little, they will soon swell up again when introduced to heat and moisture, but this is the only way to get plenty of flowers. This is a very old species, having been introduced as far back as 1824, and produces long dense racemes of yellowish-white flowers in winter and early spring.—H. R. R.

A PEEP INTO FUTURITY.

"You must see the great fruit show, it will be good," said my friend, and so said the *Journal of Horticulture* in its preliminary announcement. Believing in both, I went, and saw the marvellous array displayed under Paxton's glorious Palace of Crystal. There was, indeed, ample food—food for reflection.

Now I am given to cogitating; perhaps those who like myself live, or strive to live, by the land never cogitated so much in our lives as we do at present. There are so many, many things to ponder over in the endeavour to make both ends meet—so many knots continually cropping up in the tangled web of farm life, that even straining at the highest tension somehow falls short of effecting the union.

However, to return to my starting point, which shall only detain me to say that I had not been drawn so far from my home in Cornshire solely by pleasure, but was driven rather by force of circumstances to see any possibilities that might present themselves in this craze of fruit culture of a new opening for an old farmer.

During my sojourn in the great city special notes had been taken of all things relevant to the subject, for, even at my age, anxiety to live causes willingness to learn; hence in addition to cramming my head with wisdom extracted from County Council lecturers and doctors learned in the law of pomology, a call had been made in Fleet Street, where my pockets were filled with literature bearing thereon.

With this and the last copy of the *Journal* to refresh my memory of the great fruit show, I was snugly ensconced in a carriage of the night mail of the London and Cornshire Railway *en route* for home. Cogitating, of course, and being monarch of all I surveyed by the light of a flickering oil lamp, there were no supercilious on-lookers to note the length of time I spent in the endeavour to work out a problem which a note in the *Journal* prompted me to solve. This was Apples at 7d. a ton.

Having figured out the answer that to live and let my landlord live each tree must annually yield at least 10 tons of Apples, which, even to me, an ignoramus, seemed rather heavy cropping, I was again seeking consolation that home consumption by a frugal course of Apple dumplings would lighten the tradesmen's bills, when from out the monotonous whirring of wheels a voice whispered, "Behold the fruit of the future."

Awake? Oh, yes; sufficiently awake to see any means by which hard times might be softened. "Look through the telescope of time," continued the unseen, and finding an instrument in my

hand it was quickly focussed on a vision of surpassing beauty, more beautiful, perhaps, than its utility was plainly apparent.

First I noticed that long stretches of the railway banks, by which we sped, and which on my journey up but one short week before were in a state of Nature unadorned, had now given birth to a profusion of fruit-bearing plants. Here, on the one side sloping to the southern sun, tempting Tomatoes, clustering on single cordons, were trained prostrate on the warm soil. Further on these were succeeded by Grape Vines similarly trained and flourishing equally as well, whilst on the opposite bank, facing the north, Strawberries and other fruits had, from their cooler position, been made to extend a season previously all too brief. Miles of hedgerows were now relieved by standard Plum trees, and some acres of hitherto waste moorland were now resplendent with the shining red fruit of the Japanese Wineberry, which I did not fail to note, had been improved to double the size of the original type.

Magnificent orchards had taken the place of corn fields, yet quantity was balanced by quality, although it was remarkable that of the plethoric lists of Apples I had been scanning but a few varieties—the survivors of the fittest—were to be seen. "Ah! but 7d. a ton," exclaimed I as my former problem cropped up. "Ah!" said the voice, "we have changed all that." "See," and I saw, as the telescope of Time was readjusted and brought to bear on distant scenes, New York markets supplied direct by the Pneumatic Tubular Association with English Apples. "What! why American Apples used?" "Used," said the voice, "it is not what was, it is what is, and what your teachers of old time have spurred you on to. This, coupled with up-to-date transit, has made England practically mistress of the markets of the world, not to speak of home consumption, increased an hundred-fold, which has given health, vigour, and occupation to its teeming population."

Corn, and wine, and oil you are still dependent on imports for though. I was further informed that English champagne made from open air Grapes (not Gooseberries) bid fair to oust the foreign article from our shores. "Marvellous," quoth I. "Practical," was the answer. "But does it pay?" "Pay," echoed the unseen; "did it pay to feed the masses, mentally, with a practically free education? and if so, why these vain regrets at a cheap and bountiful fruit supply? Behold the nations unarmed, cultivating the arts of Peace, not of War. Jingoism has perished by inanition since your earth-dwellers have supplanted your sanguinary animal food by peace-promoting fruit. Look back with gratitude to the pioneers of the new order of things." I looked back, was, in fact, called back as the vision faded. Vision was it? Surely my hand still grasped the — What? only the family umbrella and — "All tickets please." No wonder that in my bewilderment I handed to the official, who was regarding me somewhat curiously, the card of—AN OLD FARMER.

PRUNING AND ITS EFFECTS.

AN intelligent use of both pruning knife and saw is to be commended in cases of renovation, and, it is almost needless to add, plays an important part in maintaining the productiveness of healthy trees not requiring to be lifted or root-pruned. Many err in using the knife especially too freely, and it is also possible to make a mistake in the opposite direction. I have a great aversion to long, ugly spurs on wall trees, notably of Apricots, Plums, and Pears. Of what use are the walls if the portions of the trees which only can produce fruit are from 6 inches to 12 inches away from them, or where they derive little benefit from their warmth and shelter? Not only is warmth wanted to assist in the development of clean, full-sized fruit, but is still more imperative in many districts where the growth is naturally late and the wood ripens badly. Who ever saw fine Pears, for instance, borne by long, knotty spurs? Long spurs on Apricots and Plums are certainly fruitful enough at times, but very rarely is the fruit so large or so brightly coloured as the same trees would be capable of producing if the fruiting spurs were close to the main branches. The aim therefore of would-be successful growers should be to prevent any young and as yet unspoilt trees from forming long spurs, and also to gradually reduce the number and length of any already too far from the walls.

The start may be made with spur-shortening any time after this is in print, and I am inclined to think the sooner the better. Supposing summer stopping has been resorted to, or the trees were pruned after the lateral growth was well advanced towards maturity, all being pruned to within about 4 inches of their starting point, those on trees not previously spoilt by the neglect of this precaution ought to be still further shortened to a length of about 1 inch of the main branch. Persevere with this practice every season, and in

the course of about three years a good cluster of fruit spurs should result. If the trees are too vigorous, and nothing but wood buds followed by strong lateral growths result, then in some instances nothing but partly or wholly lifting them will correct this unfortunate state of affairs. Not unfrequently, however, the practice of laying in all leading growths required for furnishing blank wall spaces, or any thin places among the older branches, to their full length, has an excellent effect on the productiveness of a tree. These leading branches, if well ripened, will usually develop fruit buds at nearly every joint and good crops of fruit, and are an excellent preventive of grossness, the fruitful habit gradually extending to other parts of the tree. On no account should well matured leading shoots be topped or shortened back, however slightly, as this is certain to defeat the object in view; in fact, unless they, if pruned at all, are cut back to about one-third of their length the greater portion as a rule will not even be furnished with laterals next season.

Much may be done in the way of reducing the length of old spurs by foreshortening, but in many instances the more drastic measure of sawing them off cleanly to within 1 inch, or even closer, to the main branch ought to be resorted to. The former is perhaps the slower method of the two, but if persisted in every autumn till such times as the spurs are all sufficiently close to the branches there will be no appreciable falling off, but rather the reverse, in the weight of the crops, while the quality will be gradually improved. Foreshortening in this case merely consists in cutting back the longest spurs to a well-placed bud or cluster of buds much nearer the branch, and if this is done piecemeal the greater portion will push out back buds, and an improvement in every way soon becomes apparent. Long naked spurs cannot be treated in this way, but as these are usually found on trees too densely clothed with so-called bearing wood the removal of one-half of these would act beneficially, even if many of them failed to break afresh round the stump left. The trees I have served in this way, the work of thus freely shortening back being extended over two or three years, have failed to break well in a few instances only, and none need be afraid to adopt the plan, as the trees must be in a very miserable plight at the roots if they fail to respond to knife or saw. The spurs on several of the Pear trees, the roots of which we gradually lifted and relaid in fresh soil, were extensively sawn off, and not a blank space on the main branches is to be seen. A tree of Vicar of Winkfield, which covers a wall space 24 feet by 12 feet, this season produced twenty-four dozen fine clean fruit, and the crop was nearly as heavy last year. Marie Louise has greatly improved under this process of top and bottom renovation, and the same may be said of Glou Morceau, Louise Bonne of Jersey, Winter Nelis, and Easter Beurré. I ought to add that we take particular care not to drag off old spurs with a part of the main branch attached, as they are either cut with a strong sharp knife or are sawn off, the wounds being pared and smoothed with a knife.

Not only is it advisable to replace old spurs by short new ones, but in the case of Apricots and Plums especially worn out or stunted old main branches may often with advantage be replaced by young ones. Sometimes it is necessary to cut back a few of the main branches to near the main stem or base of the tree, in order to obtain the requisite young shoots for laying in, while in others they are naturally produced where most needed, and in this case those they are to replace need not be cut out till the young ones are two or three years old. Not a few Plum trees, notably where the head room is much restricted, form a thicket of lateral growths at the top of the wall, the lower portion of the main branches being very badly furnished with fruiting spurs. Either these top-heavy branches ought to be freely shortened back, so as to promote the formation of shoots nearer the bottom of the walls, or else the long spurs must be sawn off, and more care taken of the lower shoots that may be formed, and also in pruning the laterals resulting from the stumps. When trees grow thus strongly near the top of the walls those in charge, or it may be the owners, are apt to let them extend as much as they will, the consequence being a bushy head fully exposed to all weathers, the rest of the tree gradually getting weaker and still more useless. It may be urged that these more naturally grown heads are frequently much the most productive part of the trees, and this I readily admit is the case; but the proper place for standards are in the open, as walls ought to be more profitably utilised.—POMONA.

POTATO TRIALS IN SURREY.

A MOST interesting exhibition of fruit and vegetables was held in the Public Hall, Carshalton, on the 16th and 17th instant, under the auspices of the Beddington, Wallington, and Carshalton Horticultural Society, in conjunction with the Surrey Council. An entirely new feature was introduced in the shape of classes for honorary exhibits of

Apples, Pears, Potatoes, and other vegetables, for which awards of merit and County Council certificates were granted, and the fruits examined with a view to correcting the nomenclature. For the success of the exhibition great credit is reflected on A. H. Smee, Esq., of "My Garden," Carshalton, who everyone knows is a keen horticulturist, and through whose generosity, interest, and ability privileges are held out to the inhabitants of these Surrey villages such as but few districts enjoy. As was justly remarked by Mr. Halsey after lunch, Mr. Smee has made commendable use of his time, money, and opportunities in making horticultural experiments, the results of which are published for the benefit of the gardening fraternity. In these efforts Mr. Smee has an able lieutenant in his gardener, Mr. G. W. Cummins, the Honorary Secretary of the Society, by whom the arrangements of the show were managed in a masterly and orderly manner. The Technical Education Committee of the Surrey County Council is also to be highly congratulated for its share in making the show so great a success.

Amongst the honorary exhibits, "My Garden" was well represented by fine collections of Apples, Pears, and vegetables; and in the nurserymen's class Messrs. G. Bunyard & Co., Maidstone, J. Cheal and Sons, Crawley, and J. Peed & Sons, Norwood, assisted in making the fruit section a success by staging excellent exhibits of Apples and Pears.

The most interesting and instructive feature in the show, however, was the fine display of Potatoes grown on the County Council trial plots, and brought together by Mr. A. Dean on behalf of the Technical Education Committee. Not only are these trials unique, but of immense value, bringing out, as they do, the advantages of growing varieties of Potatoes most suitable to the different kinds of soil. What added still more to the interest was the boiling of the Potatoes, which was carried out by a County Council expert with the object of proving which varieties were of the best flavour when cooked. These trials were the first of their kind ever held in this country with Potatoes, though trials of a somewhat similar character with fruit took place a few years ago at Chiswick under the direction of the Royal Horticultural Society. It is patent to all that one variety of Potatoes will do well where another almost entirely fails; hence the usefulness of such trials to find out what soils and Potatoes are most suitable to each other. If, as we hope it will be, the example set at Carshalton is followed in other parts of the country the Surrey County Council will have the gratification of being the pioneers of a movement which should have great bearing on the better cultivation of this most important vegetable. Collections of tubers were sent from ten trial plots, together with samples of soil in which they had been grown, and it is interesting to note those which were selected as the most satisfactory on each different kind of soil.

In the following list we give the district in which the Potatoes were grown, description of the soil, number of kinds shown, and the varieties selected by the judges as being most suitable for each particular kind of soil. The results of the cooking experiments are also appended.

Mitcham No. 1.—From this district twenty-two varieties were sent, which had been grown on Messrs. Miller's farm. The soil is a black, close bog, which had been previously dressed with animal manure. The Potatoes were planted on April the 19th, and lifted September 24th. Out of the collection the following were selected as being suitable for that soil:—Satisfaction, Supreme, Dreadnought, Colossal, Best of All, and Chancellor.

First, Goldfinder, moderate tops, capital crop; very good, floury, takes a long time to cook, best steamed. Second, Supreme, very good, floury, boils quickly, not much trouble, took shortest time of any. Third, Satisfaction, good, floury, rather too solid. Colossal, coarse, rather watery, thin skin, but too solid. Dreadnought, too solid, takes a long time to cook. Chancellor, rather solid; 25 minutes to cook. Best of All, 35 minutes; requires careful cooking, as it gets too broken.

Mitcham No. 2.—Twenty-five varieties came from this district, which had been grown on Messrs. Miller's farm on a very lumpy soil of stiff clay. The previous crop was Sprouting Broccoli. The Potatoes were planted on April 19th, and lifted September 27th. Selected as being most suitable for growing in the above soil were Satisfaction, Renown, Windsor Castle, Goldfinder, Reading Giant, The Bruce, The Canon, and Prime Minister.

First, Windsor Castle, 35 minutes cooking, floury; good. Second, Satisfaction, 35 minutes, floury; good. Third, Renown (Webb's), 35 minutes, floury; good. Reading Giant, 35 minutes; solid right through. Goldfinder, 35 minutes; fair. The Bruce, 35 minutes; fair. The Canon, 30 minutes; dark colour, not at all floury. Prime Minister, 30 minutes; rather dark and solid.

Mitcham No. 3.—Twenty-one varieties were staged from here, which had been grown on sandy soil over gravel. The previous crop was Sprouting Broccoli. No dressing had been given. The tubers were planted April 19th, and the crop lifted September 23rd. Selected as being suitable for growing on the above soil were The Canon, Triumph, Dreadnought, Satisfaction, Renown, Prime Minister, Congress, and The Bruce.

First, Supreme, 30 minutes cooking; the best variety from this group. Second, Satisfaction, 35 minutes; rather too solid. Third, The Bruce, 35 minutes; good colour, fair quality, too solid. Renown (Dean), 35 minutes; good colour, fair quality. Congress, 40 minutes; fair quality. Dreadnought, 30 minutes; too solid. Prime Minister, 45 minutes; not good in colour or quality. The Canon, 30 minutes; too solid. All grown on this soil would steam well, but are very solid.

Bandon Hill.—Twenty-two varieties were shown from here which had been grown on Messrs. Miller's farm on chalk soil without any manure. The previous crop was Lavender, and the Potatoes were planted April 19th and lifted October 2nd. The following were selected as being suitable for the above soil:—Colossal, Satisfaction, Chancellor, Prime Minister, Goldfinder, and Windsor Castle.

First, Colossal, very good, better for steaming than boiling; 30 minutes cooking. Second, Satisfaction, good; takes a long time to cook. Third, Windsor Castle, good, requires very careful boiling; 30 minutes. Chancellor, fair. Prime Minister, bad colour; too solid. Goldfinder, rather too solid. The Canon, good. Miss Hoare's remarks—"All grown on this soil good, if carefully cooked; should say they would all steam well."

Westfield, Woking.—From this plot seventeen varieties were sent which had been grown on a black sandy bog, light and poor. The land was dressed at planting time with chemical manure, about 5 lbs. to the rod. The Potatoes were planted May 3rd and the crop lifted Sept. 14th. Selected as being suitable for this soil were The Canon, Surprise, Duke of York, Challenger, Chancellor, and Loveland's Kidney.

First, Challenger. Second, Chancellor (same as No. 1), requires careful boiling and a long time; white and floury when first cooked, goes a bad colour with standing. Third, Duke of York, 30 minutes to cook; solid, much better steamed. Conference, not good, bad colour. The Canon, 30 minutes; floury, but not a good colour. Surprise (Webb), 45 minutes; not good quality or colour. Loveland's Kidney, 30 minutes; thin skin, floury, but goes a bad colour.

Englefield Green.—Fifteen dishes were sent from this plot which had been grown on very light, poor sandy soil, dressed at planting time with chemical manure at about 5 lbs. per rod. The tubers were planted May 11th and lifted September 21st. The following were selected as being suitable for growing in the above soil:—Progress, White Perfection, Best of All, Satisfaction, Goldfinder, Future Fame, and Supreme.

First, Future Fame, 30 minutes cooking, good quality. Second, Satisfaction, ditto, good colour and quality, but dark centre. Third, Best of All, rather dark in colour. Progress, 30 minutes; rather soapy, solid. White Perfection, 30 minutes; rather soapy, not a good colour. Goldfinder, 30 minutes; solid, not a good colour. Supreme, 30 minutes; not good in colour.

Dorking.—Twenty-six kinds were sent from this plot. The crop was grown on poor chalk soil with a rather thin surface, and dressed at planting time with chemical manure at the rate of about 5 lbs. per rod. The tubers were planted May 10th, and the crop lifted in September. Selected as being suitable for growing in the above soil were Windsor Castle, Goldfinder, Renown, Congress, White Perfection, Satisfaction, Triumph, The Bruce, and Chancellor.

First, Triumph, 26 minutes to cook; good quality, floury. Second, Satisfaction, 30 minutes; good colour and quality, floury all through. Third, Windsor Castle, 30 minutes; good colour and quality. Goldfinder, 30 minutes; good colour and quality. Chancellor, 30 minutes; good colour and quality. Congress, 30 minutes; good quality. Renown, 30 minutes; good quality, but inclined to turn black. The Bruce, 30 minutes; good quality, but turns dark after cooking. White Perfection, not at all good in colour or quality.

Milford, near Godalming.—Fifteen varieties were sent from here which had been grown on soil sharp, deep, loose sand, previously dressed with farmyard manure. The Potatoes were planted on April 24th, and lifted September 12th. The following selections were made:—Early Regent, Chancellor, Victoria, Congress, Onwards, and Renown.

First, Victoria, good quality, floury, white. Second, Early Regent, 30 minutes to cook; good quality, not a good colour. Third, Renown (Dean); good quality, good colour, but too solid. Congress, 30 minutes; rather solid. Chancellor, 30 minutes; not good quality. Onwards, 30 minutes; good quality, but inclined to turn black.

Cherts y.—From this plot twenty-four varieties were sent. The Potatoes were grown on strong, stiff loam, rather poor, and dressed with chemical manure at 5 lbs. per rod. The tubers were planted April 25th, and the crop lifted September 19th. The following were selected as being suitable for the above soil:—Victoria, Magnum Bonum, Stourbridge Glory, Satisfaction, The Dean, Chancellor, and Triumph.

First, Triumph, 30 minutes to cook; good colour and quality, a little too solid. Second, Victoria, 30 minutes; good colour and quality, but inclined to break to pieces. Third, Satisfaction, 30 minutes; good colour and quality. Magnum Bonum, 30 minutes; fair. Stourbridge Glory, 30 minutes; rather yellow and solid. Chancellor, 30 minutes; floury, good colour and quality. Triumph, 30 minutes; good colour and quality, but too solid. The Dean, 30 minutes, boiled; good quality, rather dark. The Dean, baked; too dark, and too moist inside.

Richmond.—Twenty varieties were sent from this plot. The tubers were grown on very light, porous soil, but gave very bad disease results, fully three parts being worthless. The soil was dressed at planting time with chemical manure at about 5 lbs. to the rod. The Potatoes were planted April 22nd and lifted September 16th. The following selections were made as being suitable for the above soil:—Chancellor, Puritan, Renown, and Windsor Castle.

First, Puritan, 30 minutes; floury, good colour. Second, Windsor Castle, 45 minutes; good colour, but too solid. Third, Renown (Dean), 30 minutes; good in colour, a little moist in centre. Renown (Webb), 30 minutes; good in colour, a little moist in centre. Chancellor, 45 minutes; not good in colour, too solid.



EVENTS OF THE WEEK.—As will be seen from another paragraph the Royal Horticultural Society will hold a meeting on Tuesday next, there also being one Chrysanthemum show, the dates of which are given on page 392.

— **WEATHER IN LONDON.**—Almost the same climatic conditions have prevailed in the neighbourhood of London in the past week as in its immediate predecessor. It has, however, been colder, and during an incessant rain on Tuesday the temperature was 15° under the average for October. On Wednesday, at the time of going to press, the weather was dull and cold.

— **WEATHER IN THE NORTH.**—The changeable, showery weather of the first half of October was suddenly followed by frost on the 16th; 4° were registered on the 17th; 5° on the 18th. On the latter day 17° were reported from Dumfriesshire. Sunday was very disagreeable, cold and drizzly all day; Monday dullish, but fair; on Tuesday morning dense rime with 5° frost. The higher hills have twice been thickly covered with snow.—B. D., S. Perthshire.

— **THE BARRON TESTIMONIAL COMMITTEE.**—We have received a circular in which, after recounting Mr. Barron's services to horticulture, the Committee "confidently appeal for subscriptions towards a fund for presenting him with some tangible mark of gratitude and esteem. In so doing the Committee earnestly desire that all gardeners and lovers of their gardens shall have an opportunity, according to their means, of participating in a suitable acknowledgment of the life-long public services of one of the most worthy and eminent of British gardeners." As will have been seen by our advertising columns last week a good response has already been made, and all gardeners and others who desire to co-operate in the movement should communicate with Mr. B. Wynne, 1, Danes Inn, Strand, W.C.

— **MONSTERA DELICIOSA AT COOMBE ABBEY.**—When on a recent visit to this fine and historical old place my attention was drawn to several plants of this Mexican epiphyte luxuriating against the back wall of a vinery. Its large digitate leaves with dolobrate or hatchet-shaped segments and numerous variously oval holes distributed over the surface of the leaf, at once produce a novel and picturesque effect, and especially in contrast with the noble-looking, light stone-coloured fruit. The granules of the fruit are closely arranged around the spadix, which is enveloped within the spathe. There are also one or two other kinds of exotic fruits of an unusual nature grown against the walls of the vineries there, including the Guava (*Psidium Cattleianum*), the fruit of which is about the size of a small Plum, and is used for the dessert and making jelly.—G.

— **HORTICULTURAL CLUB.**—The first dinner and conversazione for the session 1895 96 took place on Tuesday evening last, and was in every respect a most successful commencement. The chair was occupied by Mr. Harry J. Veitch, and there were present the Revs. W. Wilks and J. H. Pemberton; Messrs. P. Crowley, H. J. Pearson, C. E. Pearson, James H. Veitch, H. Turner, O. Thomas, and C. E. Shea. A very interesting account was given by Mr. C. E. Pearson of a visit recently paid to Lapland, Nova Zembla, and Kolgoney. The object of the expedition was in the first instance ornithology; but Mr. Pearson found time to make a goodly collection of botanical specimens which had been most carefully and tastefully mounted by his niece, and were submitted to the inspection of the members present. He stated that the Flora was more alpine than arctic, as may be inferred from the fact that such alpine gems as *Eritrichium nanum*, perhaps the crowning gem of alpenes, is found in large quantities, as were also *Gentiana verna*, *Myosotis alpestris*, *Silene acaulis*, and many other plants which are found in alpine districts; but curiously enough in the whole of the rambles he did not find a single Fern. The curious geological formation of the country was described, the absence of rocks *in situ* was remarkable, as was also the fact that enormous boulders of various formations were to be found in large quantities, which had evidently been carried along by glacier action. The discussion which followed was participated in by most of those present, and a hearty vote of thanks was accorded to Mr. Pearson for his most interesting and valuable address.

— THE NEXT FRUIT AND FLORAL MEETING OF THE ROYAL HORTICULTURAL SOCIETY will be held on Tuesday, October 29th, in the Drill Hall, James Street, Victoria Street, Westminster. The Committees will meet as usual at twelve o'clock, and at 3 p.m. a magic lantern lecture on Potatoes will be delivered by Mr. A. W. Sutton.

— NATIONAL ROSE SOCIETY.—At the last Committee meeting, held on the 15th inst., it was announced that Mr. Alexander Hill Gray, the distinguished rosarian at Beaulieu, Newbridge, Bath, had offered a prize of 5 guineas for the best essay on the hybridisation of Roses. Particulars and terms will be shortly announced.

— SHIRLEY GARDENERS' AND AMATEURS' ASSOCIATION.—A meeting of the above Society was held at the Parish Room, Shirley, Southampton, on the 21st inst., the President presiding over a strong muster of the members. The lecture, "An Epitome of Chrysanthemum Culture," was given under the auspices of the Hants County Council by Mr. E. Molyneux of Swanmore Park Gardens. Needless to say, the address was of a most practical character, and it was further enhanced in value by illustrations of the various points emphasised by means of living specimens. A hearty vote of thanks was accorded to Mr. Molyneux.

— VIOLETS IN FRAMES.—Plants that were lifted and planted in frames at the beginning of September ought now to be growing freely, and should be carefully looked over, and all the old leaves turning yellow or showing signs of decay be picked off to allow the sun and air to play on the crowns. If the old leaves are not removed they soon cause the crowns to damp, which must be strictly guarded against if a supply of bloom is to be had during the winter months. Keep the lights off in fine weather, and tilt them at the back to keep off heavy rains. Always allow the plants abundance of air, which is most essential for them, never closing the frames entirely except in the case of frosts, which of course must be excluded.—H.

— ASTER ERICOIDES.—This beautiful Michaelmas Daisy is not grown nearly so much as its merits deserve, flowering freely in any soil or situation. With good treatment, such as it would receive in a well kept herbaceous border, it is decidedly beautiful, and its sprays of small white flowers are very effective for decorative purposes. I have before me at the present time a large vase filled with Dahlia Glare of the Garden having sprays of this Aster intermixed with them, forming a pretty and effective arrangement that will stand and keep well for a long time. To those readers of the Journal who do not grow it I would strongly advise them to purchase roots as soon as possible, feeling sure they will be delighted with the many ways in which the flowers can be utilised for decoration.—G. H.

— THE ARNOLD ARBORETUM.—By an arrangement recently concluded between the President and Fellows of Harvard College and the city of Boston, important additions have been made to the Arnold Arboretum. These include two parcels of land with an area of about 20 acres within the boundaries of the original Arboretum, but reserved by the city for its own uses when it was established; two pieces of land with an area of about 3 acres on the north-west border of the Arboretum, and purchased by the city last year; a piece of land, the property of Harvard College, south-west of the old Arboretum, with an area of 67.6 acres; this consists of a high, rolling, grassy hill, the second highest land in the city of Boston. From the summit of this hill fine views are obtained, the wooded portions of the Arboretum lie at its base; to the south all the Blue Hill range is in view; the waters of Massachusetts Bay are seen to the south-east, and to the north and west a broken well-wooded country. With these additions the area of the Arboretum is 222.6 acres; two and one-third miles of drives have been finished and planted, and under the new arrangement the city of Boston is to construct one and three-tenth mile of additional roads. Among the scientific gardens in the United States and Europe only the Royal Gardens at Kew, with an area of 251 acres, exceed the Arnold Arboretum in size, and it is probably safe to say that no other scientific garden of such an area is so accessible to the people of a great city, or possesses such a diversified surface and such advantages in the way of natural woods. The Arboretum lies entirely within the limits of the city of Boston, and is not more than four miles from the centre of population, being easily reached by one line of railroad and by two lines of electric cars, while the park-way which unites the different parks of the City Park System, starting from the Public Garden, in Arlington Street, in the heart of the residential quarter of the city, skirting the town of Brookline and enclosing Jamaica Pond, forms its eastern boundary and connects it with Franklin Park beyond. By this parkway the distance from the common to the Arboretum is six miles.—("Garden and Forest.")

— A LARGE PEAR.—Mr. E. Molyneux informs us that he has just gathered from a cordon tree a Duchesse d'Angoulême Pear, 15½ inches in circumference, and weighing 2 lbs. 2½ ozs.

— PRIZE FRUIT ESSAYS.—We understand that the Royal Horticultural Society's prizes and certificates, with silver medals given by Dr. Hogg, will be presented to the successful essayists, Mr. L. Castle and Mr. S. T. Wright, on the 29th inst. at 3 P.M., in the Westminster Drill Hall.

— CHIPPENHAM HORTICULTURAL SOCIETY.—A deputation of this Society recently waited on the President, John Gladstone, Esq., at Bowden Park, and presented him with a silver medal in commemoration of the silver anniversary of the Society. The medal, which was richly embossed and inscribed, was presented by Mr. A. Wright, the Secretary, and suitably acknowledged by the recipient.

— FLOWERING OF JERUSALEM ARTICHOKE.—Is it not very unusual for this to occur? I have a large bed in full bloom, and quite a show they make. The flowers are borne in trusses or spikes, and are of a bright yellow, almost like a Rudbeckia, but the eye is yellow and not black. The stems are from 12 to 15 feet high, and every one is blooming. I have never seen such a thing before.—H. HARRIS, *Denne Gardens, Horsham*.

— STREPTOCARPUSES AS BEDDING PLANTS.—The time is not far distant when these plants will be largely employed as bedding plants. Grown strongly under quite cool conditions in the spring, a full crop of bloom may be had from them during the summer. For filling bare places on the rockery, too, they will be useful, giving variety as well as a quantity of flower when the regular occupants have ceased to beautify their proper home.—E.

— CALIFORNIAN LEMONS.—The Lemon groves of California have this year given small fortunes to their owners. The growers have learned to cure the fruit so that it compares favourably with imported Lemons, and the crop is large. A correspondent of the "New York Tribune" writes that the product of groves planted ten years has amounted to as much as 3600 dols. an acre this year, of which at least one-half is profit. We apprehend that it must be a good grove and a good year to insure such results.

— VINE-GROWING IN RUSSIA.—Relatively little is heard of Russia, says the "American Agriculturist" as a Grape-growing and wine-producing country, yet viticulture there has made considerable advance in recent years, and the Government is keenly alive to fostering its growth and further development. Just now the officials are struggling with phylloxera, which first appeared in Russia in the Crimea region, in 1879. A phylloxera commission was established and governing committees appointed in every direction, but in spite of the energetic measures all efforts proved fruitless. The present appropriation for fighting the disease, 763,000 dols., will be distributed this year in equal shares among all the affected regions. It has been agreed that the culture of American Vines in Russia is indispensable in order to protect the future of Russian Vine culture. The Consul-General at St. Petersburg says the Crimean viticulturists seem to be especially afraid of the American Vines, giving as reasons the heavy cost, the bad quality of the wine produced, the danger of infection, and the difficulty of grafting.

— THE INCLEMENT WEATHER.—The weather over England on Tuesday was miserably cold, gloomy, and wet, especially in our eastern and southern counties, where the rain was almost incessant. In many instances the temperatures recorded were very little in excess of those ordinarily experienced in midwinter, and in some parts of the midland and northern districts there were perceptible falls of sleet or snow. On the coast the weather was rendered additionally unpleasant by the presence of a strong wind from the north-eastward, and a very rough sea, a gale being reported in Norfolk, as well as in the Irish Sea and at the mouth of the English Channel. In the metropolis rain set in very early in the morning, and continued with scarcely any interruption throughout the day, the total amount measured up to 6 P.M. being 0.43 inch. The maximum temperature reached in London was only 44°, or precisely equal to the average for the months of January and December, and 13° below the average for October. In sixteen years out of the past twenty-five there was no October day in London with so low a maximum reading as that of yesterday. Over Ireland and Scotland the weather yesterday was comparatively fine, the temperatures recorded in the latter country being upon the whole rather higher than on Monday.—("Daily News.")

— **NEWCASTLE-UPON-TYNE SHOWS.**—The dates of the 1896 shows are:—Spring show, Wednesday and Thursday, April 15th and 16th; summer show, Wednesday, Thursday, and Friday, July 8th, 9th, 10th; Chrysanthemum show, Wednesday and Thursday, November 18th and 19th.

— **SOUTH AFRICAN FRUIT.**—South Africa claims to be another Southern California in climate and productiveness. Extensive plantings of large and small fruits are being made in that country for the London and New York markets. The fruit will be transported in the refrigerator ships used in the Australian meat trade, that have little freight from January to March when the fruit season is on. This competition is likely to be felt in a few years by American fruit growers.

— **A NITROGENOUS MANURE.**—A new nitrogenous manure is described by M. Camille Faure in a paper contributed to the Academy of Sciences of Paris. The author asserts that the fertiliser known as calcium cyanate can be produced in large quantities in the electric furnace by heating lime and charcoal intensely in an atmosphere of nitrogen and oxidising the product by air. The cyanate contains, it is asserted, a greater proportion of assimilable nitrogen than nitrate, and can be used as manure.

— **FORTY TONS OF DAMSONS FOR £106.**—At a recent Preston market, says the "Rural World," there was an over-abundant supply of Damsons of good quality and low price, and the hampers containing this fruit not only occupied the whole of the available market space, but were placed for some distance down the adjoining streets. The bulk of the fruit was bought by a local fruit preserver at the rate of 6d. per dozen baskets of 21 lbs., the exact sum due for this enormous amount of fruit being £106 13s.

— **OUTDOOR GRAPES.**—As an instance of the favourable season for the maturing of fruits out of doors which we have just passed through, may I be allowed to record the fact that a Black Hamburgh Grape Vine growing on a south wall in my garden is now laden with perfectly ripened fruit? Bunches and berries are of fair size and well coloured. The flavour of the berries is excellent, less sweet, but not sour, and slightly thicker in the skin than those ripe in a vinery close by, in comparison with which they are even more refreshing.—WM. PAUL, *Waltham Cross.*

— **SOURCE OF INSECT POWDER.**—According to a contemporary, the flowers of *Chrysanthemum cinerariæfolium* are cultivated in Dalmatia for the sole purpose of making the powder which has such a reputation as an insect destroyer. The whole of the supply of these flowers has hitherto been derived from the Austrian Province of Dalmatia and the neighbouring State—Montenegro. Trieste is the market to which these flowers are brought, and from thence they are distributed to the average annual value of from £40,000 to £50,000. The plant is one that is easily cultivated in any kind of soil and in any warm temperate climate. Within quite recent years it is said to have been introduced into Australia, California, and South Africa, in each of which its cultivation on an extended scale for commercial purposes is contemplated. In the neighbourhood of Berlin it is also stated that the plant is grown largely, but up to the present time Dalmatia is the principal source from whence Europe and America draw their supplies.

— **ARAUCARIA CUNNINGHAMI.**—The "Agricultural Gazette" of New South Wales, in speaking of the Colonial or Moreton Bay Pine (*Araucaria Cunninghami*), states that in that colony it is the principal cheap soft-wood timber, and has taken the place of deal from Europe for packing cases and other rough purposes. The timber goes under the name of white pine or Richmond River pine, and most of the planks show more or less of the figures similar to those in bird's-eye maple, so that in selected planks where these are numerous the wood is classed among ornamental timbers. On Richmond River the Colonial Pine grows to 150 feet high, with a trunk 4 or 5 feet in diameter. When one of these trees decays in the forest a number of club-shaped pieces of wood, 1 or 2 feet long, and known as pine-knots, remain, owing their durability to the large percentage of resin they contain. Carters collect these knots and sell them for firewood, as they are considered much the best fuel in the district. It seems a pity, however, to put them to such a use, as the wood is of the most ornamental character, especially in longitudinal section. It is dark-coloured, of various shades of brown, showing a most beautiful figure, and would be an ideal material for small articles of turnery. If this material were better known it might form the basis of a minor industry, much in the way that small articles are made of bog oak in Ireland. The substance turns like bone, and comes polished from the tool.

— **CLEMATIS VIRGINIANA.**—Although one of the most common, this is one of the most graceful and beautiful of our native climbers, and no plant adds more to the beauty of our roadsides or swamp borders. It is usually found rambling over masses of shrubbery, and in August every branch is a long festoon of cream-white flowers, which appear in axillary clusters. These are not quite so delicate as the pure white ones of *Clematis flammula*, but they are very fragrant. These flowers are followed by clusters of fruit with feathery grey tails, and these appendages to the seeds glitter in the autumn sun like masses of flowers. This common Virgin's Bower thrives under cultivation and makes a wonderful growth in deep, rich soil. In large places it can be planted to advantage in the shrubbery, but, in fact, it never is so beautiful as in a wayside thicket. Some plants bear only staminate flowers, and if the fruits are wanted, plants should be propagated only from individuals with perfect flowers.—("Garden and Forest.")

— **BILLBERGIA LIBONIANA.**—During the late summer this is a very showy plant for the conservatory. It is one of the most highly coloured of the Billbergias, which, taken together, constitute a beautiful genus. Twenty or more flowers are borne on a close terminal spike; they are about 2 inches long, rich scarlet, tipped with blue; the petals are more or less recurved, and the sepals half the length of the petals, rosy, fading to white at the base. The anthers are bright yellow, and the stigma blue. The numerous bracts below the flowers are lanceolate, 2 to 3 inches long, membranous, a bright rosy colour, the largest crowded immediately below the flower spike. The scape is, says the "Garden and Forest," 12 to 18 inches high, white, covered with large rosy bracts. Leaves lingulate, 2 to 3 inches wide by 10 or more inches long; ten to twelve in a dense rosette, pale green, and a deep violet-purple inside at the base.

VEGETABLES.

GROWING, SHOWING, AND JUDGING.

I DO not know a more important question suited for discussion in your columns than that of size *v.* quality in show vegetables, and I therefore feel personally grateful to "Ex-Exhibitor" for his well-reasoned, temperate article on page 363 of the last issue.

What we want to arrive at is a standard which will be recognised by judges in all parts of the country, and which will be known to every exhibitor. Your correspondent's words, "In respect to florists' flowers indicated, as well as some others, it is observable that when the judging is done by specialists, who work from a generally understood standard of merit, that excellence in form and refinement carries more weight than does size if in the least accompanied by coarseness," are worthy of being inscribed on every flower show schedule. I have never seen the case stated better than in these words, and I can heartily subscribe to them. They are applicable equally to flowers and vegetables. In the old days of the Scottish Pansy Society they used to print in their schedule a statement of the "chief points" of a Pansy, and it was also stated that blooms must be over a minimum in size, which was given.

Now, I have always observed how difficult it is to get men to equally interpret and appreciate an undefined standard. Size, form, quality are each in their way standards at present undefined; but it is quite clear to my mind that if one of the three could be reduced to writing or figures the other two would cease to be so troublesome, and it is equally clear that the only one it is possible to reduce to writing or figures is that of size. Once an Onion, a Cauliflower, a Leek, a Turnip, or a Potato has attained a "given size" quality should be practically the only determining feature.

What we want, it seems to me, is to agree as to a "given size." Take an Onion weighing 3 lbs., and take one weighing half the weight; unless the 3 lb. one were equally as well ripened and formed as its smaller neighbour, there is no reason in the world why it should get first prize. Again, I might quote "Ex-Exhibitor" with effect, "The products should be large enough to represent the greatest commercial value." That might be adopted to arrive at what I have chosen to term a given size. Let us see how it would look in black and white.

Onions.—Minimum 12 inches in circumference; 15 inches is a very fine exhibition size. Well-ripened bulbs always tell best.

Cauliflowers.—Minimum 5 inches in diameter; any larger size, say up to 9 inches, if quality is perfect.

Leeks.—Minimum blanch 6 inches long, by 1 inch in diameter. Perfect specimens are often shown 12 inches by 2 inches. An Onion-head is considered a defect, and coarseness is most objectionable.

Turnips.—3½ to 4½ inches in diameter; skin smooth, and root fine.

Potatoes.—Kidneys, 3½ to 4 inches in length; Rounds, 2½ to 3 inches in diameter.

These measures are somewhat arbitrary. I only use them just now for the purpose of argument, and, in fact, my whole letter is only meant to be suggestive. Like so many others, I have been waiting anxiously for the report of the R.H.S. Committee on this subject, and hope it will soon make its appearance.—WM. CUTHBERTSON, of *Dobbie & Co., Rothsay.*

[We believe the Committee is now engaged on the last revise of what has proved to be a by no means light undertaking.]



CHRYSANTHEMUM SHOWS.

AS is usual at this time of the year we have received numerous intimations of Chrysanthemum shows which are to be held during the coming season. Space, however, can only be found for mentioning those which have been advertised in our columns. If any have been omitted we shall be glad to add them to the following list. We append the names and addresses of the respective secretaries.

Oct. 30th and 31st.—KENT COUNTY.—F. J. Garwood, 37, Turner Road, Lee, S.E.

Nov. 2nd.—CRYSTAL PALACE.—W. G. Head, Crystal Palace, S.E.

„ 4th and 5th.—BATTERSEA.—J. O. Langrish, 167, Elsley Road, Battersea, S.W.

„ 5th and 6th.—HANLEY (Staffs).—J. and A. Kent, Hanley, Staffs.

„ 5th and 6th.—HEREFORDSHIRE.—J. Ough, Hereford.

„ 5th, 6th, and 7th.—NATIONAL CHRYSANTHEMUM SOCIETY (Royal Aquarium, Westminster).—R. Dean, Ranelagh Road, Ealing, W.

„ 5th and 6th.—BRIGHTON.—The Secretary, 56, Queen's Road, Brighton.

„ 5th and 6th.—WATFORD.—C. R. Humbert, Watford.

„ 6th.—READING.—W. L. Walker, Dunollic, Bulmershe Rd., Reading.

„ 6th and 7th.—BROMLEY (Kent).—W. Weeks, 29, Widmore Road, Bromley, Kent.

„ 6th and 7th.—WOLVERHAMPTON.—J. H. Wheeler, The Gardens, Glen Bank, Tettenhall.

„ 7th.—BIRKENHEAD AND WIRRAL.—W. Bassett, 23, Grove Road, Roek Ferry.

„ 7th and 8th.—HARROGATE.—L. Hobkinson, 40, Cold Bath Road, Harrogate.

„ 8th.—WINDSOR.—Mr. Finch, High Street, Eton.

„ 12th and 13th.—KINGSTON-ON-THAMES.—F. J. Hayward, High Street, Kingston-on-Thames.

„ 12th and 13th.—LIVERPOOL.—W. Dickson, 7, Victoria Street, Liverpool.

„ 12th and 13th.—PLYMOUTH (West of England).—C. Wilson, 4, North Hill, Plymouth.

„ 13th and 14th.—BIRMINGHAM.—J. Hughes, High Street, Harborne, Birmingham.

„ 13th and 14th.—BOURNEMOUTH.—J. Spong, Landisfarne Gardens, Bournemouth.

„ 13th and 14th.—BRISTOL.—E. G. Cooper, Mervyn Road, Bishopston, Bristol.

„ 13th and 14th.—HERTFORD.—Jason Fears, Hertford.

„ 13th and 14th.—HULL.—E. Harland and J. Dixon, Manor Street, Hull.

„ 14th and 15th.—WINCHESTER.—Chaloner Shenton, Westgate Chambers, Winchester.

„ 15th and 16th.—BOLTON.—J. Hicks, Markland Hill Lane, Heaton, Bolton.

„ 15th and 16th.—ECCLES AND PATRICROFT.—H. Huber, Hazel-dene, Winton, Patricroft, Manchester.

„ 15th and 16th.—SHEFFIELD.—W. Houseley, 177, Cemetery Road, Sheffield.

„ 15th and 16th.—BRADFORD.—J. Collier, 51, Midland Road, Frizinghall, Bradford.

„ 19th and 20th.—LEEDS PAXTON.—J. Campbell, Methley Park Gardens, Leeds.

„ 20th and 21st.—SOUTH SHIELDS.—Bernard Cowan, Harton, South Shields.

„ 20th, 21st, and 22nd.—YORK.—J. Lazenby, 13, Feasgate, York.

„ 29th and 30th.—ALDERLEY EDGE.—G. Leadbetter, jun, Fern Bank, Trafford Road, Alceley Edge.

CHRYSANTHEMUM BOULE D'OR (CALVAT'S VARIETY).

EARLY as it is in the Chrysanthemum season many new varieties have already been exhibited, both at the last exhibition of the National Chrysanthemum Society at the Royal Aquarium and before the Committee of the Royal Horticultural Society at the Drill Hall. Amongst the most striking of the novelties was Calvat's variety of Boule d'Or, and which is portrayed in the engraving (fig. 62). The flower, as may readily be seen, is of massive build, without being coarse, the florets incurving in a pleasingly uniform variety. The colour is a distinct pale buff, and the flower is in every way totally different from the old Boule d'Or. As seen at the above places it appears to be a variety of the first merit, and it is to be hoped this early promise may be fulfilled. At the Royal Aquarium a certificate was granted, and at the Drill Hall an award of merit, it being staged in each case by Mr. W. Wells, Earlewood Nurseries, Red Hill, Surrey.

CHRYSANTHEMUM MONS. R. BAHUANT.

I suspect the buds of Mr. Osborne's (page 352) plants were "taken" too early. If they formed before the 20th August they would be sure to have reflexed instead of incurved petals. I do not consider this variety worth the trouble entailed in growing it, seldom do we meet with a perfect bloom, nearly all lack the two essentials—depth and solidity. Cuttings should be inserted early in December, the plants grown strong, and allowed to carry four instead of three blooms.—M.

OCTOBER CHRYSANTHEMUMS.

I THINK the experience of the past year or two in regard to the Chrysanthemums of American and of French origin is likely to be maintained again. The former, taken collectively, seem to be later in arriving at perfection than the latter, and on going the round of the tables at the recent October show of the N.C.S. at the Aquarium, I was much struck at the few American novelties staged. Of course we had Eda Prass, W. Tricker, Mrs. E. G. Hill, and one or two others, but the exhibition was mainly made up with French varieties, and these were principally Calvat's seedlings.

Most of them have been previously described in the Journal, but the most noteworthy were President Armand, Mons. C. Molin, Boule d'Or, a grand new thing; Madame Aug. Gaché, Mons. Georges Biron, Le Grand Som, Mons. Benj. Giroud, Reine d'Angleterre, Madame Ed. Rey, excellent in several stands; Mlle. Thérèse Rey, Souvenir de Toulon, Mons. J. Allemand, large, but straggly; Madame C. Champon, President Borel, L'Isère, Mrs. C. Harman Payne, Commandant Blusset, Louise, of great excellence; Souvenir de Petite Amie, Mons. Panekouke, Madame Ad. Chatin, a fine pure white Japanese; Professeur Lachmann, &c.

Other French novelties were Phœbus, a new yellow Japanese; Mons. Aug. Lacvivier, Madame Marie Massé, a decorative variety; while our home growers were represented by Mrs. E. Shea, Emily Spilsbury, another new white Japanese; Miss Alice Phillips, Pallanza, Lady Randolph, Lady Esther Smith, a new white; Wilfred Marshall, Thos. Wilkins, Wm. Fyfe, and Mrs. R. Jones.

LOUISE.

This, as was the case last year, is again one of the grandest of incurved Japanese. It was figured in the Journal for November 8th, 1894, and was well deserving of the distinction. It appeared in most of the groups, and in many of the stands of cut blooms at the recent Aquarium shows, and is a valuable variety from every point of view. As a companion flower, Boule d'Or, the new amber-coloured Japanese incurved, will probably rank next.

NEW EARLY CHRYSANTHEMUMS.

Mr. Simon Delaux has long held a foremost place in the ranks of the French Chrysanthemum growers, although of late years his ordinary November flowering varieties seem to have been eclipsed by the more massive and brilliant seedlings of Mr. Ernest Calvat. Mr. Delaux has, however, been devoting his energies of late years to the improvement of the early flowering section, and such varieties as Roi des Précoces, M. Gustave Grunerwald, Madame la Comtesse Foucher de Careil, Madame Marie Massé, Eugène Farez, Madame Eulalie Morel, Madame Louis Lionnet, and many others suitable for outdoor cultivation, and blooming in September and October, will do much to encourage him to continue in his new pursuit.

Every year since 1891 this eminent raiser has sent out some novelties belonging to the early flowering section and of the Japanese type, but I do not remember to have seen so many promising varieties of his as I have this autumn. They are mostly of dwarf habit with rather small foliage, and the flower stalks are of good length, rendering the blooms useful for cutting, and some of the colours are really a great improvement on the older tones with which we are familiar. The following appear to me to be some of the best:—

Préfet Cassagneau.—An early Cullingfordi; a beautiful shade of dark velvety crimson, centre tipped gold, medium size.

Madame Emile Nonin (Japanese).—Very free long florets, colour delicate pale sulphur, centre tinted lemon yellow. A pretty flower.

Notaire Groz (Japanese).—Twisted florets, pointed at the tips, delicate lilac mauve, similar to Jas. Salter.

M. Georges Menier (Japanese).—Rich velvety purple amaranth, very free, reverse almost the same colour, rather narrow flat-pointed florets.

Madame Henry Jacotot (Japanese).—Rather large blooms, long intermingling florets pointed at the tips; colour white suffused pale purple mauve, reverse same colour.

Madame Albert Menier (Japanese).—Narrow florets, centre ones shorter than those of the exterior; very pure white, centre tinted soft sulphur yellow. Good for cutting.

Jeanne Thérèse (Japanese).—Pointed florets, of medium width; pale pearly lilac mauve.

François Vuillermet (Japanese).—A pretty little flower, short flat florets of medium width; delicate shade of rich lilac rose, reverse silvery. A full, compact flower.

rather weak flower stalks; long narrow florets; colour pale primrose yellow, faintly tinted salmon in the centre.

Madame Leon Carnet (Japanese).—Very full and double; long narrow florets; colour white, faintly tinted pale mauve.

At first it seemed to me somewhat strange that hardly any of these novelties were shown at the September show at the Aquarium, but Mr. Jones of Lewisham informs me they are at their best about the third week in September, which, of course, is a satisfactory explanation.—P.



FIG. 62.—CHRYSANTHEMUM BOULE D'OR (CALVAT'S VARIETY).

Jean Vuillermet (Japanese).—Dark carmine crimson, centre yellow; short florets, reverse golden.

Madame Gajae (Japanese).—With good foliage; a pretty little flower. Rather long florets twisted at the tips. Colour lilac mauve, reverse silvery.

Alfred Droz (Japanese).—Short flat florets, rather narrow; colour canary yellow, without shade or marking.

M. Displand (Japanese).—Rather broad florets, short and rounded at the tips; yellow ground, shaded and streaked reddish carmine; centre and tips golden yellow.

Madame Armand Groz (Japanese).—A pretty little flower, with

PROSPECTS OF THE SEASON.

IN less than a fortnight the first of the series of what I term regular Chrysanthemum exhibitions will have been held. Although the early October show held under the auspices of the N.C.S. was strictly an exhibition of Chrysanthemums we do not recognise the regular feast until the end of the month, when shows are held almost daily until the last day of November, which brings an exceptionally heavy show season to a close at Dunfermline. At the present time all those interested in this charming autumn flower will be making their final preparations, whether they be exhibitors tending the daily wants of their plants or

simply lovers of the flower. Exhibitors especially will be deeply interested in the prospects of the season. To them it means success or otherwise after eleven months of toil and watchfulness.

I look on the prospects of a good season most hopefully, and believe we shall see blooms fully up to the mark of any previous year. True, we have experienced periods of both extreme drought and damp, cold weather, happily though the former has been much in ascendancy. With reasonable attention to cultural details Chrysanthemums enjoy heat and sunshine, but they must have atmospheric moisture. The practical cultivator makes sufficient use of the syringe, and water to make up any deficiency of nature. We should not have complaints this year about "soft" wood where the plants have had ample space to enable the growth to be made in such a manner that maturity must follow as a matter of course. A plentiful supply of fully developed foliage prevents what some call over-ripening, but which is really contraction of the tissues, brought about by irregular and improper methods of culture. In some few instances I have noted a partial loss of the lower leaves from the plants. This is regrettable, and cannot fail to be injurious to some extent.

Mildew, I notice, is more rampant this season than in some past years. I notice, too, a tendency on the part of cultivators to allow this parasite to obtain a footing on the leaves before remedies are applied. What wonder, then, if such cultivators occupy a position not to their liking on the exhibition table? The plants were grown by the system or method known as the large bloom plan, are not unusually tall, although some new varieties appear to have a tendency to grow higher than is desirable. Taken as a whole, though, the bulk of new kinds exhibit a sturdy character, much inclined to dwarfness, combined with fully developed stems, leaves, and blooms.

Amongst American raised varieties I find the more dwarf-growing kinds. For this improvement our Yankee cousins deserve congratulation. A. H. Fewkes is an instance of this. I never saw such leaves on a Chrysanthemum plant as this Japanese variety is furnished with, and growing but a yard high. Abbé Mendenhall is another instance of dwarfness. Mr. G. Newitt, one of the most charming of white-flowered varieties, too, deserves mention in reference to the combination of quality of bloom with dwarfness of habit. Innumerable instances of progress in this respect might be adduced, but space does not allow. In the newer raised kinds, too, there is a distinct advance in the quality of the blooms as compared to the introductions of but half a dozen years ago. Take, for instance, *Avalanche*; this was regarded as the finest white Chrysanthemum in existence at the time of its introduction. Such varieties as Mrs. C. E. Shea, Mdlle. Thérèse Rey, W. G. Newitt, and Madame Carnot completely oust such stiff-petalled varieties at this period. Amongst yellows there is almost a plethora of forms. A time there was when anything new and meritorious in this colour was a decided acquisition. Phœbus, Mons. Ch. Molin, and the Duchess of York, a trio of really first-class kinds. *Pallanza*, I fear, is too much like our old friend *Sunflower* to prove so useful as was thought to be the case. Of Japanese varieties there are enough and to spare of flowers that but little fault can be found with, certainly enough to give an exhibition stand that tinge of colour that might almost be described as perfection.

So far I have dealt with the more popular Japanese section, not that I regard the incurved with less pleasant memories, but looking at them in a decorative sense they bear no comparison to their more showy and less formal Japanese brethren. The latter, too, are so easily raised from seed that an almost continued succession of forms and colours are obtained, bringing its reward in novelty, that with the ever-increasing demand for variation, no wonder then that the stiff looking Chinese or incurved kinds are being gradually elbowed out of popularity. If four really good and distinct varieties can be added to the list annually we consider much has been done in one season. In spite of the uncertainty of obtaining new ones from sports, the best are produced in this way. At the present moment there is a decided tendency to encourage those that have far too much of the Japanese blood incorporated in them to ever be typical blooms of the incurved section, of which there is no truer example than Lord Alcester, itself a sport. Mention could easily be made of several that were sent out with a great flourish, but experience has proved their florets partake too much of the hedgehog tendency ever to make strictly the true globe-shaped incurved bloom so necessary to maintain that standard of excellence which all ought to strive for.—E. MOLYNEUX.

CHRYSANTHEMUM PROSPECTS ROUND BOLTON.

ALTHOUGH situated in by no means the most salubrious district, or one that is conducive of the well-being of the autumn queen, it is gratifying to note after a series of visits to see the many excellent specimens grown in this neighbourhood, and that the season promises to be the finest on record. Around Bolton I believe we have some of the most enthusiastic growers to be found, and with our show looming in the near future with all its attendant hopes and fears, very fine displays are anticipated. It is not my intention to enumerate what I found at each place separately; suffice it to say that where they are grown for home decoration as well as for exhibition the outlook is most hopeful.

The most noteworthy amongst the newer Japanese are Wilfred Marshall, Mons. Chas. Molin, Mrs. E. S. Trafford, Madame Carnot, Mons. Gruyer, Mons. Georges Baron, Mons. G. Montigny, Miss Maggie Blenkiron, Mrs. E. G. Hill, Thomas Wilkins, Col. Chase, Duchess of York, Commandant Blusset, Miss Dorothy Shea, Mdlle. M. A. de Galbert, Mons. Panckoucke, M. Ph. Dewolf, Louise, L'Isere, Edith Rowbottom, Rose Wynne, and Princess May.

Foremost amongst the older varieties are Col. Smith, Lord Brooke, Edwin Molyneux, Vivian Morel, Chas. Davis, Mrs. C. H. Payne, Primrose League, G. W. Child, Stanstead White, W. Seward, G. C. Schwabe, Ada Prass, C. Shrimpton, Boule d'Or, and Florence Davis. Amongst the incurved the Queen family is remarkably fine, so also is the Princess family. Other noticeable sorts were Baron Hirsch, Lord Rosebery, Robert Patfield, Major Bonnafron, J. Agate, C. B. Whitnall, V. P. Jules Barigny, Globe d'Or, Lucy Kendal, and Mons. R. Bahuant.

The great event to Bolton people is C. H. Shaw, Esq., prize—a silver cup, for twelve incurved and twelve Japanese blooms. This class is confined to growers residing within eight miles round Bolton. The leading class in the open section is for twelve incurved and twelve Japanese, and the prizes are £5, £3, £2, and a silver challenge cup, given by J. W. Makant, Esq., J.P. Bolton show promises to be the best we have had, for, in addition to the ordinary prizes, two medals of the Royal Horticultural Society are given. The Secretary and Committee are using every endeavour to make it a success, which they hope it will be.—R. S.

CHRYSANTHEMUMS IN CHESHIRE.

OAKLANDS, SPITAL.—Last season, owing to illness, Mr. T. Ranson was not able to exhibit. His blooms were much missed, and although he is well again and will be seen exhibiting, he informed me that it would be his last season, his employer preferring smaller blooms. His plants have never looked better, well ripened wood with large well formed buds as a criterion. They are unfolding very fast. *Pallanza*, half expanded, looks like a grand yellow; Thos. Davison, opening large buds of rich crimson and gold; Duchess of York and Mrs. W. H. Lees look promising; Philadelphia, although pale in foliage, is opening freely; Madame Carnot and Souvenir de Petite Amie look beautiful; Viscountess Hambledon and Mons. C. Molin are very good; Madame C. Molin large but coarse; Mdlle. M. A. de Galbert, although not quite so large as Mdlle. Thérèse Rey, is whiter, and it will be a question if it will not supersede the latter popular variety; Thos. Wilkins, M. Georges Biron, Madame Octavie Mirbeau, Jules Chrétien, Mrs. H. Robinson, Rose Wynne, Violette, and Sarah Hill are in good form, as are all other of the older sorts.

Incurved never looked better, Mr. C. H. Curtis looking a good yellow and Robert Cannell being superb. Altogether the collection is excellent, and it is regrettable that where cultivation is so good it must be withdrawn from the public, for nowhere can such lessons be given to those aspiring to public fame than at our exhibitions.

LINGDALE LODGE, OXTON.—Mr. G. Burden is too well known to need introducing, and his Chrysanthemums are, on the average, a good strong lot, Japanese in all varieties being fine. *Pallanza* here is very like *Sunflower* from buds developing. Duchess of York is thought very little about. Mons. C. Molin so far is a good colour, but thin in substance. Madame Ad. Moulin is a grand white. Mrs. E. S. Trafford is a taking colour, and would be fine if the flowers were larger. Duchess of Wellington and Mons. Panckoucke are two very good yellows. Others promising well are Philadelphia, M. A. de Galbert, Mrs. W. H. Lees, President Armand, Mons. Gruyer, Inter-Ocean, M. J. de Baylie, M. Ph. Dewolf, and Mons. G. Biron. All other kinds are good. Incurved in every section look in the best of condition, and new ones which ought to make a name are Globe d'Or, J. Agate, and Mrs. J. Gardiner. Since Mr. Cockburn's death it is pleasing to state that the Chrysanthemum, which was to him such a source of enjoyment, is equally as much cherished by members of his family.—R. P. R.

GIANT ONIONS.

IT seems rather contrary to recognised ideas, in relation to constant cropping of soil, to learn that the splendid Onion bulbs which Mr. Bowerman grew this year at Hackwood Park, and with which he has been taking prizes in all directions, were grown on the same ground as similar Onions have been grown on for the past four or five years. Still further, it seems that in each successive year the bulbs improve in size and quality. It is a fact that these splendid bulbs are this year as hard and perfectly ripened as if grown under ordinary conditions, and were of not one-fourth the weight. That is doubtless to some extent due to early sowing and planting out, so as to give a long season; and also to the exceeding warmth of the summer. Still warmth always suits Onions under any conditions, if enough moisture be also supplied.

This Hackwood Onion soil is deeply trenched, the top and under soils being reversed each year. It is also highly manured. It thus seems as if so far from the successive Onion crops taking all the essential bulb nutriment out of the soil, that nutriment rather increased. It is fair, however, to assume that such results will follow only where very high culture, as in this case, is given. I do not attempt in this note to discuss the not uninteresting question as to whether these huge Onions are desirable or not. The common assumption that Onions are grown in gardens only for ordinary kitchen use has led to the farther assumption that smaller or ordinary grown bulbs are best. On the other hand it is pleaded that these large bulbs furnish splendid, nutritious food when baked or stewed, and in that way render mankind a great service.

It is also pleaded that under what is termed ordinary culture we have never seen the capacities of the Onion fully displayed. That may be true. It does seem as if in a collection of vegetable bulbs of such huge dimensions, even when, like Mr. Bowerman's bulbs, they are perfect in form, solidity, and finish, are rather out of place, as they

serve to dwarf other products when these products are also abnormally large, and thus we are on the horns of a dilemma, for either, as a matter of consistency, we must condemn the unduly large Onions or require huge dimensions in all the other products. My preference is for Onions in collections that are of average analogy in size to the other products, none of which should be staged large, and that bulbs not exceeding 16 ozs. in weight, but all the same very solid, round, clean, and handsome, are in such cases fully large enough.

In Onion classes it would be just as well to put a rule in the autumn shows separate classes for spring and winter Onions, but to have classes for bulbs from seed sown outdoors where grown, and from seed sown under glass, the plants being put out in the spring. We should in that way deal more fairly with good bulbs grown as an ordinary spring-sown crop, and as raised under more artificial conditions. The trade recognise the value of these huge bulbs, such as are commented on, for seed stocks, as they give in their progeny, even for ordinary culture, finer results in bulb production than are usually obtained from smaller bulbs. That is a matter of consequence, and also of benefit to Onion growers generally.

Mr. Bowerman tells of a Scottish correspondent who, learning of the fine bulbs at Banbury, wrote asking that four of the finest bulbs might be sent him per post, just to enable him to see what the sample was like, and he would return them. It need hardly be said this bold request was respectfully declined. It was odd that just about that time a local Scotch competition was being held, at which four bulbs were needed. Comment is superfluous.

As giant bulbs of the Ailsa Craig variety have often been referred to as watery and soon decaying, I wish to mention that having been given a fine bulb last winter to use for sample purposes when lecturing on roots, I had no difficulty in keeping it till the end of March, when it was planted and gave me a crop of seed. This I propose presently to give to some allotment holders in very small quantities.—A. D.

SEASONABLE NOTES ON FLORISTS' FLOWERS.

THE month of October is always a busy one for the florist. The high winds, cold nights, and continual moisture not only desolate the garden, but make one feel anxious as to its prospects for the ensuing year, and to consider best how one can preserve the favourites during the coming winter. It is, therefore, necessary now to make preparations for that purpose; hence these notes may not be without their use to some of your readers.

AURICULAS.

Although it is perfectly true that there is not much difficulty in growing the Auricula there are comparatively few who venture on the cultivation of the choice show varieties. A considerable stimulus has been given to their growth during the last few years in the South of England, but I yet fail to see any such enthusiasm as gathered around them in my earlier days, and I doubt whether those who grow them for sale find it a profitable business. There is no difficulty, as I have already said, in growing them provided you attend to certain points in their cultivation. One of these is their proper housing for the winter. Formerly this was done in garden frames, but of late years these have given place to either pits or low spanned-roof houses. Two points have to be considered before placing them in their winter quarters; first of all that the drainage has not been disturbed, and secondly that they are free from aphids. Sometimes small worms get into the compost and disturb the drainage, and where there are any symptoms of this the pot should be turned up on the hand, the intruder ejected, and the drainage of the pot re-arranged. Any aphid on the foliage, which has probably increased during this late warm September, should be brushed off. With regard to the woolly aphid we have recovered from the scare it gave us a few years ago; but where it is found round the collar of the plant it ought to be removed. A great desideratum for their winter quarters is that they should be free from drip. This is more hurtful even now than in the summer, because so much air cannot be given to the plants. When the plants have all been looked over, the dead leaves pulled off and the surface lightly stirred, and the plants placed in position, it may be desirable to give them a slight fumigation of tobacco. Water should be given sparingly, although the soil should not be allowed to become dust dry. Air should be given on all possible occasions.

CARNATIONS AND PICOTEEES.

As far as my observation goes the layering of these has succeeded well, the August rains having given them a good start; the splendid September weather was also favourable to them, although it necessitated watering. It will now be time to finish taking off the layers, for where the collection is large this has been some time in operation. I think it is far wiser to keep them in pots during the winter than to trust them to the open bed. In some cases and during some winters they may do well, but their safety is better secured by potting. A great change has taken place with regard to these flowers, the beautiful strain of hybridised seed which Mr. Martin R. Smith has so generously distributed having given such general satisfaction that I imagine that the Carnation will follow in the wake of the Calceolaria, Cineraria, and Begonia, and be mainly grown as seedlings. The truth is that many of these flowers raised from this seed are as correct in the florist point of view as the named varieties, while many have such long pods that they open without bursting. When the plants have been potted they should be placed

under cover and carefully watched that the damp does not affect them; they should, therefore, be sparingly watered, and not at all over the foliage. With this treatment, and air given to them on all suitable occasions, they will keep well until the spring.

GLADIOLUS.

It will soon be time for lifting the bulbs of the Gandavensis section; it has been a curious season for them. The ground was in very good order for planting, and although it is true in general that a dry season suits them better than a wet one, I think the long drought was not as favourable to them as might have been expected. The foliage began to look yellow towards the end of July, but considerably improved under the influence of the August rains, and September was, I hope, favourable to the ripening of the corms. How they will fare after these heavy October rains I am anxious to find out. I fear, beautiful as this flower is, it is never likely to become popular. There are no amateur growers that have not given it up after a few years' trial. This autumn there was not a single amateur exhibit; in fact, there was no competition invited anywhere about London. When the offering of a prize for a collection would bring together a stand of 144 spikes, it is not likely that the authorities will do much to encourage a stand of twelve or twenty-four, especially as it would only bring two or three exhibitors. The corms should be carefully dried, and then either laid out on shelves or put into paper bags, the former I think the preferable plan. I always write the name of the bulb on it, so that if by any chance it gets displaced no confusion arises. Those who are anxious to keep up their collections must save the spawn, as it is called, which cluster around the parent bulbs.

TULIPS.

The time for planting these bulbs is close at hand; the early varieties may be planted at once, but the true florist varieties in about a month's time. I fear that the attempt to popularise this grand flower in the south will fail; indeed, one hardly knows now where to find an amateur in the neighbourhood of London.

I have not dealt with Chrysanthemums because there are other and more experienced hands who at this time, when the flowers are so much in evidence, will give their experience in the pages of the Journal, while Roses can hardly be called florist flowers, and may well claim a separate notice.—D., Deal.

FERNS IN THE WINTER.

EVERYONE interested in the culture of plants of any kind is agreed that as the season advances the care which plants of all sorts require now is greater than at any other time of the year. It is well known and easily understood that when a plant, whatever may be its nature, is in full vegetation its health is not so easily affected by lack of constant attention as it is when in a dormant state. But, notwithstanding the truth of the above statement, it must always be borne in mind that in trying to avoid one evil it frequently happens that one falls into another, the results of which, if not so glaring, and consequently not so easily detected, are quite as bad and as detrimental to the health of the plant which is affected by it.

Many plants during the winter require to have their roots kept comparatively dry, but though an excellent rule as applied to the generality of plants this, however, has some serious exceptions. One of the most prominent of these exceptions is in regard to Ferns, either cultivated in the stove or in the greenhouse, or grown in frames or even outside. The advice consisting in keeping Ferns dry at the roots during the winter, frequently tendered by people professing to be well acquainted with all the requirements of these plants, is a most injurious and perfectly erroneous notion, as is amply shown by the ways of Nature. If anyone will only take the trouble to observe the treatment to which most if not all Ferns are subjected in their natural stations, he cannot fail to be convinced that many cases of failure in the culture of these plants are traceable to dry winter treatment.

Taking as an example our own British Ferns, we notice that one and all of them receive a much greater amount of moisture during the winter, their resting season, than while under the influence of summer heat and drought when in full growth. It is not only those generally dwarf-growing kinds, such as the Scale Fern (*Ceterach officinarum*), *Asplenium trichomanes*, the Wall Rue (*Asplenium Ruta muraria*), or the Downy and Alpine Woodsias, all of which are found growing naturally on rocky and exposed places, or on walls, which during the summer when their vegetation is active, receive a great deal less water at the roots than during the winter; but also all the stronger growing kinds which naturally thrive under the shadow of the hedges or under the shade of the trees. In such positions the Ferns during the summer are kept comparatively dry, for the simple reason that whatever rain comes down can hardly reach them on account of the protection of the foliage above.

Ordinary showers only make the atmosphere surrounding them more humid, but do not penetrate through the foliage of the trees under which our Polypodies, some of our Spleenworts (*Aspleniums*), or the Bladder Ferns (*Cystopteris*), and others grow so luxuriantly, and the same may also be applied to the hedgerows by the side of which that which, for some reason or other, is erroneously called now the French Fern (*Asplenium Adiantum nigrum*) and the Hard Fern (*Blechnum spicant*) generally grow. These, no doubt, to a certain extent benefit by the general moisture of the atmosphere thus occasionally produced

during the active period of their growth; but it will be perceived at a glance that such superficial humidity, produced at a time when, through the action of the sun it soon vanishes, is not to be compared with the thorough soakings which the same plants enjoy during their period of rest, when trees and shrubs alike are deprived of their foliage, and consequently offer no hindrance whatever to the autumn and winter rains, every drop of which actually finds its way to the Ferns growing under their friendly shelter. Now, if we add to this argument the fact that during the resting season of the Ferns rain is at least ten times more frequent than at any other time, we shall, I think, have clearly demonstrated that, far from having their roots kept dry while at rest, they are, on the contrary, kept particularly active by what we must consider a wise provision of Nature.

Then, again, what can be said in favour of a comparatively dry winter treatment in regard to those kinds which grow in quite the open meadows, such as the Lady Fern (*Athyrium Filix-femina*), the Male Fern (*Lastrea Filix-mas*), the soft and prickly Shield Ferns (*Polystichums angulare* and *aculeatum*), or of those which, like the Royal Fern (*Osmunda regalis*) are found on banks of streams, which places during the summer, being in most cases exposed to the full effects of the sun, are partially dried up. Why, we are bound to conclude that their freshness, which they retain the whole summer through, in spite of the heat and drought to which they are subjected for weeks together, is only due to the extraordinary amount of moisture stored in the ground through the winter, during which time they are frequently thoroughly covered over with water for two or even three consecutive months. Yet in that position the Male Fern, Lady Fern, *Osmunda*, and *Polystichums* not only grow but luxuriate. We know from experience that during comparatively dry winters such plants as the Oak and Beech Ferns, for instance, have their slender underground rhizomes shrivelled to such an extent that when spring comes they only make a very poor start.

But if such is the case with Ferns in their natural state and growing in the open where there are no impediments to their roots, which have the full benefit of every drop of moisture contained in the ground, plants in pots must surely be more severely affected, for in their case the terminal sucker of nearly each root is brought in contact with the pot and dries up much more rapidly than in the open ground. There is evidently no reason to think that the treatment which our own Ferns receive in their natural state is not identical with that which is dispensed to exotic kinds.

During its resting time the *Adiantum pedatum*, for instance, a Fern of particularly great beauty, which in North America is found growing very extensively in exposed places, remains when at rest, during the winter, covered for two or three months with a coating of snow, the thickness of which varies from 2 feet to 3 feet and occasionally more. Now, this quantity of snow has for immediate effect to prevent anything like a dry winter treatment at the roots, and also to supply the dormant plants beneath with a quantity of moisture far greater than anything to which they are exposed during the summer. It is therefore not surprising to find that under cultivation that Fern has the most undeserved reputation of being a bad grower, and that frequently after four or five months of dry treatment its crowns have vanished.

It is the same with most of the deciduous Ferns, which class of plants amateurs in general are more and more inclined to eliminate from their collections under the pretence that they are usually lost during the winter. If they are so lost, it is evidently from the want of moisture at the roots during their resting time, and if the effects of such a pernicious yet general treatment are so disastrous to plants devoid of foliage, it certainly follows that Ferns of an evergreen nature must by the same treatment be punished to a greater degree still.

From what precedes we must not conclude that the present treatment only needs reversal, making the summer treatment a dry one, superseding that which is now in favour during the winter, for when Ferns are in full growth their requirements, so far as liquid at the roots is concerned, are a serious consideration; but at the same time these waterings must neither, as is frequently the case, cease altogether for the deciduous kinds, nor become for the evergreen ones so very remote as to be of almost practically no value for keeping the roots of the plants in a perfectly constant state of moisture, which Nature teaches us is the state in which Ferns should be kept during their resting time.—FERN GROWER.

RIPENED WOOD.

I PLEAD guilty to not having distinctly said that both Peach trees came down into Somersetshire, and have been continually growing under the same conditions. One outside, or rather at the very edge of the glass structure and trained up under it, the other at the back, trained against the wall. It is this latter tree that hitherto has never borne, and the one fruit of this year was without any good flavour. I have re-read my remarks of October 3rd, and I am also a sceptic as to our friend's, the "Sceptic," "failing to grasp the meaning." He certainly is no way deficient, and a moment's thought must have convinced him that both trees were moved, especially when on page 330 I say, "In November I purpose moving the tree" (the one against the wall) "to the outer position of the glass, where it may obtain some sun and wind."

"The Sceptic" declines my nut, and asks which kind of wood gives the best results, and then replies by his own experience of his "green wood" crops. Now I do not think that any of us (old fogies, if you will) who talk of ripened wood would deny that it is quite possible that a green shoot may yet be hard and what I might call ripened,

although I should prefer it more coloured. I confess I took, I daresay ignorantly, to the closeness of the leaves to each other to guide me in my estimation of the ripeness or otherwise of the wood. Continually incidents occur which seem to topple over our previous facts. I suppose we all allow, or is our friend sceptical on this point also, that rank coarse wood is not very likely to give us much fruit next year. Yet I recollect a man showing me just such a coarse branch on an Apricot tree, and jeeringly speaking of such a dictum, because this said branch had more fruit on it than all the rest of the tree put together. Still, that fact would not induce me to go in for coarse growth as a means of fruit production.

Personally I cannot complain of short crops last year from my ripened wood of 1893. On the contrary; on several trees I had far better crops than I have had this, especially the young trees. On several of these I have no fruit at all this year. So "Sceptic's" experience and mine as to the two seasons differs. I regret that he declines to describe the sort of wood he prefers to see on his Peach trees in October. I regret, too, that he takes no notice of my remark about the Rose shoot. This is the month I cut out the old wood of my plants, leaving only the shoots that I retain for my plant to have when pruned in the spring. Does he mean to say that I may save a shoot that started growth at the end of August, and is now soft and still growing; and if there are four or five of such shoots in a bush does he cut away all the rest, and depend only on these late sappy shoots? If he does, and gets good blooms on them, he must be a firm believer in green wood.

Then it seems to me that "Sceptic" argues as if the sun alone was the ripener of wood. His concluding remark in reference to the article in the "Morning Post," "The natural inference, therefore, is that wood could not have been 'ripened' last year owing to the deficiency of bright sunlight." Surely it is not sun alone that is a ripener of wood. I am disposed to think that the war of elements does not always do nothing but harm. Do not wind and rain, and even slight frosts, have a beneficial effect on the growths of the year? I cannot but think they do, and that they may even make up in some cases for the deficiency of sunlight.

On outdoor fruit in this our variable climate can we reason from a single season, as "Sceptic" does in his reply to my nut? Did not our severe six weeks of frost, when many of us hoped we had seen the worst, have a beneficial effect on our fruit trees? I remember in one of the longest winters I ever endured, though I forget the date, it was some thirty years ago, meeting on my rounds a poor asthmatic patient, a great gardener, and on my asking him how he liked this severe time, his reply was, "Oh, capital. 'Twill kip everything in its right place." So I believe the lateness of the winter had that effect this year, and gave us a promising setting time, but as I was not in England during May I cannot say. Surely a severe frosty May would beat "Sceptic's" green wood first; I think my "ripened," if the severity continued, would also suffer. There are many things beside ripened wood that go to make a good crop.—Y. B. A. Z.

"SCEPTIC" has gone a step further than ever this time. I agree with him that it is possible to get a crop of Peaches from green wood, for I have experienced it; but he now tells us that green wood is preferable. His answer to "Y. B. A. Z.," page 350, admits of no other interpretation, in the case of Peaches at any rate. I am afraid we shall have to get a fresh definition of ripened wood. What I thought was a very good description of it was given by "Sceptic" himself in describing the state of his Peach trees in 1893, but we find the result from it was not satisfactory. He prefers wood as "green as grass" in the autumn. He is quite welcome to it, but all the best Peach growers in England are against him in their preferences.—D. I.

LADY DOWNE'S GRAPES NOT COLOURING.

THE part bunch of Grapes sent by "J. J. C." had large berries, one half of which were shanked, soft to the touch, and sour to the taste. The lower (quite half) part of the bunch had been cut off, shanking on the stem having occurred some time back. The sound berries were larger than usual with this variety, more round than oval in shape, faintly reddish purple, streaked with deeper colour, but for the most part green, and covered with a good bloom. These were firm in the flesh, and of good flavour. The wood accompanying was stout, short-jointed, and well matured, being brown in the bark, firm, and small in pith. The leaves were large, thick in texture, of leathery consistence, deep green in colour, except the parts assuming the autumn tints, which were a rich purplish red colour, instead of dying off bright yellow, and they had quite a glossy, even clammy, feel. Such is a diagnosis from external examination.

Internally the seeds of the sound berries were quite normal, arranged in pairs—two in a berry, as characteristic of this variety, and no foreign body or bodies present. The shanked berries had the seeds more or less discoloured in places, and not a few had one or more black spots, with the cellulose, especially the fibry matter by which they are affixed to the stalk, quite brown; but we failed to detect the threads of any fungus, or any other micro-organisms. The leaves internally showed plenty of chlorophyll pigment, and evidently granulated with starch grains, these being "fixed." There was neither fungal nor insect parasites present, externally or internally.

The deductions we arrived at were:—(1) The border in which the Vine grows is too rich in organic matter for this variety, and deficient in certain mineral elements. (2) The deficiency or absence of these

elements induced the "fixation" of the starch in the leaves. (3) This fixation prevented the transference of the chlorophyll essential for the colouring process, hence the want of colour in the Grapes. As other varieties do well in the same border, even produce prize Grapes, there is, as he says, nothing wrong with the border structurally or componently. That may be for Vines generally, but some varieties do better than others in a given soil and staple, and some are not satisfactory. Special varieties require peculiar conditions of soil and treatment, Lady Downe's being one of them, and originated from where the soil is of an alluvial nature and somewhat ferruginous. The berries are liable to set very indifferently, scald more than any other Grape, and the foliage is sooner damaged by nicotine vapour. Nevertheless, Lady Downe's does well in some localities, and in others is far from satisfactory in the matters mentioned, but rarely as regards colour, it being one of the best in that respect, and for retaining it.

The case, therefore, is quite exceptional, and we advise the use of chemical manures, which, perhaps, are used, and avoid those of the stable, either in a solid or liquid state, for this Grape under the circumstances, and give it $\frac{3}{4}$ oz. of the following mixture:—Sulphate of magnesia, two parts; and sulphate of iron, one part, thoroughly mixed, per square yard (1) when the Vines are started, (2) again when the Grapes are set, and (3) a third dressing when the berries are half swelled. It should be applied along with chemical fertilisers, preferably mixed with them at the rate of $\frac{3}{4}$ oz. to $3\frac{1}{4}$ ozs. of the advertised fertilisers, so that the dressing of such mixture will be 4 ozs. per square yard. This will help both as regards the shanking and the defective colouring.

ANOMATHECA CRUENTA.

THIS plant is widely known and of easy culture. It is quite hardy in the south of England, and it will even survive ordinary winters some distance north if a sheltered position be chosen or protection be afforded when necessary, though they may be successfully grown in pots. Light turfy loam and peat, with a good proportion of sand, will suit them well, and as growth is advancing an occasional supply of weak liquid manure will be advantageous, improving the flowers both in size and colour.

The plant is of slender and graceful habit; the leaves are about half an inch broad, tapering somewhat like *Ixias* and other similar plants. The flowers have each a long tube and six elliptical divisions, bright red in colour, with a tinge of scarlet; the three lower divisions are broader than the others, and have a dark blotch at the base. Though individually they do not last long, the scapes are produced in constant succession during the greater part of summer, and even as late as September. The woodcut (fig. 63) is a representation of this pretty bulbous plant.

UNITED HORTICULTURAL BENEFIT AND PROVIDENT SOCIETY.

ANNUAL DINNER.

ON Thursday last, October 17th, the ninth anniversary dinner of the above Society was held at the Cannon Street Hotel, under the presidency of James H. Veitch, Esq. One hundred and nine members and friends sat down to dinner, the tables being tastefully decorated by Miss Hudson, with stands supplied by Mr. J. R. Chard, Stoke Newington. Amongst those present were Messrs. H. J. Jones, J. Hudson, H. Cuthush, J. Iceton, G. Wythes, A. Moss, G. J. Ingram, N. Cole, J. Heal, A. W. Weeks, and many other patrons of horticulture, nurserymen, and gardeners. After the usual loyal toasts had been given,

The CHAIRMAN rose amidst applause to propose that of the evening, "Success to the Society," and addressed the company as follows:—Gentlemen, I do not purpose to-night to weary you with figures, or to enter fully into the benefits to which members of this Society are entitled, as probably most of you are better acquainted with them than I am; but there are one or two points I would like to mention if you will give me your attention for a few moments. First, and most important of these, is the welcome news—news which, till this moment, has not generally been made known, though it came into force on July the 1st, and news of which I would beg all who are interested in the welfare of the Society, to take special note, that the Committee have very recently felt themselves in a position to raise the weekly allowance in case of sickness; thus those who contribute on the lower scale will in future, should need arise, receive weekly 12s. instead of 10s. 6d., and those on the higher, 18s. instead of 16s. (Applause.) Striking indeed is this in view of last winter's heavy sick list, due in part to the severe weather, and in part to the then prevalent epidemic of influenza; but more especially is it noteworthy in face of the fact, well known to the officials of this Society, that such great institutions as the Foresters have had to raise the subscriptions to their benefit fund, though allowing no more in case of sickness than this Society. That the funds are sufficiently strong to permit of the weekly allowance in case of sickness being raised without raising the subscription there is no doubt—never has the Society's condition been so satisfactory as at the present time—the invested funds in trustees' stocks now standing at £10,300 (though I am told their market value to-day is close on £11,000) showing an increase of £600 on the last balance-sheet. (Cheers.) For the past three years the investments have increased at the rate of £1000 per annum, whereas only ten

years since, when the sum of £300 was invested, the members and officials of the Society congratulated themselves on having invested more in that year than in any previous one.

The cause of the funds permitting, as they undoubtedly do, of this great move is to a large extent due to the few cases of illness the healthiest of all callings provide, and to the fact that the majority of members are in permanent work, and do not come on the sick fund when ill for only a few days, an advantage less felt by other benefit societies, as the system of work by the hour becomes more and more common; in which case, of course, pay is stopped immediately the work is left, no matter for how short a time, and the member must in most cases at once seek the assistance of his society.

On the necessity for thrift in general, and the strong advisability of joining such a benefit and provident society as this when young, it would be easy to dwell, and much might be said in particular on the necessity of thrift for the young men and foremen in the bothies of the large gardens of this country, more especially as the occupation they have chosen has suffered so much, and is still suffering, through recent



FIG. 63.—ANOMATHECA CRUENTA.

years of depression, and through the very large number who are continually entering its ranks. Travelling lately in various parts of this country I could not help being struck by the number of foremen capable in every way of taking head places, and who, even with strong influence to assist them, fail to obtain the much coveted post. Some have been waiting for years, and are apparently as far off to-day as ever from attaining their wish. Of the right age, with ample experience, good characters, and with the very best intentions, they must see how difficult it is in the heyday of their youth and strength to provide even for the immediate future, and they may rely, should fortune not always favour them, or should they, through any one of many possible circumstances, get thrown out late in life, it will be far harder.

To such would I especially recommend the Benefit and Provident Society. The younger one joins the sooner a large deposit is acquired, and the sooner one will find oneself in the position of certain members at present, whose interest on their deposit is greater than the amount annually paid in subscriptions. Of its security and successful future they may feel assured; and even now, despite an average loss per annum of thirty members, due to death and to some who allow their payments to lapse, the joining members average sixty—a nett gain of thirty new members per annum. Not sufficiently well known perhaps is one very important rule—viz., that by which a member on attaining the age of

seventy, when he ceases to participate in the benefits of the sick fund, may annually draw a portion of his balance (which at that age must necessarily be large), and at the same time be qualified for assistance from the Benevolent Fund, should he require it. It is true no member has as yet availed himself of this rule, the reason probably being the Society has only just existed long enough for it to be possible.

Peculiar to this Society, and undoubtedly of great value, is the Convalescent Fund, a Fund which owes its existence to the foresight and generosity of Mr. Sherwood. (Cheers.) This Fund is purely a voluntary one, and it is at the disposal of the Committee to send away for a time any member who may have been so prostrated by illness as to render a change imperative, but who may not have the wherewithal needful. To generous friends, and to those who are enjoying a larger share of the good things of this world than falls to all of us, I would venture to ask something more than a kindly thought for this Fund when the United Horticultural Benefit and Provident Society next comes uppermost in their minds.

These, gentlemen, are the points especially worthy of notice. Most of us here, and certainly those interested in the three great bodies for doing good connected with our calling, are aware what the use this Society must be to any member in case of illness, but to our visitors I would say, For a moderate monthly payment he receives a liberal weekly allowance during sickness; for no payment at all he may, if a fit subject in the opinion of the Committee, participate in the Convalescent Fund. Should he in his old age be in want, the Benevolent Fund is at his service; and last, but not least, for in this point the Society differs from others of its kind, he does not lose his deposit should his payments unfortunately lapse, and he at the age of seventy, or in case of death anyone he may have nominated, may withdraw the full sum with the interest placed to his credit up to the time he ceased subscribing, without any deductions whatsoever. (Cheers.)

Gentlemen, I have done. Briefly I have tried to lay before you a few important points about this splendid Society, and will now ask you to drink with all cordiality to its continued and rapid success. (Prolonged cheers.)

Mr. N. COLE rose to reply, and said he considered it a great honour to be asked to do so on behalf of the Society. He was sure that all present were gratified at the satisfactory statements made by the Chairman, and he wished to thank him on behalf of the Society for presiding on that occasion. The work of this Society was to do good amongst gardeners, and by its efforts they hoped to make the world more pleasant to live in. In course of further remarks Mr. Cole said much had been hinted about the long name borne by the Society; they, however, delighted in the long name, as each portion of it had its own particular benefit, and with reference to that fund alluded to by the Chairman—namely, the convalescent fund, the name of Sherwood would be honoured as long as the Society lasted. (Cheers.) He thanked the Chairman for the able manner in which he had addressed those present, and expressed the hope he would live many years to glorify the name of Veitch. (Applause.)

MR. JAS. HUDSON, when proposing the toast of the "Honorary and Life Members and Visitors," said he was pleased to say that the list of honorary and life members included some of the best known names in the horticultural world; and where, he added, could they meet better than round a festive board, with employer and employed working amicably together for the public good? and, further, he hoped those who had come as visitors would leave as honorary members. Great strides had been made since the Society attained its majority eight years ago; then there were 300 ordinary and twelve honorary members, now it was composed of 581 ordinary and fifty honorary members; at that time the amount invested was £3650, to-day the total reaches £10,300. These figures, he continued, speak volumes for the support it has received from gardeners all over the country; indeed, he said, it was a Society to which every gardener ought to belong, and he trusted it would receive still greater support. The Society now included several members of the horticultural press, provision having been made for their admittance. Mr. Hudson, in conclusion, said it gave him great pleasure to see Mr. Veitch in the chair on that occasion.

Mr. Moss replied in a few well-chosen words on behalf of the honorary life members and visitors, remarking that he not only wished to see a greater addition to the life members, but also to the ordinary members, and the sooner more gardeners recognise the uses of the Society the better and happier will be their old age.

Mr. ICETON proposed the "Health of the Chairman," remarking that wherever gardeners met the name of Veitch was well known, and he was proud to have the honour of giving the toast, which he knew would be received heartily by all those present.

Mr. VEITCH in reply thanked those present for the hearty manner in which they had drunk his health, adding that they would be pleased to hear that Mr. Nutting had promised to take the chair at the next annual dinner. It also gave him great pleasure to state that Mr. N. Sherwood with his usual generosity had contributed five guineas to the convalescent fund, and Mr. Moss had given two guineas; also that Messrs. A. J. Sutton, Icton, Mott, H. J. Jones, and G. Wythes had expressed a wish that their names should be enrolled on the list of life members. (Renewed cheers.) In conclusion he said it gave him great pleasure to be amongst them on that occasion, he wished the Society all success, and should it ever want a friend he would, if possible, be that friend, and further so far as he was able its interests.

Mr. H. CUTBUSH gave "Thanks to the Donors of Fruit and Flowers," which was responded to by Mr. McKercher.

Mr. JOSEPH WHEELER proposed the "Press," stating that its

members had done much to further its interests by making known its benefits through the length and breadth of the land; this he hoped they would still continue to do. Mr. J. Fraser responded on behalf of the Press.

An excellent musical programme was provided under the direction of Miss Alice Parker, and the company dispersed, having spent a most pleasant evening.

TREE CARNATIONS.

VERY rarely are Carnations grown well in pots in private gardens, and many plants are annually conveyed to the rubbish heap through mismanagement. Failure does not so often result from insufficient experience up to the time it is necessary to house them as by the want of suitable accommodation for them afterwards. Another and probably the main cause of failure is due to the supposition that a profusion of fragrant flowers will be produced in succession from the time they are housed through the winter and spring months. The system of treatment pursued to accomplish this soon destroys the health of the plants, and failure is the result before the spring months arrive. To maintain a good supply of flowers from the present time until the end of spring a large stock of plants is required, for a few will yield more flowers after the middle of February than a large number will from now until then. From a good stock of plants in a suitable position solitary flowers may almost daily be cut from the time of housing them until they are produced plentifully about the time named, but from ordinary plants they cannot be had in any abundance.

It is very frequently forgotten that the Carnation is a hardy plant. Any system of forcing, however gentle, during the dreary months of winter, very quickly runs up the growths of the plants weakly and destroys them after producing a few small flowers. Those who attempt to force Carnations to flower during November, December, and January must be prepared to sacrifice the plants, for they are very little good afterwards, and will not yield in the end one-twentieth the quantity of blooms that they are capable of doing under natural treatment.

Carnations, after they are housed, may be stood in ainery from which the foliage has been removed for a time, but they will not long continue satisfactory in a makeshift position. If numbers of plants are grown they should have a house to themselves, or the lightest and best side of the house is insufficient to fill the whole space. Wherever they may be placed the treatment and conditions of the house they occupy should be arranged to suit them. From the time the plants are housed they should have a light position, not too far from the glass. This treatment must be continued through the winter, and fire heat only employed to maintain an average night temperature of 45°, and occasionally during dull weather to evaporate damp. The growth during the winter months is almost at a standstill, and employing fire heat is injurious. Under the conditions advised they will continue growing slowly, and when the days lengthen with increased light and heat thin shoots will rapidly strengthen, and a large number of fine flowers will be the result in succession for a long time.

During the winter Carnations require careful watering at their roots; the soil must not be saturated, or the foliage will soon turn a sickly yellow colour. On the other hand, they should never be allowed to suffer by an insufficient supply of water or the roots soon perish. Strong supplies of liquid manure are also detrimental to them, but given in a weak state and judiciously it will prove the reverse. Clear soot water has a very beneficial effect upon the plants, and quickly tells upon the foliage. Weak liquid made from cow manure is also good for them. In addition to the soot water we have found nothing better for them than light applications of artificial manure applied to the surface about once a month.—L.

ROYAL HORTICULTURAL SOCIETY.

OCTOBER 15TH.

SCIENTIFIC COMMITTEE.—Present: Dr. M. T. Masters (in the chair); Rev. W. Wilks, Mr. J. Weathers, and Rev. G. Henslow, Hon. Sec.

Injury to Foliage by Wind.—Mr. Ch. Plowright of Lynn sent photographs showing how trees were damaged on the north sides by a cold wind on May 16th, with the following communication:—"After a spell of fine weather, lasting until the 14th of May, we began to think our fruit crop was safe for the year, but on the 15th the temperature fell, and on the 16th we had a gale from the north accompanied by one or two hail showers. The effect was seen in a Hawthorn hedge facing north and south, for the foliage was shrivelled up on the north side, where it is dead, but remained bright green on the south side. Similarly three or four Pear trees showed a remarkable appearance; the north side was quite black, not a leaf had escaped, while the opposite side did not seem to have suffered at all. A row of Elms showed graphically which way the wind had blown, and some fine old Beeches assumed on their north side quite an autumnal hue. The Horse Chestnuts, from the size of their leaves, afforded very distinctive evidence of the injury they sustained, the foliage having turned a bright red. The above effects were general in this part of Norfolk; indeed, no tree at all exposed seemed to have escaped. One of the most striking incidents is the Spruce Fir; at East Walton there is a row of these trees whose young shoots have been killed by the cold wind on the north side, and hang like brown plumes at the end of the branches." Mr. Plowright does not allude to the probable effect of salt, but as a north wind at Lynn is entirely a sea wind, the disastrous effect to the foliage was probably chiefly due to the presence of salt spray.

Young Apple Fruit.—Mr. T. Eyre of Thorpe Lea, Egham, forwarded a sample of a second crop of Apples, due to the prolonged high temperature. Raspberries and other fruits, as well as Laburnum, in blossom, as the Secretary observed, have been recorded in Ealing and elsewhere this season.

Cattleya Mossiæ with Double Growth.—Mr. W. C. Walker forwarded a photograph of an abnormal specimen with the following remarks:—"I enclose a photograph of *Cattleya Mossiæ* that has developed an unusual double growth. When it started after flowering it appeared little different from ordinary growth, but as it grew it formed the two distinct growths included in one green sheath at the base."

Aphides on Lettuces.—With regard to the aphides in the soil about the roots of Lettuces sent to the last meeting, Mr. G. B. Buckton of Weycombe, Haslemere, reports as follows:—"As the earth was loose the shaking during transit and the comparative drought killed the insects; but I secured fifty or more specimens. They were all pupæ of aphides, and I am satisfied that they are *Pemphigus lactuæ* (Passerini).—This species is subterranean in its larval condition, and it attacks also *Sonchus* and *Melilotus*. On opening the box two winged flies escaped, one of which I secured, and it turned out to be a true *Pemphigus*. The pupæ are without nectaries, and almost if not quite blind. The winged female has moderate eyes, and black. A diagnosis of the insect will be found in 'Aphididæ Italicæ, Passerini,' page 77, 1885."

Monstrous Anemone japonica.—Rev. C. Wolley Dod sent specimens of the foliage with the following remark:—"Six years ago I noticed a shoot with crimped leaves and separated it; next year, with ordinary soil and cultivation, it assumed this monstrous form. It has entirely lost the usual running habit, and does not increase." The leaves were enormous in size, evidently at the expense of the increase of the plant.

Supposed Spontaneous Hybrid Asters.—Mr. Dod also sent a flowering plant of a supposed hybrid between *A. Thomsoni*, *Clarke*, and *A. amellus*, *Linn.*, remarking, "This came from seed collected in my own garden. It has now flowered for five years. It begins to flower early in July and continues in flower till hard frost. It has never produced fertile seed. The other hybrid was between *A. Thomsoni* and *A. pyrenæus*, *D.C.* *A. Thomsoni* produces good seed very sparingly, but one plant growing between two plants of *A. pyrenæus* produces good seed plentifully. Some of these seeds produce typical *A. Thomsoni* and often the nondescript plant sent. This is entirely sterile. I have raised many, two or three years in succession. They always have a white pappus to the achene, which *A. Thomsoni* never has."

Some Historic Cedars.—Rev. G. Henslow described two large Cedars (*Cedrus Libani*) in the garden of the Rectory at Bishops Waltham, which, since their age is known, are perhaps worth recording. They were planted to commemorate the Battle of Waterloo. Both have lost some large boughs. One, indeed (No. 1), has so greatly suffered in a storm that nearly half the tree has gone. This one must also have lost its leader at a comparatively early date, as the main trunk now suddenly branches into five large erect minor trunks. It is 42 feet in height. The other (No. 2) has retained its leader, and is about 50 feet high. Three of its larger boughs have gone.

No. 1.—The girth of the trunk at the parting of the roots is 17 feet. The girth at a height of 5 feet from the ground and just below the lowest bough is 15 feet. The girth of the lowest bough is 6 feet. This bough arises at a height of 5 feet from the ground.

No. 2.—The girth of the trunk at the parting of the roots is 17 feet. The girth of the trunk at a height of 5 feet from the ground is 14 feet. The girth of the base of the lowest bough is 5 feet 2 inches. This bough arises at a height of 1 foot 3 inches from the ground. A bough at a height of 4 feet 4 inches from the ground has been sawn off, revealing fifty-seven rings of growth. In all the boughs removed the excentricity is remarkable; in one instance the centre is 4 inches from the upper surface, and 15 inches from the lower. The situation is high and the soil clay. Both trees are bearing cones.

Pear Diseased.—Mr. Veitch of Exeter forwarded a Pear attacked by a fungus. The latter had assumed a remarkable spiral growth round the fruit. It was sent to Kew for investigation.

Parsnip Diseased.—Mr. Reid of Ealing forwarded a portion of a Turnip-rooted Parsnip, with purple interior, apparently due to some fungus. It was also forwarded to Kew.

PRUNINGS.

Summer Thorn Pears (page 221). When a boy and interested in gleaning stray scraps of erudition, especially pertaining to fruit (not a rare trait with boys), an old time gardener was wont to describe the Thorn Pears which flourished when he was a boy. They were, needless to say, superior to anything of my degenerate days; but these Thorn Pears were produced by grafting a Pear (any variety, I believe) on a common Thorn. To demonstrate his theory two Thorns were selected in a quickset hedge, which were duly grafted and flourished amazingly. Results, unfortunately, I cannot give, for the boy went forth into the world and the good old gardener went out of it ere fruit was obtained. Of another Pear, known to us boys as Pig Pears, some huge trees flourished in a neighbour's garden. These were brilliant in their summer ripeness of red and yellow, and accounted for many of our pennies during the short time they were in season.

In your reply to a correspondent (page 238) *re* the Japanese Wineberry, I note this plant ". . . has not found its way into many gardens," but that it is destined to do so I firmly believe, for it deserves

attention from its novel and distinct character, its ornamental appearance, and for its fruit. The somewhat small, clear shining red "Wineberries" are borne freely in terminal clusters, and have an agreeable vinous flavour. It is a plant which should readily adapt itself to semi-wild culture in a demesne, railway banks, or many a stray bit of "No Man's Land," for which its habit appears to me more suited than for the garden proper. My plants were raised from seeds obtained in 1893.

"Lessons by the Way: Wye" (page 243), and "Why Should England Lag Behind?" Why? There can be no earthly reason, Mr. "Inspector," why she should lag behind, nor will she with men of your calibre pounding away with your practical "Lessons by the Way." By the way, is there not something in this foreign competition—some magnetic force in English gold—attracting the cream of foreign produce to our shores? If so, is there not consolation in the fact, thus viewed, that exporters are like that baker of doggerel rhyme who "sold the best and eat the wust." Home growers are, doubtless, becoming more and more impressed that they have, at home, the finest market in the world for "the best," and the worst in the world for "the wust." Do you not think so, Mr. "Inspector?"

Appropos of "Vegetable Judging at Shrewsbury" and the critical notes thereon, capable opinions have been so freely given that mine would be superfluous, yet I venture to offer a remark on a phase of the subject which is capable of wider application. Are we not, reporters, contributors; in fact, all who wield the pen to pourtray descriptive notes, rather too prone in pandering to the weakness of human nature by paying compliments? "Praise to the face is open disgrace." If this be true, then the system of paying compliments is false. I fear the custom of doing so has become so time-honoured that the omission of it is now regarded as a breach of etiquette.

The effect of nicotine on Grapes. Independent of this side of the question, it would, I think, be well if the note on page 273 elicited the experience of those who have used this new vaporiser in plant houses. Presumably its virtues as an insecticide are dependent on its staying powers—that is, a minute deposit of nicotine is for some time left on the occupants of a plant house, on foliage and bloom. Granted this, does not this detract, in a private garden, from the enjoyment of those who most appreciate a walk through the houses, or require cut blooms with the natural odour unadulterated by tobacco scent in any form? Fumigating, necessary evil as it is, can only be performed in some place under conditions of toleration; and whilst on the one hand the new fumigator appears to claim its super-excellent properties from its lasting powers, on the other hand does not this militate against its free use?

"Outdoor Tomatoes" (page 290). This article is of so much interest, and, one may also say, of public importance, that it may be hoped the gist of the matter will reach many a cottage home where the Tomato would be appreciated if success in culture could by this method be insured in a normal season. That the exhaustive trials carried out by Messrs. Sutton & Sons will eventually result in a selection of the fittest for the purpose, goes without saying. As it is, "Scrutator's" report presents, to my mind, rather an *embarras des richesses*, and amongst so many that are good it is difficult to select the best from his list for the purpose. Laxton's Open-air Tomato marked such a distinct advance some years since that I wonder at its absence from the list. Probably I am a little out of date on the question, yet I am ready and willing to learn if such is the case.

In noting "Jacinthe's" practical article on "Hyacinths in Beds" I would like to move an amendment, or rather improvement, to his dibble. Having had rather extensive experience of this subject I have found the use of a much larger dibble than he recommends—large enough in fact to plant early Potatoes with on a light border—to give most satisfaction; and, like that tool, blunt rather than sharp pointed. This leaves no hollow under the bulb. By boring through the dibble at the height required for the depth of the planting and inserting a cross stick, not only gives a uniform depth, but also acts as a pedal for the foot to drive home the instrument. For formal bedding I think the use of distinct named varieties is indispensable; otherwise the use of mixtures, unless very carefully selected, results in a gappy appearance by flowering at intervals.

Covent Garden Market reports are statistics more or less of interest to all readers. Apart from their intrinsic value they have additional value as thermometrical indicators when on the verge of winter; leastways, in the vegetable department. For instance, in the week ending October 3rd, Beans at 1s. per bushel clearly show that Jack Frost is not yet stalking through our fields and gardens.—SAYNOR.

GARDENERS' CHARITABLE AND PROVIDENT INSTITUTIONS.

THE GARDENERS' ROYAL BENEVOLENT INSTITUTION.—*Secretary*, Mr. G. J. Ingram, 50, Parliament Street, London, W.C.

UNITED HORTICULTURAL BENEFIT AND PROVIDENT SOCIETY.—*Secretary*, Mr. W. Collins, 9, Martindale Road, Balham, London, S.W.

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HARDY FRUIT GARDEN.

Planting Fruit Trees.—The best season in the whole year is now at hand for the planting of all kinds of fruit trees. The important work which the leaves perform has been carried out and they will rapidly fall, leaving the material they have elaborated in the wood and buds as stored matter for the future. The fibrous roots, however, which young trees especially possess remain in a very active condition for a considerable time, because the soil medium in which they extend under favourable conditions is warm and moist. This is the reason why autumn planting has such distinct advantages over that carried out at other seasons. The vitality contained in roots at this season, even though the latter are not of a fibrous character, is sufficient to induce the emission of such and to sufficiently re-establish young trees in the soil that they will start vigorously into growth the following season.

Preparation of the Soil.—To obtain the full advantages of early and careful planting it is essential that the soil be fully prepared. It must be moved and broken up to a depth of 2 feet over the whole extent of ground where an ordinary quarter or plantation is about to be planted. In the planting of individual trees to fill up vacancies the preparation of the soil should be no less thorough, a matter sometimes overlooked, and ending disastrously where the soil has been impoverished. In such cases, or where standard trees only are planted, the ground must be prepared, and, if necessary, enriched to the usual depth within a circle of 6 to 8 feet diameter. It is imperative to plant standard trees wide apart, usually 24 to 30 feet, because they are allowed to spread and to occupy an unrestricted space; therefore, unless smaller trees are planted between them, complete preparation of the whole area of ground is not rendered necessary. Similar treatment should be accorded the spaces for wall trees at the proper distances apart, cultivating the soil within a radius of 4 feet from the wall, forming a semicircle.

Drainage.—Drainage is a very important matter in soils where water collects in the subsoil within 4 feet of the surface. Means must be employed to carry it away in order that the ground may be rendered and continued suitable for the growth of healthy and productive trees. Tile drains are the most effective, main drains being of 4-inch core, and laid 3½ feet deep with a gentle fall to a proper outlet. The distance of main drains may be 24 to 30 feet apart, the minor or subsidiary pipes of 2-inch core, 15 to 20 feet, according to the nature of the soil, their depth being 3 feet, allowing them a sufficient fall and laying in a diagonal direction. Heavy retentive soils of a clayey character require the drains laying closer than in soils or subsoils of a more open nature.

Sites for planting fruit trees are often effectually drained by raising the prepared stations above the surrounding level, the trees occupying an elevated position when planted. This keeps the roots healthy and vigorous in a warm, comparatively dry, rooting medium. When this is inconvenient and water rises too high in the subsoil, a cross drain should run from the centre of each station, the depth of the latter being not less than 2½ feet. Over the tiles should be laid 6 inches of broken stones, large pieces at the bottom, small on the top, the whole being covered with a layer of turf grass side downwards before filling in the soil. Low-lying, water-logged positions that need draining are frequently not the best for fruit trees, because of their susceptibility to late spring frosts, and the liability to injury the essential organs of the flowers are exposed to during their full expansion at such times.

Obtaining and Selecting Fruit Trees.—The proper method of obtaining fruit trees is a matter worthy of the best attention. Very cheap trees obtained from unreliable sources are seldom to be depended on as regards correct nomenclature, quantity of fibrous roots, or clean healthy wood of a fruitful tendency. In establishing fruit trees much depends on the care the roots receive after lifting and consigning to their destination. Trees secured in a speculative, haphazard manner often prove dear in the end. Specimens of the best quality, true to name, vigorous in constitution, fruitful in character, carefully removed, and packed are recommended to be secured from absolutely trustworthy quarters, a matter of no difficulty when the trade advertisements are studied. Trees of medium strength, according to variety and size, well ripened, and freely supplied with fibrous roots, ought to be stipulated for. Two or three-year-old trees are naturally the most vigorous, and grow without difficulty from the first.

Planting.—When trees are received from nurseries they should be immediately unpacked, and the roots laid in between moist soil. If by chance they have become very dry it is a good plan to thoroughly soak the dry roots in water before laying them in. The fibres will under this treatment plump and freshen up. Prune away bruised ends smoothly. Before removing them for planting prepare the holes for their reception, which may be about 9 inches in depth, and of considerable width, so as to admit of the roots being spread out to their full extent. Arrange them in layers, introducing some fine loamy soil between them, spreading it outward from the stem, this not turning up the rootlets in a wrong direction. Make the soil firm about them. The upper layers of roots may be about 3 or 4 inches below the surface when finished. Stake and tie each tree securely, and mulch the surface as far as the roots extend with half-decayed manure.

FRUIT FORCING.

Vines.—*Earliest Vines in Pots.*—Owing to the thick, shrunken, and lost-colour skin, firm and raisin-like flesh of high quality, late Grapes kept till April, some Grape lovers do not appreciate them, but desire fresh, plump, glowing in colour and bloom, juicy, thin-skinned berries early in the season. In this case it is necessary to start the Vines in November, so as to have ripe Grapes at the close of March or early in April, and it is better to take the early supply from Vines in pots than to start the permanently planted Vines at a very early period. Vines in pots of such varieties as White Frontignan, Foster's Seedling, Black Hamburgh, and Madresfield Court produce fruit little inferior to that of others planted out, and often better than is produced by those not having the roots confined to inside borders.

Success in early, indeed any, forcing depends on the varieties, the development of the growth, and its perfect maturation in the season preceding. The canes, therefore, must be strong, thoroughly ripened, and duly rested. Bottom heat is not absolutely essential, but it is a great aid to success; and where there is convenience for affording it the materials—that is, tree leaves and stable litter—should be in course of preparation. The heat to begin with must not exceed 65° about the pots, augmenting it by bringing up the fermenting material to the level of the pots by degrees, so as to raise the temperature to 70° to 75° when the Vines are in leaf. We advise the pots to be stood on pillars of loose bricks. Let the canes be suspended over the fermenting materials in a horizontal position to induce the buds to break evenly. The soil should be moistened through to the drainage, and kept so, but it must not be made very wet, or the root formation and growth will not be satisfactory. Sprinkle the canes three times a day, and damp every part of the house at the same time in bright weather. In order to induce regularity of starting a somewhat higher temperature is necessary at this period than after the turn of the days, 50° to 55° at night, and 60° to 65° by day is not too high to begin with.

Vines in pots not intended for early forcing should be placed under cover, an open shed with a north or cool aspect being suitable, and the pots protected against frost in severe weather, for the Vines may be injured or destroyed by the soil becoming frozen.

Early Forced Planted-out Vines.—Those for affording fruit at the close of March or beginning of April must be started at the commencement of November. Have the inside border properly moistened through down to the drainage, not saturating and making the soil sodden, and if the Vines are weakly supply liquid manure or a top-dressing of the advertised chemical manures and wash in moderately. This will enrich the soil and conduce to a good break by the increased food supply taken up with the soil moisture. If the border or floor of the house is covered with leaves and litter in a state of fermentation, occasionally turning the material and adding fresh, the moisture and warmth, also the perceptibly ammonia-charged atmosphere, are very beneficial to the Vines, and make a considerable difference in the fuel used. The outside border must have a covering of leaves, litter, or fern sloping from the house outwards, and be covered with spare lights, shutters, tarpaulin, or thatch, so as to throw off the rain or snow. Fermenting material is not indispensable for placing on outside borders, but the warmth, if it can be maintained, is a great aid in keeping the roots active near the surface. Outside borders, however, are great mistakes for Vines that are forced early year after year.

Vines for Starting in December.—The Vines started at the beginning of that month will afford ripe Grapes in April if of the early or Sweet-water section, such as Black Hamburgh, Mill Hill Hamburgh, Foster's Seedling and Buckland Sweetwater, also Madresfield Court, an admirable early forcing variety, but Muscat of Alexandria will not ripen until the close of May or early in June, and to do well requires a house to itself, and the border wholly inside. Prepare the house for starting, the Vines being pruned when the leaves have fallen, as it contributes to early and complete rest, besides the sap is not wholly at rest in the winter season; indeed there is no such thing as rest in Nature, the term, as used in horticulture, being purely a necessary but convenient convention, as the sap moves more or less and the buds profit accordingly, showing it by afterwards starting strongly through the preparation induced by early pruning. In pruning, two buds are mostly sufficient to leave for affording compact bunches of Grapes. Longer pruning may be practised when the Vines are required to give fewer and larger bunches, for it does not answer to allow as many bunches on a Vine as of medium sized.

Large bunches are, as a rule, loose, irregular in size of berry, and do not finish satisfactorily; medium sized bunches are more regular in form and size of berry, and finish well. If the buds at the base of the shoots are not plump, three eyes may be left, but this requires frequent renewal of the spurs. The Vines should be stripped of loose bark, in fact all that can be removed without peeling them or injuring the live bark, and be washed with carbolic softsoap, 2 ozs. to a gallon of water. This is all that is necessary where the Vines are free from insects and where there has not been any scale or mealy bug, but with infection from these and red spider, an insecticide should be used or the carbolic softsoap employed at double strength. The woodwork must be thoroughly cleansed, if necessary painted, and the walls limewashed. If fungus pests have been troublesome dress the Vines with a solution of sulphate of iron, 1 lb. to a gallon of water, using it over the cuts or wounds made in pruning, and a handful may be added to each pailful of limewash.

Remove the surface soil down to the roots, and supply fresh lumpy loam, with a sprinkling of bonemeal and wood ashes intermixed, about

half a pint of bonemeal and a quart of wood ashes to each bushel of loam, or use the advertised fertilisers according to the directions. Though a somewhat dry condition of the soil is desirable, the border must not be allowed to become parched and cracked, affording water if necessary, but not saturating the soil to the extent of making it sodden. Keep the house cool, admitting air freely except when frost prevails. If the house is occupied with plants employ fire heat only to exclude frost.

Houses of Ripe Grapes.—A temperature of 50° artificially is most suitable, losing no opportunity of admitting air when the days are fine, turning on the heat in the morning, so as to cause a gentle warmth in the pipes, and so expel damp, turning off the heat about midday, or soon after, to allow the pipes to cool and the temperature at night not to be kept above 50°, even less on cold nights, but a slight warmth in the pipes will prevent the deposition of moisture on the berries and preclude "spot," inasmuch as the moisture will be condensed on the glass instead of the Grapes. A low night temperature causes the moisture present in the atmosphere to be rapidly condensed on the Grapes in the early part of a fine day, when the heat is not turned on early and air admitted, the sun heating the atmosphere much quicker than the Grapes. This must not be overlooked, and during the prevalence of dull weather it will be necessary to keep a gentle warmth in the pipes, the ventilators closed or nearly, yet there will be a circulation of air, causing the moisture to settle on the glass, thereby preserving the Grapes from damp.

Vines Ripening the Wood.—Vines not yet firm in the wood, the foliage quite green, and the wood not brown, should have the laterals closely pinched, bringing them down by degrees to the principal buds, which will have a tendency to promote maturity by admitting more light, especially if air is admitted freely at night, but with the exclusion of frost, the house being kept rather warm by day, yet not close, as that would have a tendency to induce growth. When growth in the laterals is checked the shoots may be shortened to a few leaves above the pruning buds. This will assist the basal buds to plump and the wood to ripen, a gentle warmth being kept in the pipes and air freely admitted.

Pines.—New beds are usually prepared at this time of year for the reception of young plants. Tan is unquestionably the best material, the heat being more regular, and retained longer than any other. Beds formed of it should not be made firm, but put together lightly. Oak or Beech leaves are good for furnishing bottom heat over a lengthened period, and a good substitute for tan. Collect the leaves as dry as possible. In forming beds they should be pressed firmly, so that they may not sink too much, and also to regulate the heat, preventing it from becoming too violent and soon expended, instead of giving a regular warmth over a lengthened period.

Young plants must be afforded liberal ventilation whenever the weather is favourable, avoiding too much moisture in the houses or pits, as overdamping, keeping the atmosphere constantly saturated, is more injurious than beneficial at this time of year. Examine the plants once a week for water, supplying as required, for dryness at the roots stunts the growth, and is very pernicious, as the plants seldom, if ever, make free growth afterwards.

Fruiting plants should have a night temperature of 70°, 65° in cold weather, 75° by day, rising to 85° from sun heat, losing no opportunity of closing at 85°, and affording genial surroundings by damping the paths and walls when they become dry. Retain one sucker only to each plant, removing all others. Any suckers appearing on successional plants before the fruit is visible should be removed, except an increase of stock is urgent, when one or more may remain, but it is not a good practice, as the fruit is more or less prejudiced by the suckers.

Cucumbers.—The autumn or early winter fruiterers are now in full bearing. The plants must not be overcropped, therefore cut the fruit when it becomes of useable size, also remove all ill-shapen and surplus fruit. Go over the plants once a week at least and remove all bad leaves, stopping and tying the growth, laying in no more wood than can have full exposure to light, cutting away the superfluous shoots. Winter fruiterers do best if allowed to extend well up the trellis before stopping them, removing all side growths on the stem up to the trellis, and train the growths right and left of the stem, not too closely, as well-developed foliage is very important. Remove all male flowers, and cut off tendrils as they appear. Add fresh, warmed soil as often as the roots have fairly covered the sides of the ridges or hillocks, and if they need vigour, or are pale in colour of the leaves, use a little soot, and an occasional dusting of the bed with a little superphosphate will tend to improve the substance of the whole plant.

Maintain a temperature of 70° on mild, 65° on cold nights, 70° to 75° by day artificially, advancing to 80°, 85° or 90° with sun heat. Admit a little air at the top of the house on all favourable occasions, but avoid admitting cold air and never lower the temperature. It is better to shut off the top heat for a few hours when the sun is powerful than to ventilate the house when the wind is very strong or cold, for it dries the air and causes a chill. The plants will not need syringing except on very fine days, when a light damping is beneficial, but the paths and other available surfaces should be damped in the morning and afternoon, and on bright days shortly after midday, keeping the evaporation trough charged with liquid manure. The water given to the roots must be of the same temperature as the bed or the mean of the house, and be supplied whenever the soil becomes dry, not allowing the foliage to become distressed or to flag; but before that becomes limp afford a thorough supply of that element or weak warm liquid manure. The soil used for covering the roots should be had inside some time to be warmed before placing it over the roots.

PLANT HOUSES.

Begonias.—Such Begonias as *manicata* and *hydrocotylifolia* must be removed from cold frames, for they are too damp for them, and if allowed to remain much longer their large foliage will be injured. They will do very well for some time in a cool house provided the air is kept dry and the plants watered with care. While under these conditions they should be kept rather dry, but not to such an extent as to injure their roots. No more water should be thrown about the house than is necessary when the plants are watered, which should be done in the morning. After a spell of dull days it may be necessary to use a little fire heat in order to expel moisture from the atmosphere.

Celosias.—The majority of the stock prepared for autumn and early winter decoration will be sturdy plants with their plumes well developed, unless they have been hurried in their last stages. When necessary to push them forward in heat they soon run up tall, and are soft, which necessitates great care when they are removed to cooler quarters. Plants in this condition must be screened from cold draughts, or their foliage will fail, and if overwatered they quickly damp off. Those brought forward under cool conditions are far less liable to suffer from damp. These will be safe in any structure where the night temperature does not fall below 50°. When they require water apply it only in a tepid state. If any of these plants were in a backward condition, grow them close to the glass in a temperature of 60°, with a good circulation of air day and night, which will prevent their lengthening too quickly.

Cyclamen.—When it is necessary to keep these plants in cold frames for some time longer they must be watered with care and freely ventilated, or the foliage is liable to become spotted, and the flower buds to damp off. Where practicable remove them to a light airy structure, where the atmospheric conditions can be regulated to suit them. The main stock of these plants will not require any artificial heat for some time to come. If a few plants are required in flower remove the most forward to a shelf close to the glass, where a temperature of 55° is maintained. Give a little air day and night to prevent the foliage drawing. Water carefully, but do not allow them to suffer by an insufficient supply. Weak stimulants may be given to all that have filled their pots with roots.

Heliotropes.—Plants that have been grown outside and housed some time ago will soon come into flower in a temperature of 55° to 60°. If they are to continue flowering they must be kept in the latter to keep them growing; if they once stop growing they will also cease flowering. Place young plants that are now rooted into 3-inch pots, and grow them on a shelf for a time in an intermediate temperature until they are well established, then harden them, and place on a shelf where the temperature is about 45° at night. Cuttings for early spring flowering may still be rooted, but they must be encouraged to grow until they have formed three or four shoots.

Petunias.—Petunias established in small pots before the winter are invaluable for flowering early in the season for conservatory decoration. Cuttings rooted at once and left in the pots will yield plenty of good cuttings early in the season for succession, and are much better and easier managed than old plants.

Fuchsias.—Those that have flowered may be gradually dried and placed in a cool airy house to rest; a shed will do very well. Others that have been outside for some weeks since they ceased flowering may be dried and given the same position. Do not store them away in a wet condition. Place those that were rooted some time ago into 3-inch pots, and store them on a shelf where they can be kept slowly moving during the winter. Others just rooted may be placed into thumbs, and when established give the same position as for those in 3-inch pots.

Shading.—All shading should by now have been removed, the blinds being taken off the houses, dried, and stored for the winter. The shading that has been employed over Ferns and cool Orchids will not be needed any longer. This year we have gradually dispensed with the shading much earlier than usual, and the plants look better for the admission of more light. When a good number of blinds are employed these should be labelled, stating to which house they belong and the side they are arranged for. This saves confusion when they are wanted again.

Protection for Chrysanthemums.—Where an attempt is made to have the flowers of these plants during January and February, it is important that they be left outside as long as possible. To insure their safety they must be protected from frost. Any rude lean-to or span-roofed structure will answer the purpose well. The pots may be plunged to keep them from being knocked in all directions by heavy winds. The sides of the structure can be protected with mats, and the top with canvas blinds. The latter can be drawn up early on fine mornings and the mats removed. During severe stormy weather they may be kept on. This light protection will be ample to protect them from injury until near Christmas, unless severe weather sets in exceptionally early. In some seasons they can be kept outside very late without the slightest protection, but one frost may upset the whole work of the season, and therefore it is necessary that provision for their protection should be made. It should not be used until an occasion arises. When the whole or nearly the whole of the plants are placed inside at one time the majority are in flower all at once, and do not therefore prove so useful as if brought forward in numbers according to the demand. With attention in this respect there is no difficulty in having a supply of these flowers until the middle or end of February. Place some at once where they can have tiffany placed over them at night in case of frost; it will be found that many of the plants can be kept outside fully a month or six weeks longer. This will make at least two or three weeks' difference in the time of flowering.

THE BEE-KEEPER.

APIARIAN NOTES.

HONEY PRODUCTION.

HONEY production of the finest quality that can be obtained ought to be the first consideration of bee-keeping. Renew the combs yearly; do not sell honey taken from combs containing pollen or which have been bred in. Honey of two kinds should not be mixed, as it does not keep so well, while if consumers prefer blends let them do that themselves. Bees never put two different kinds of honey in one cell, so particular are they in this respect. I never saw honey of two kinds in one cell, the nearest to it being after one kind was sealed over other cells were raised over them, and these latter cells filled with some other kind of honey.

Inferior honey creates a distaste for it after, causing honey to be unpopular and a drug in the market. Carniolans produce the finest honey and honeycomb, and are often the best honey gatherers. It is difficult to keep or get them pure, but when so they seldom or never disappoint. Punics, wherever they have been tried, have proved themselves excellent both in this country and in America, but their disposition to propolise lessens their favour.

Bee shows, like flower ones, have in a great measure defeated the object intended, more labour being expended to produce single fine specimens than to have the whole produce superior in quality. This could be enlarged on greatly, but let it suffice to inculcate the minds of every beginner to aim at high quality with the maximum of produce. Study well the difficulties to be contended; prepare to meet the emergencies, and it will surprise some to see how easy it is to overcome difficulties.—A LANARKSHIRE BEE-KEEPER.

FLOWERS FOR BEES.

AUTUMN flowers, with few exceptions, are now over, but there are still masses of Mignonette in full bloom, which have been a source of pleasure to the bees during the bright sunny weather experienced lately, many of the bees returning to their hives laden with pollen, showing that breeding is still in progress, and as the stocks are well provided with stores this should prove of advantage to them. Although the past few days have been fine the temperature has been much lower, and on the morning of the 17th inst. 5° of frost were registered, which cut off all the tender plants and flowers. These should all be cleared away, and the vacant places planted with spring flowering bulbs and plants. The sooner this operation is carried out the better, so that they may become established in their permanent places before severe frost comes. In all probability bulbs will have remained in the soil from previous years. This is a much better plan than lifting them annually, but if not it is not too late to plant them.

Winter Aconites should be planted by all bee-keepers and others who have the necessary space at command, as they are within the reach of all, being reasonable in price, and the earliest of the many spring flowers with which I am acquainted. They are admirably suited for planting in masses under trees and other shady places, and if not disturbed will form during February, or earlier in a forward season, a carpet of beautiful golden flowers, which will be appreciated by bee-keepers and all lovers of flowers, as well as by the bees.

Snowdrops, both single and double, should be planted in quantity, and if treated similarly to the Aconites will succeed in almost any soil or position. I prefer them planted on the grass, and, allowed to remain, they will increase rapidly, and if planted under trees the grass may be allowed to grow for a few weeks until the foliage of the Snowdrops has died down; the whole surface may then be mown with the machine and no harm will be done. If the foliage is cut down before the bulbs are properly ripened they will soon deteriorate. These are very useful to the bees, as they collect a fair amount of pollen from the flowers.

Crocuses of various colours are amongst the most showy of our early spring flowering bulbs, and if the colours are kept separate and planted as edgings to beds and borders or in masses on the grass and under trees will be much appreciated by all who are interested in beautifying their surroundings, and are usually in bloom in March. They are much visited by the bees, as they produce a great amount of pollen. Mice often play havoc with the bulbs, and will soon destroy a great number of them, but they are easily trapped.

Arabis alpina is a plant that should be grown by all bee-keepers, as it blooms profusely in the early spring, its masses of white flowers being very attractive. It may be planted as edgings to beds, or on the rockery, or allowed to remain without being disturbed for several years in borders and similar places. Bees

are very fond of this plant, and as it is in bloom when flowers are somewhat scarce, it should not be omitted from the smallest list. Limnanthes Douglasi, often called "The Bee Plant," is a dwarf flowering annual, and does not bloom until April. It forms a mass of primrose-coloured flowers which the bees appear to prefer to any other, but at that time of the year other flowers are somewhat plentiful, still a limited quantity of it should be grown.

Wallflowers are too well known to need any description. They are showy, sweet-scented, and should be grown in quantity, as bees work freely on them. They ought to be planted in masses, and are best treated as annuals as the plants are more compact and not as liable to be killed by the frost. If the weather is mild they will bloom more or less throughout the winter, but will be a mass of flowers in the early spring, and will continue for several weeks.—AN ENGLISH BEE-KEEPER.

TRADE CATALOGUES RECEIVED.

Dickson, Ltd., Chester.—*Forest and other Trees.*
E. P. Dixon & Sons, Hull.—*Tree Catalogue.*



* All correspondence should be directed either to "THE EDITOR" or to "THE PUBLISHER." Letters addressed to Dr. Hogg or members of the staff often remain unopened unavoidably. We request that no one will write privately to any of our correspondents, as doing so subjects them to unjustifiable trouble and expense.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Bee subjects, and should never send more than two or three questions at once. All articles intended for insertion should be written on one side of the paper only. We cannot reply to questions through the post, and we do not undertake to return rejected communications.

Vine Dying (A. D.).—The specimens will be examined, and a reply given in a future issue.

Crystal Palace Show (H. H.).—This show will be for one day only, not two, as has been published. The date will be November 2nd, which is a Saturday.

Aralia (Fatsia) Sieboldi (G. N.).—It is not the least uncommon for this plant to flower both in pots under glass and established in the open air. It has long been established in Battersea Park, and flowers freely there.

Wintering Seedling Begonias (One of the Ignorant).—It is not safe to leave tuberous-rooted Begonias in the ground all the winter, unless the soil is well drained and you afford sufficient protection, as that of ashes or cocoa-nut fibre refuse over them to exclude frost. The better plan is to place in slightly damp (not wet) earth or sand, and keep in a place safe from frost.

Good Pelargoniums (J. S.).—A dozen good Regal and Show Pelargoniums are—Regal, or hybrid doubles: Jeanne d'Arc, blush, dark blotch; Madame Thibaut, white blotched and marbled with rose; Maid of Kent, white spotted with rose; Prince Teck, scarlet suffused with purple; Queen Victoria, vermilion and white, dark blotches; Captain Raikes, crimson and purplish black. Large-flowering show varieties: Amethyst, purple and deep maroon; Chas. E. Pearson, scarlet and maroon; Illuminator, bright scarlet; Venus, white, light carmine spot; Maid of Honour, pink, dark blotch; Ruth, rose, white centre. Other good varieties in this section are Symmetry, Martial, Cromwell, Forester, Mountain of Light, and Constitution.

Blenheim Pippin Apple for Market (South Down).—One of the most experienced growers of Apples for market, who has tried this old favourite Apple, also most others, says the Blenheim comes into a bearing state earlier and produces fair crops of fine fruit on the English Paradise stock, but can scarcely be termed a good market Apple, as compared with some other varieties grown under similar conditions. It rarely produces a heavy crop, and the price realised does not compensate for the moderate crop borne. Amongst newer sorts that promise to be a great success on the stock named are Newton Wonder, Wealthy (excellent for dessert or cooking), Bramley's Seedling, Bismarck, Belle de Pontoise, and Sandringham. If dessert varieties are desired for sale Roundway Magnum Bonum, Egremont Russet, Improved Ashmead's Kernel, Baumann's Red Reinette, and American Mother succeed admirably on the Paradise, and the fruit sells well when ready for use. No mention is thought necessary of the older and well-known favourite market varieties, as you probably know them.

Thrips on Vines (*Inquirer*).—You ask for the best way of cleaning Vines in bearing from thrips. There is no better or surer way than sponging the leaves with Gishurst compound or other approved insecticide. Just before the leaves fall we should gather and burn them. Where Vines are seriously attacked the insects get into the bunches and spoil the fruit. When the Vines are pruned the rods should be thoroughly cleansed, also every part of the house and the plants in it, or you may have more trouble next year.

Fleshy Insects Feeding on Green and Black Fly (*W. W.*).—Of the three fleshy insects we only found one—a brownish leach-like creature—and that outside the box. It is the nearly full-fed larva of a dipterous fly belonging to the Syrphidæ, or hawk flies, which will soon turn into a pupa, and in that state pass the winter, emerging as a perfect fly in the spring. The female will then deposit eggs amid the aphids hosts, the larvæ from these will feed on the aphides, which they suck dry and then throw the empty skin away, proceeding to another, and so on until full fed. You will find much of interest in respect of useful insects in back numbers of the *Journal of Horticulture*, but we do not know of a work devoted to the subject.

Nectarines Quartering (*A. A. T.*).—The usual cause of Nectarines quartering is a deficiency of atmospheric moisture in the early stages of swelling up to and including stoning. The skin thus becomes hardened, and when the fruit swells for ripening the skin does not grow correspondingly with the flesh, and splitting ensues, generally at the apex, and as swelling proceeds the crack enlarges, sometimes so deeply as to expose the stone. The only remedy is more moisture both at the roots and in the atmosphere during the early stages of swelling and past the stoning process, and less moisture as the fruits approach maturity. Peaches are less prone to "quartering" because their skins are downy, and on that account not so liable to induration by an arid atmosphere as is the smooth and more sensitive skin of Nectarines.

Malmaison Carnation Leaf Diseased (*F. G.*).—The "rust" on the leaf is not *Heterosporium echinulatum*, *Cke.* (*Helminthosporium echinulatum*, *Berk.*), which is easily known by the minutely warted conidia; but it is a very poor condition of the rust fungus (*Uromyces caryophyllinus*), the spores being brown and much smaller than usual, which is probably due to the treatment with potassium sulphide. However, there is plenty of fresh pustules, and the spores in them much below the average size, so that the sulphide has some deterring effect, but not sufficient to prevent and destroy the fungus. Spray the plant with Condry's fluid diluted one-half with water, or use the pure fluid with a sponge. For further treatment see *Journal of Horticulture*, October 10th, 1895, page 357, under the side heading "Malmaison Carnation Infested with Rust Fungus."

Chrysanthemum Bloom Deformed (*H. P.*).—The bloom was much discoloured on the outside, which may be due to the jolting and knocking about in coming through the post, or it may have been caused before it was sent off, either by damp, fumigation, or vaporisation; but we cannot make out from your short letter what it is you wish to know about, and you certainly do not allude to the discolouration. It has arisen from one or more of the causes mentioned, there not being any fungoid growth. The malformation of the flower may be caused by aphides, which swarmed on the small buds at the base of the bloom, and in the bloom itself at the base of the florets. It is a great pity, as this ought to have been attended to before the flower buds expanded, so as to have the plants perfectly clean for flowering. We can only suggest fumigation with best tobacco paper or rolls, or vapourisation with nicotine; but unless very carefully performed it will discolour the flowers, therefore operate cautiously, and take care to have the blooms quite dry, using smoke, or vapour moderately on two or three consecutive evenings.

Blood from Slaughter House for a Vine Border (*Coat Bridge*).—The best way to use blood for Vine borders is as a top-dressing during growth, and it is best prepared by mixing the blood with wood ashes, which is most readily done when the blood is smelling freely from decomposition, forming a thick mortar-like mass, then place under cover, and coat with charcoal dust about an inch thick. Leave until spring or until dry enough for crumbling, then break up and apply, after making as fine as possible, and mixing the charcoal with it evenly at the rate of 4 ozs. per square yard (1) when the Vines are started, (2) when they are coming into full leaf, or just before flowering, (3) when the Grapes are a quarter to half grown. If you cannot get the wood ashes, thoroughly mix the blood with about 5 per cent. (5 lbs. of lime to 100 lbs. of blood) of its weight of dry, freshly slaked lime, and cover the mixture with a thin layer of lime. This combination, when dry, can be kept for a long time without appreciable change. Apply as before advised, after making quite fine. Loosen the surface a little after applying, and wash in moderately.

Grape Wine (*Housewife*).—A very good wine can be made from Grapes which do not attain their perfect maturity in the open air in this country. The fruit should be allowed to hang as long as it is likely to derive any benefit in the way of ripening, and when it is ready the bunches are to be gathered and laid carefully, so as not to bruise the berries. The berries are to be picked separately from the stalks, discarding all that are in any way decayed. Measure the fruit as it is put into the fermenting tub, and to every fifteen gallons of fruit add one gallon of soft water. Stir and bruise the fruit, and after standing for twenty-four hours, strain and press the fruit through a hair cloth or coarse canvas bag subjected to pressure. Now test the liquor by the saccharometer and bring up the gravity to 120 by the addition of sugar,

every pound of sugar raising the density 35 or 36. Let the whole be well stirred, and add one ounce of argol to every three gallons of must. Stir the must every day, morning and evening, and when the density falls to 80, and the fermentation becomes languid, the cask is to be bunged up and the wine bottled off in the month of March following. Argol can be had from chemists, and perhaps a saccharometer too, or from Messrs. Cetti, Glass Merchants, Lambeth.

Names of Fruits.—*Notice.*—We have pleasure in naming good typical fruits (when the names are discoverable) for the convenience of regular subscribers, who are the growers of such fruit, and not collectors of specimens from non-subscribers. This latter procedure is wholly irregular, and we trust that none of our readers will allow themselves to be made the mediums in infringing our rules. Special attention is directed to the following decision, the object of which is to discourage the growth of inferior and promote the culture of superior varieties. *In consequence of the large number of worthless Apples and Pears sent to this office to be named, it has been decided to name only specimens and varieties of approved merit, and to reject the inferior, which are not worth sending or growing.* The names and addresses of senders of fruit to be named must in all cases be enclosed with the specimens, whether letters referring to the fruit are sent by post or not. The names are not necessarily required for publication, initials sufficing for that. Only six specimens can be named at once, and any beyond that number cannot be preserved. *They should be sent on the first indication of change towards ripening. Dessert Pears cannot be named in a hard green state.* (*W. A.*).—Rotten. (*H. N.*).—2, Northern Greening; 5, Dutch Mignonne; 6, Yorkshire Greening. The numbers had become displaced from the remainder. (*J. M.*).—Golden Winter Pearmain. (*W. J. P.*).—1, Beurré Diel; 2, Marie Louise d'Uccle; 3, Warner's King; 4, Queen Caroline; 5, Dutch Mignonne; 6, Nelson's Codlin. (*C. W. P.*).—Possibly a small fruit of Verulam. (*W. Q. B.*).—1, Golden Reinette; 2, Hoary Morning; 3, Fearn's Pippin; 4, Cellini; 5, Possibly a small Blenheim Pippin. (*R. C.*).—1, There are two Apples grown under the name of Harvey's Wiltshire Defiance, and this is the better of them, but is not the older form described in the *Fruit Manual*; 2, almost certainly a local variety. (*G. G. K.*).—The small Pears were quite hard, the larger one is Flemish Beauty. (*J. W.*).—1, Dutch Mignonne; 2, Northern Greening.

Names of Plants.—We only undertake to name species of plants, not varieties that have originated from seeds and termed florists' flowers. Flowering specimens are necessary of flowering plants, and Fern fronds should bear spores. Specimens should arrive in a fresh state in firm boxes. Slightly damp moss, soft green grass, or leaves form the best packing, dry wool the worst. Not more than six specimens can be named at once, and the numbers should be visible without untying the ligatures, it being often difficult to separate them when the paper is damp. (*F. J. W.*).—1, *Tillandsia setacea*; 2, *Panax laciniatum*; 3, *Salvia rutilans*. (*C. P. F.*).—*Coccoloba platyclada*. (*Amateur*).—1, *Adiantum concinnum*; 2, *Asplenium formosum*; 3, *Adiantum trapeziforme*. (*R. B. R.*).—1, *Luculia gratissima*; 2, *Helleborus niger maximus*. (*J. W.*, *Howden Dene*).—1, *Abies amabilis*; 2, *Retinospora ericoides*; 3, *Abies Clanbrasiliana*; 4, *Cephalotaxus Fortunei*; 5, *Osmanthus ilicifolius*; 6, *Cupressus Lawsoniana aurea*. (*F. C. G.*).—Specimen totally insufficient.

COVENT GARDEN MARKET.—OCTOBER 23RD.

FRUIT.

	s.	d.	s.	d.		s.	d.	s.	d.	
Apples, per bushel	1	3	to	3	0	Filberts, per 100 lbs.	35	0	to 0	0
„ Nova Scotia, per						Grapes, per lb.	0	6	1	6
barrel	0	0		0	0	Lemons, case	10	0	15	0
„ Tasmanian, per						Peaches, per dozen	1	0	0	0
case	0	0		0	0	Plums, per half sieve	2	6	4	6
Oobs, per 100 lbs.	35	0		40	0	St. Michael Pines, each	2	0	6	0

VEGETABLES.

	s.	d.	s.	d.		s.	d.	s.	d.		
Beans, per bushe	1	0	to	2	0	Mustard and Cress, punnet	0	2	to	0	0
Bect, Red, dozen	1	0		0	0	Onions, bushel	3	6		4	0
Carrots, bunch	0	3		0	4	Parsley, dozen bunches	2	0		3	0
Cauliflowers, dozen	3	0		6	0	Parsnips, dozen	1	0		0	6
Celery, bundle	1	0		1	3	Potatoes, per cwt.	2	0		4	0
Coleworts, dozen bunches	2	0		4	0	Salsafy, bundle	1	0		1	6
Cucumbers, dozen	0	9		1	6	Seakale, per basket	0	0		0	0
Endive, dozen	1	3		1	6	Scorzonera, bundle	1	6		0	0
Herbs, bunch	0	3		0	0	Shallots, per lb.	0	3		0	0
Leeks, bunch	0	2		0	0	Spinach, bushel	1	0		1	6
Lettuce, dozen	0	9		1	6	Tomatoes, per lb.	0	3		0	4
Mushrooms, punnet	0	9		1	0	Turnips, bunch	0	3		0	0

AVERAGE WHOLESALE PRICES.—OUT

	s.	d.	s.	d.
Arum Lilies, 12 blooms ..	4	0	to	6 0
Asparagus Fern, per bunch	2	0		4 0
Asters (English) dozen				
bunches	4	0		8 0
Bouvardias, bunch	0	6		1 0
Carnations, 12 blooms ..	1	0		3 0
Chrysanthemum, dozen				
blossoms..	1	0		4 0
" doz. bunches	3	0		6 0
Dahlias, dozen bunches ..	2	0		4 0
Eucharis, dozen	3	0		5 0
Gardenias, dozen	2	0		3 0
Geranium, scarlet, doz.				
bunches	4	0		6 0
Lilac (French) per bunch	4	0		5 0
Lilium lancifolium, twelve				
blossoms	1	6		2 6
" longiflorum, 12 blooms	4	0		6 0
Lily of the Valley, dozen				
sprays.. ..	1	0		2 0

FLOWERS.—Orchid Blossoms in variety.

	s.	d.	s.	d.
Maidenhair Fern, doz. bchs.	4	0	to 6	0
Marguerites, 12 bunches ..	1	6	3	0
Orchids, various, dozen blossoms	1	6	18	0
Pelargoniums, 12 bunches	4	0	9	0
Primula(double), doz. spys.	0	6	1	0
Roses (indoor), dozen ..	1	0	2	0
„ Tea, white, dozen ..	1	0	2	0
„ Yellow, dozen (Niels)	3	0	6	0
„ Safrano (English), dozen	1	0	2	0
„ Yellow, dozen blossoms	0	6	0	9
„ Red, dozen blossoms ..	1	0	1	6
„ various, doz. bunches	4	0	8	0
Smilax, per bunch	2	6	4	0
Stephanotis, dozen sprays	2	0	4	0
Tuberose, 12 blossoms ..	0	2	0	4
Violets, dozen bunches ..	1	6	2	0
Violets Parme (French), per bunch	3	6	4	6

PLANTS IN POTS.

	s.	d.	s.	d.		s.	d.	s.	d.	
Arbor Vitæ (golden) dozen	6	0	12	0	Ferns (small) per hundred	4	0	to	6	0
Aspidistra, dozen	18	0	36	0	Ficus elastica, each	1	0		7	0
Aspidistra, specimen plant	5	0	10	6	Foliage plants, var. each	2	0		10	0
Chrysanthemums, per doz	6	0	18	0	Heliotrope, per dozen	4	0		6	0
Coleus, per doz.	2	6	4	0	Lycopodiums, dozen	3	0		4	0
Dracæna, various, dozen	12	0	30	0	Marguerite Daisy, dozen	6	0		9	0
Dracæna viridis, dozen	9	0	18	0	" Yellow "	9	0		18	0
Ericas, various, per dozen	9	0	24	0	Myrtles, dozen	6	0		9	0
Buonymus, var., dozen	6	0	18	0	Palms, in var., each	1	0		15	0
Evergreens, in var., dozen	6	0	24	0	" (specimens)	21	0		53	0
Ferns in variety, dozen	4	0	18	0						



ASPECTS OF HOME FARMING.

IF you would have good butter in the winter use no milk from a stale cow, avoid Swedes, white Turnips, much Cabbage, Kale, silage, linseed cake, or any food at all likely to impart unpleasant flavour to the milk. See also that the water is pure and fresh. Arrange to have a cow or two to calve at short intervals during the winter; let the food consist of the best meadow hay, crushed Oats, bran, and a moderate quantity of either Carrots, Mangold, Cabbage, or Kale. Withdraw the cows altogether from the pasture by about the end of October, and get them settled comfortably in the yards for the winter.

It is certain that cows turned out on pasture by day in winter sustain more or less harm. It may proceed no farther than a certain loss of condition, but cases of abortion, severe colds and coughs, and also the actual loss of valuable animals have followed such exposure. Very little nutrition is there in pasture herbage then, and if cows are as well fed in the yard and cow hovel as they ought to be they will not seek for food on a bare pasture, but will stand about listlessly by a hedge, wall, or building, often in mud puddles or pools of water, waiting to be let into the yard again. Worse, much worse than this, is the barbarous practice of keeping cows out on pasture in the winter to "clear up the fog," giving them only a scanty bite of hay once during the day.

Exposure to cold and wet, insufficient or improper food, the worrying and injury inflicted by the big strong cows on smaller, weaker animals, an unsettled condition by foolish turning out from snug yards into bleak pasture under the erroneous idea that the cows require exercise, all tend to hurtfully affect both the quantity and quality of milk. Depend on it close attention to every detail affecting the comfort and condition of the cows is the basis of successful butter making in the winter. It is admitted that the flavour and colour of midsummer butter are not to be had at midwinter; but, on the other hand, butter that is sweet, palatable, and wholesome may be always forthcoming.

The cause of failure, of butter having an offensive odour and flavour, alike unpleasant to smell and taste, may often be traced to the use of milk from stale cows. Strict orders have been given that the milk of one or more fresh cows should be reserved for the daily churning. As a rule, such orders have attention, but there are moments of carelessness when they are forgotten, milk or milk pails get mixed, and then the dairy-woman's efforts to make good butter are certain to fail. Many a time have we inquired why the butter of the day was bad. We have examined all the dairy implements, heard declarations of having done all that could be done, and have then turned to the cowyard for a complete overhauling of affairs there, winding up by seeing the cows milked, and the night milk taken to the separator. If the latter is always done the next butter will be sweet enough, and it is worth while making the milkmen understand that it is so.

The dairy herd of cows was a carefully selected strain of pure Guernseys, giving milk quite equal in richness to that of the best Jerseys, while the cows were decidedly more robust, of larger frames, and more vigorous constitution. By way of experiment some of the cows were crossed with a Shorthorn bull, and we were convinced that by such cross-breeding cows could be had with the best possible combination of beef and rich milk. But, on the whole, it is best to have two distinct herds—the one of pure Guernseys or Jerseys for the dairy, the other of any good breed for beef—in the south it may be Sussex or Devons, in the Midlands Herefords or Shorthorns, in the north Aberdeen Angus, Galloways, or the popular Blue Greys so dear to every Border grazier, just because he knows there's money in them.

In a letter received recently from a Cumberland estate agent we were told of a pair of Blue Greys, three years old, for which an offer of £40 apiece had just been refused, the owner saying he would not take less than £50 apiece for them. Of course they must have been well managed from the birth, but unquestionably breeding tells both for dairy and grazing stock.

(To be continued.)

WORK ON THE HOME FARM.

An abundant crop of acorns has been turned to account by collecting for winter use, taking care to have them picked up under the Oak trees on pasture first, as sheep and cattle are so fond of them that they pack themselves with them, and then we hear of cases of what is termed acorn poisoning. Yet acorns are both wholesome and nutritious, so much so that when they begin to fall we always withhold the crushed Oats from the "mutton sheep," as the flock is termed whence mutton is obtained for the household supply. They are certain to find enough acorns while they are falling, and afterwards they have them in the feeding troughs. The improvement in condition of the sheep having acorns is so remarkable that we always like to hold over some for them as long as possible.

Our addition to the "mutton" flock this autumn has been a few well-bred old ewes drafted from the breeding flock. They are quite healthy and in fair condition, but are losing teeth. Our object in reserving such sheep is to meet a special call from the household for fine flavoured mutton, which in these days of early maturity has come to be a rarity. The high colour and rich flavour so dear to the eye and palate of a connoisseur can only be had from old sheep, and for such sheep to be available they must be selected with care, well fed, and the mutton must be hung sufficiently long to insure perfect tenderness. In order that there is no mistake about this the carcasses should be cut up at the farm, the special joints labelled with the date of killing, and sent to the kitchen when ready with the date attached to them.

A selection of bacon hogs has been made, and they are now being fed specially for this purpose. We select them of different ages so as to avoid any crowding in the pickling room, and in the drying, for each of which processes a month is required by us, as we keep to the old, if slow, processes which have answered our purpose so long. We have to fill the bacon-room in the winter for the whole year's supply, and must have thorough pickling and drying to do this well. Oatmeal from Oats grown on the farm and separated milk is our dietary, both for porkers and bacon hogs.

METEOROLOGICAL OBSERVATIONS.

OAMDEN SQUARE, LONDON.

Lat. 51° 32' 40" N.; Long. 0° 8' 0" W.; Altitude 111 feet.

DATE.	9 A.M.					IN THE DAY.				Rain.
1895. October.	Barometer at 32° and Sea Level.	Hygrometer.		Direc- tion of Wind.	Temp. of soil at 1 foot.	Shade Tem- perature.		Radiation Temperature		
		Dry.	Wet.			Max.	Min.	In Sun.	On Grass.	
	Inchs.	deg.	deg.		deg.	deg.	deg.	deg.	deg.	Inchs.
Sunday .. 13	30.220	53.0	49.9	N.W.	52.0	56.4	47.1	63.1	38.4	—
Monday .. 14	30.069	51.3	48.2	S.W.	52.1	60.2	48.0	85.4	41.0	—
Tuesday .. 15	30.003	49.4	49.4	N.E.	52.1	62.0	43.6	77.2	34.1	0.193
Wednesday 16	30.117	48.9	47.2	N.	52.9	55.2	48.5	94.9	47.9	—
Thursday .. 17	30.504	43.7	40.9	N.	51.0	55.9	37.0	89.2	34.3	—
Friday .. 18	30.554	44.7	42.2	N.	49.4	55.8	36.2	74.4	31.3	—
Saturday .. 19	30.428	49.7	47.9	N.	49.7	52.8	41.9	56.2	36.7	—
	30.275	48.7	46.5		51.3	56.9	43.2	77.3	38.2	0.193

REMARKS.

- 13th.—Fine, but no bright sunshine
14th.—Fine, generally sunny; solar halo in morning.
15th.—Foggy early, the sun shining through it from ten to noon, overcast after; spots of rain at 4 P.M., and heavy rain in evening.
16th.—Showers early and overcast till 9 A.M., generally sunny after.
17th.—Almost unbroken sunshine.
18th.—Fine and frequently sunny.
19th.—Overcast all day.

An average week, but atmospheric pressure rather high.—G. J. SYMONS.

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Journal of Horticulture.

THURSDAY, OCTOBER 31, 1895.

POTATOES ANCIENT AND MODERN.

THE above might not inappropriately have formed the title of Mr. Arthur W. Sutton's most interesting lecture delivered last Tuesday under the auspices of the Royal Horticultural Society. Mr. Sutton is nothing if not thorough, and certainly he treated his subject exhaustively from the point of view he chose for his comprehensive exposition. This may be described as historical and scientific—a wise choice undoubtedly, having regard to the occasion and the character of his audience. The lecturer recognised that most of those to whom he spoke were sufficiently acquainted with the routine in its various aspects of Potato cultivation, and were also generally acquainted with most of the leading varieties, and therefore took a different standpoint. He went back as far as he could to the origin of the Potato, and noted its progress and developments during a period of more than 300 years, for he commenced with the probable introduction of the Potato from Virginia by Sir Walter Raleigh in 1586, and ended in 1895 with experiments at Reading, in which the growth of the Tomato above ground was made to nourish Potato tubers within it; and conversely the roots of the Tomato made to produce tubers in the axils of the leaves of the Potato stem which those roots supported.

The lecturer was, as might be expected, up to date in another respect—namely, in teaching through the eye with the aid of lantern slides, as well as orally. First, and fittingly, came the portrait of Gerarde, which forms the frontispiece of his famous "Herbal." The old author holds in his hand a spray of a Potato plant bearing flowers and berries, and the fact that he preferred being portrayed with it seems to indicate that he regarded the then new introduction (1587) of more than ordinary importance; and in all probability Gerarde was the first cultivator of the Potato in England. Where he cultivated it is not exactly known, but it is approximately suggested by one of his letters to his patron, Lord Burghley, dated "From my house in Holborn, within the suburbs of London, this first of December, 1597." The late Mr. G. W. Johnson, after close research, believed that Gerarde's house and garden were

about where Ely Place and Hatton Garden are now. In his letter to Lord Burghley, Gerarde wrote, "I have added from forreine places all the varietie of herbes and floures that I might in any way obtaine. I have laboured with the soil to make it fit for plants—what my success hath beene I leave to the report of them that have seen your lordship's gardens and the little plot of myne owne especiall care and husbandry." Lord Burghley's garden referred to is now occupied partly by Burghley and Cecil Streets, Strand.

But Gerrard, as his name was spelt in the lease dated 1604, obtained another garden under specially favourable conditions in recognition of his "singular and approved art, skill, and ministrie in planting and preserving of plants, hearbes, flowers, and fruit of all kinds." This garden of two acres adjoined Somerset House, Strand, and was secured from "Anne, Queen of England, for the sum of five shillings by way of a fine, and at an annual rent of four pence, for the term of the Queen's life and for 21 years." This was 2d. an acre. What a marvellous change has been wrought since then. Could the two acres of land be now obtained for 2d. an inch?

It may be presumed that Gerarde would thus grow his precious plants in the Strand garden, but not for long, as he died about five years after the lease was signed; still he might have continued enough to disprove the ancient fallacy, which he cites as follows:—"Bauhine saith that he heard the use of these roots was forbidden in Bourgoundy for that they were perswaded the too frequent use of them caused the leprosie." After Gerarde's death there was prejudice enough against them in England, and the best that a learned committee of investigators could say about Potatoes was that they might possibly become useful as food for swine. Truly, as Mr. Sutton observed, the portrait of John Gerarde, who was in his fifty-third year when it was taken (see fig. 64) "suggests many thoughts."

The progress made by the plant has indeed been remarkable. The lecturer traced this progress, showing on the screen many original forms as introduced from their native habitats, describing their characteristics, and noting the experiments that have been made with different species from time to time during recent years, but without anything substantial accruing. Even the Coast plant, *Solanum Maglia*, from which much was hoped in strengthening the race and imparting innate disease-resisting power to varieties, has so far failed.

After applying pollen from cultivated varieties to hundreds of *Maglia* flowers only two seedlings were raised, and one of them died from inanition. The other, though a marked improvement on the type, is the reverse of disease-proof, and in other respects much inferior to our best established varieties. It seems clear, then, that going back to Nature is not the nearest way to improve our Potatoes; still, it is not the less desirable that those who have the means should test the various propositions that are advanced from time to time for the purpose of eliciting information in the public interest.

In contrast with the ancient types came examples of the modern forms of Potatoes. To adopt the simile of a writer last week in a reference to fruit, the change was as if from barbarism to civilisation at a bound, for now were displayed splendid examples of the Reading introductions, chiefly raised by the late Mr. Clarke of Magnum Bonum fame, but two by Mr. Robert Fenn. Ten varieties were shown—namely, Sutton's A1, Harbinger, Ringleader, Windsor Castle, Supreme, Triumph, Early Regent, Satisfaction, Magnum Bonum, and the Sutton's Flourball. These were triumphs of Art over Nature, and formed a fitting finale to the utilitarian part of the proceedings.

But the lecturer had an interesting addendum, previously alluded to. A Tomato and Potato alliance was thrown on the screen. A tuber was planted in a pot on March 22nd, and when from 4 to 5 inches high the plant was cut off half an inch from the level of the soil, and a graft of a Tomato plant introduced on

May 8th. The result of this has been that the Potato, nourished by the Tomato plant above ground, produced a crop of Potatoes in the pot, as was seen in the picture; and also the plant above ground produced a fairly good crop of Tomatoes, nourished by the Potato roots in the pot.

The same process was also shown reversed. The Tomato plant was cut off half an inch above the surface, and the Potato graft introduced. The Tomato roots did not produce Potatoes, but the Potato plant above ground produced one truss of flowers and seven berries, and in order to extend this somewhat interesting experiment, the Tomato flowers have been fertilised with Potato pollen, and the Potato flowers with Tomato pollen for further experiment next year. The photographs were taken on August 14th, but on looking at the plants recently it was found that two of the Potatoes growing on Tomato stalks appeared suddenly to be aware of the fact that, although producing flowers and berries, they had not yet produced tubers, and it being "never too late to mend," they have, as was seen in other slides, produced tubers from the axils of the leaves and stems.

Mr. Sutton was followed with the closest attention throughout his entertaining and attractive discourse.

LILIUMS HARRISI AND EXIMIUM.

THE cultivation of these *Liliums* has increased enormously of late years, and the blooms have for wreath making and other decorative purposes superseded those of many other flowers. No doubt those who live in the more favoured parts of the country and can plant largely outside have a decided advantage, financially, over those who have to grow all their bulbs in pots or run some risk when planted outside.

For the very earliest supplies it is incumbent on cultivators to pot the bulbs directly they arrive. To forward them as much as possible the pots containing them should be placed in frames kept close until the plants appear above a covering of 2 inches of cocoa-nut fibre refuse. This covering at the time of potting saves watering the plants until they reach this stage. The covering material should be removed and the plants grown afterwards in a light but airy house. They may be forwarded considerably between this stage and the time when the buds are being formed by giving gentle warmth and plenty of air. No attempt at forcing must be practised until the flower buds can be felt at the extremity of the plants, when a closer and more confined atmosphere may advantageously be maintained. Such conditions often mean an attack of aphides, but this must be overcome by fumigation.

It is a decided advantage to have a good early batch, because under careful treatment they push up again afterwards, and flower very well standing outside, the second crop of flowers practically paying for the labour of growing them in the first instance, and any fumigating material that may be needed as well; in fact, *L. Harrisi* will often flower equally as profusely the second time and as early as the old *longiflorum* planted outside, or even grown in pots and not subjected to forcing.

From the earliest received bulbs a second batch for pot culture should be preserved. Now how are these best preserved for pot culture? We have tried several methods, and find that they do not keep well in the dry condition in which they are received; they shrink, and do not thrive so satisfactorily afterwards. They are best kept in cocoa-nut fibre refuse and placed under cover in a cool shed, or any northern position that will not induce growth. The formation of roots, if possible, must be avoided. Under cool, airy conditions in a shed the bulbs remain dormant for a considerable time, and the little moisture the cocoa-nut fibre refuse contains keeps them from shrivelling, and no injurious results follow. These, when potted and subjected to cool treatment, or a portion forced as occasion may require, will form a capital succession to those started early and gently forced into flower.

Where these blooms are needed in fair quantity for market purposes, a large house divided into three or four compartments may be devoted to their culture. One division after another may be planted as the others appear above the soil. The divisions could be planted one after the other by retarding on the principle advocated for pots, or two could be planted with *Harrisi* and the other two with *L. eximium* for succession. The latter cannot be obtained much before Christmas. With this variety and *Harrisi* there is no occasion to grow the old and poorer variety of *longiflorum*. This kind, however, I have found very useful for outside planting.

When grown in beds planted out in the houses good drainage should be provided and a thin layer of decayed manure placed over the drainage; 4 inches depth of soil will then be ample—2 inches under the bulbs and the remaining 2 inches to cover them. When the growths show flower weak liquid manure may be given, or, better still, a little chemical manure applied to the surface and washed in when watering; two small applications will be ample. One advantage in growing them in beds in preference to pots is the greater number of plants that can be accommodated in the house; the labour of potting is saved; the cost of the pots and the watering comparatively speaking is reduced to a minimum. They are not only more easily managed, but on the whole give better results. The bulbs when planted out inside should be placed 6 inches apart.

We have found *eximium* and even the old *longiflorum* prove remunerative when potted as late as possible, kept in a cool temperature until they could be plunged outside in beds of ashes or even ordinary garden soil. Under these conditions the pots have been plunged in cocoa-nut fibre refuse, and all watering and feeding done from the surface. When first plunged slight protection is needed until the plants are thoroughly hardened and the approach of genial weather. When the pots are plunged in this manner watering is not a serious matter, and the plants root very freely into the material, and thus become half independent of roots in the pots. The plants root freely amongst cocoa-nut fibre refuse, which we prefer to short manure. To the former plant food can readily be applied either on the surface or by aid of the water pots.

These *Liliums*, including *Harrisi*, can be successfully grown outside for market purposes in favourable localities, especially where the soil is moderately light and well drained. The earliest bulbs of *Harrisi* are too early for planting outside in many localities, because if the autumn proves very favourable—moist and warm—they appear above ground, and are liable to injury. As long as they remain beneath the ground no injury appears to result. To attain to the most certain success the bulbs should be retarded on the principle described, and only planted when their condition renders it necessary. Planting should not be delayed after they start growing. These early planted bulbs must be placed at least 4 inches below the surface of the soil, and during all ordinary winters will be perfectly safe. *Liliums* are much hardier than many people suppose; but to be doubly sure, we have covered the beds containing them with litter during very severe weather, and failing this have scattered fine ashes over the surface of the soil to the depth of 2 inches. We have also used short manure, cocoa-nut fibre refuse that has been removed from the houses, and even sawdust. These covering materials can be raked off towards the spring, say in February, when all fear of severe weather is past, or when we may naturally look forward to more genial atmospheric conditions.

The other two kinds named may be planted out with a greater degree of certainty because they do not arrive so early, and therefore do not start into growth so soon. We have planted both *longiflorum* and *eximium* a few days before Christmas and good results have followed. Again, the latter variety has been planted in February and equally good growth and bold flowers have followed. The bulbs had been stored in an old frame and covered with cocoa-nut fibre refuse, and severe weather came on before they were planted. The frame was covered during severe frost with litter, and February had well advanced before the ground was suitable for planting. The bulbs had rooted freely and commenced top growth. Extra care was needed both in lifting and in planting, but they did even better than some bulbs that had been planted previous to the commencement of growth and approach of severe weather.

When grown outside in smoky districts, especially near large towns, the blooms are liable to injury. It is almost impossible, without protection, to keep them as pure as market florists require them. A heavy rain will stain them, and heavy dews will bring about the same results. Great attention is also needed in the removal of the pollen from the stamens, or a heavy dew or slight rain spoils the work of the season and renders the blooms unsaleable.—O. M.

HARDY FLOWER NOTES.

THOSE who wish to have their gardens to present something of beauty and interest at all seasons, not only with tall plants but also with those of lower stature, will not cavil at one's speaking so often of the *Crocus*, especially of the species which flower when autumn is far advanced, and, while it is well to call attention at times to the rarer ones, it is well to speak also of those which can be easily procured at a moderate price. Thus I desire to say something about *C. zonatus*, one of the most pleasing, easily grown, and moderately priced species. Very pretty is it as it opens out to the sun with its orange coloured bearded throat, and its rosy-lilac segments, which are veined in the inside with clear purple lines,

and having at the base two semicircular orange spots giving the appearance of a zone. The anthers are white, and the filaments yellow. The leaves appear afterwards, and have the keel only a little narrower than the blade. *C. zonatus*, which comes from Cilicia, north of Tarsus, was discovered by Balansa in 1855. It has flowered relatively later than usual, as it should flower earlier than *C. iridiflorus*.

From the *Crocus* to the *Snowdrop* is an easy transition, and it may be interesting to note that the first *Snowdrops* to appear here this autumn have been *G. corcyrensis*, or one bought some two or three years ago under that name; and one received from a firm on the Continent in 1893 as *G. montanus*. I observed a few days ago a note in a contemporary stating that at Baden Baden *G. Olgae*



PORTRAIT OF
JOHN GERARDE,
PREFIXED TO THE 1633 EDITION OF HIS
"HERBAL."

FIG. 64.—BORN 1545 AT NANTWICH, IN CHESHIRE, AND DIED AT LONDON IN 1611-2.

Reginae appeared to be about three weeks earlier than *G. octobrensis*. This does not seem to be the case here, as neither of these are above ground here, while *G. "corcyrensis"* and *G. "montanus"* were well advanced on October 4th. I am putting these names within inverted commas, as there seems so little difference, that so many names among these autumn *Snowdrops* are superfluous and confusing. They do well here in the light sandy peat soil, and are always welcome when they come.

There is a charming little biennial *Androsace* still in flower, which is not as yet too widely grown, although it is neat enough and pretty enough to please the most fastidious grower of Alpines. This is *A. coronopifolia*, which is said to be synonymous with *A. septentrionalis*; if so, the latter name, which is distinctly more difficult to pronounce, must have the preference, as it is the one given in the "Kew Hand List." The pretty lanceolate leaves are serrated, and the small pure white flowers, with a touch of yellow at the eye, are produced on slender stems about 6 inches high. It may be treated as an annual or biennial, but is practically as good as a perennial, as it sows itself, and soon increases in light soil in the rock garden.

Looking at the garden in detail ere drawing these notes to a close we find many other plants still lingering on or giving a second growth. The old double white Rose, which a tradition in this part of Scotland says was worn as a badge by Prince Charlie's troops in his march south, has come into flower for the second time—a most unusual occurrence. If there is any truth in the tradition this

white Rose would for long be held in ill-repute in my native town, which supported the Hanoverian dynasty, and was heavily mulcted for so doing by the Prince on his way back to the North. Happily these days are over, and we can enjoy these double white flowers come at what season they may. *Gypsophila paniculata* lasted in flower until into October, and proved valuable in many ways. *Rudbeckia speciosa* and *sub-tomentosa* were fine, with their orange or yellow blooms with dark centres. *Helianthus giganteus* struggled against the gale, and although it came off second best still furnished a few welcome blooms, small though they are compared with the stature of the plant on which they grew.

The great Moon Daisy, *Chrysanthemum uliginosum*, like the "Giant" Sunflower, is too tall for such weather, and suffered too. Still, a few fine days would revive it much, and give us the welcome blooms in fair condition. *Androsace lanuginosa* was in bud and bloom too, with its silky foliage attractive as ever. *Linarias alpina* and *anticaria* were flowering also, and *Achillea argentea* was pretty with its silvery leaves and white flowers. *Hypericum napalense* was fine also, with its golden flowers and pleasing green leaves. *Godetias*, *Calliopsis*, Sweet Peas, and other annuals aided these and other perennials to give some brightness, although it has been sadly obscured by the weather. Daily this brightness shall grow dimmer still, until a few Crocuses and Snowdrops shall be prized amid the dark days of the passing year.—S. ARNOTT.

COOPER'S BLACK AND GROS MAROC GRAPES.

WHETHER rightly or wrongly, in dealing with the particular examples before them, it seems that some judges at Scottish shows regard the two varieties of Grapes named as synonymous, and disqualify when they are shown as distinct. One instance of this is mentioned by a correspondent ("Rusticus"), who writes to us as follows:—

"At the last Dundee show the judges thought it proper to disqualify an excellent exhibit of four bunches of Grapes in four varieties—namely, Gros Maroc, Cooper's Black, Black Alicante, and Muscat of Alexandria, grown by Mr. James Besant, gardener, Castle Huntly, Longforgan, Perthshire, on the ground that Gros Maroc and Cooper's Black are the same Grape. I have had Gros Maroc and Cooper's Black under my charge, and grown side by side, and find them quite distinct. Gros Maroc shows its bunch at the second leaf, so close as in many instances to render it impossible to get a piece of wood cut with the bunch. In Cooper's Black I find the bunch at the fifth and sixth leaf, oftener at the latter. I also find it to ripen twelve to fourteen days earlier than Gros Maroc. It would be interesting to have the opinions of experienced Grape growers on this subject, which is an important one."

[We have had Grapes sent to us under the name of Cooper's Black that were undoubtedly Gros Maroc, but this does not prove that all which are grown as Cooper's Black are also synonymous. A very experienced judge tells us that he has seen Cooper's Black exhibited in Scotland more closely resembling medium-sized bunches of Gros Guillaume (incorrectly named Barbarossa) than Gros Maroc, which he knows very well. "Cooper's Black" is never seen exhibited in the south of England. We shall be glad to receive expressions of opinion from gardeners who have grown the two alleged varieties, also to receive a typical bunch, with wood and foliage of both, from "Rusticus," or elsewhere. We know something of the history of Gros Maroc, but nothing about the origin of Cooper's Black, and should like to arrive at the truth in the matter of correct nomenclature.]

HEAD GARDENERS v. HEAD WORKING GARDENERS.

UNDER this heading we have, or are supposed to have, two distinct types of the British gardener; but however clearly defined in past times the line of demarcation may have existed between the two classes, we may from present evidence draw conclusions that the hand of Time is busily erasing the dividing line. We may, moreover, dare to predict that it will soon cease to exist.

Those who note the rapid march of events are cognisant of the contemporaneous causes leading up to this effect. Some few there are, perhaps, to whom the consideration of these or similar matters is of but little or no importance; for self-satisfaction is a most comfortable garment, difficult to penetrate either by shafts of argument or convincing proofs. But gardeners, like their work—gardening, must not stand still. There is no stopping place but for those who would be left behind. Yesterday the stage coach was sufficient, to-day the steam carriage hardly suffices, to-morrow

electric propulsion will be necessary—and then? Why, then, wheels must give way to wings; and so must we—gardeners—travel on parallel lines.

Yet we do not part with the past (our past) without a pang of regret, and it is just possible that, although compulsion leaves no choice, progress is not always nett profit. Some, at least, would gladly retain a little of the old order of things wherewith to leaven the new. There was a quiet dignity displayed by those grand old gardeners, those of them, at least, whose style and title was that of "head" without the qualifying adjective "working" in conjunction with it.

There is, too, just a little envy, pardonable I hope, in comparing the head gardener of the past with the head gardener of the present. For the benefit of younger readers, who, not having seen, may possibly never have the opportunity of seeing this type of bygone days, I will endeavour to sketch from memory my last interview with a then prominent member of the upper gardening circle—one who had introduced a new fashion into the gardening world—a fashion which has now grown old whilst he has passed away.

I think that if my modest bit of pasteboard had not been accompanied by one bearing a noble, and to him well known name, my visit would probably have begun and ended under the tutelage of the foreman. As it was, a somewhat frigid demeanour was soon thawed into a genial and hearty welcome. This was probably due to a little tact on my part, for finding him a good talker, I became a good listener. It was easy to see that my host felt a little contempt for my youth, but this was soon resolved into pity rather than blame for what could not be helped. Time has since rectified that.

I cannot but feel now that the impression made on me then by this courteous and dignified man was in some way connected with his mode of dress, the principal items of which were a voluminous black frock coat, with headgear of the chimney-pot kind; not such as prevails in these degenerate days, but with a generous breadth of brim, under which the smooth shaved chin was half buried in a stiff stand-up collar of immaculate whiteness. A substantial looking umbrella, also of the good old type, appeared to be his inseparable companion, and frequent use of it to demonstrate his theories by drawing outlines on the walks had worn off a good inch from the stump end.

In our peregrinations it was plain to see that his word was law, and such law has conduced to sterling work and perfect order. If success has attended the effort to convey a truthful presentment of this head gardener (my *beau ideal*) of the past, it is scarcely necessary to add that he had held that position in the one place for forty years. He was, indeed, an institution of it. I turn from this memory of the past with regret, regret which need not be misconstrued into weakness only, inasmuch as a feeling that the tribute paid is all too meagre to those who have in horticulture "allured to brighter worlds and led the way."

In paying this meed of respect, we of the present do not sigh for the frock coat and tall hat of other days. One could not, even figuratively, cover our present busy "heads" with beaver, nor drape their bent backs in broadcloth. Here, I may remark, that the allusion is to head gardeners, not head working gardeners, though there are few, I think, able to see where, in our day, the distinction comes in. To illustrate this one need not go far. For instance, "my lord's" head gardener, who rules as steward over an extensive demesne as well, I find in the thick of the work, wherever that work may be, be it in field, farm, or garden; and (*sub rosa*) I saw him but a few days since promoting the building of a wall by handing stones to the mason.

Another, whose duties are solely confined to the garden, with a staff of forty men (and boys), is found by a visitor taking the opportunity, in "His Grace's" absence, of having it out with the red spider which has invaded a house of Crotons, and his good sense prohibits any feeling of mortification on being found with his shirt sleeves rolled up to the shoulder. Still another, in propitious weather, goes from "early morn till dewy eve" without a coat of any description to his back. This, of course, when the family are away. When at home, he sacrifices personal comfort to respect for them by wearing it.

Such are types of the head gardener of to-day; and after this, of the head working gardener, so called, there is but little to say, so far as working propensities by comparison are concerned; it is, indeed, the difference 'twixt six and half a dozen. That there are gardeners and gardeners goes without saying, and gardeners of all degrees; but the exigencies of the times appear to be fast abolishing distinctive appellations. Advertisements are of some value as statistics, and probably those who happily do not need to take special interest in them scan them out of curiosity.

Unfortunately they are, for those seeking situations, steadily increasing, and I daresay it is frequently noticed how large is the

per-centage of those using this medium who style themselves "head working gardeners." Those who do not use the adjective, is, I think, a matter of comparatively little moment, for we may rest assured that the omission possesses no significance, it may be taken for granted that they mean it. The working qualification is now so generally understood that the expression of it is superfluous, so, at least, it appears to—OBSERVER.



CATTLEYA LABIATA.

THE widespread popularity of this section of the Cattleya family has led to extraordinarily large importations by the many growers, and the variations of the colours of these are extremely interesting, ranging from pale rose in the sepals and petals to an intense rose in the same organs, with more or less richness in the lip, while the size and form of the flowers also vary very much. As illustrative of this we received a few days ago a box of flowers from Messrs. F. Sander & Co., St. Albans. All the blooms were good, but some were decidedly superior to others. Many of the spikes carried three flowers, all perfect in size, form, and colour. They well proved that this firm's stock must be an excellent one.

ANTS AND ORCHIDS.

IN connection with the growth of Orchids, writes Mr. J. H. Hart, in the October "Bulletin" of the Royal Botanic Gardens, Trinidad, it has been noticed that the presence of ants is apparently necessary to their maintaining a healthy condition; but whether this is in reality due to some action of the ant itself, or to some indirect cause, has not yet been proved, and investigations are needed to show what is the real influence the ant has upon the health of the plant. It has been suggested that the presence of stinging ants acts as a protection to the plants; but Mr. Hart is inclined to think, from recent investigations, that the benefit the ants confer on the plant are those of providing it with the mycelium of a fungus to cover its roots, which organism enables it to take up food which would be otherwise unattainable. It may be shown that the ants act as protectors to the plants, as well as providing them with a means of obtaining nutriment; but Mr. Hart believes it to be almost certain that the fungus which grows in the material they accumulate around the root plays a much more important part, by providing the plant with food material.—("Nature.")

NOTES ON CATTLEYSAS.

POSSIBLY most people would say that the present season has been quite an ideal one for Cattleyas, owing to the amount of bright sunny weather experienced, and, to a certain extent this is quite true, for nothing better could be desired during the time the plants are growing; but unless very great care has been taken with the plants during the abnormally bright and warm September just passed, many species that should now be at rest will be found to be starting again into growth.

Those beautiful Orchids *C. Dowiana* var. *aurea*, also *C. gigas*, are old offenders in this way, and where any number of plants of either of these kinds are grown there will usually be a few that start unseasonably. At least, this has been my experience for a good many years, and the present is no exception; rather the reverse. In a general way I do not care to remove these plants from the house in which they have made their growth; but this has had to be resorted to this season, or the results would have been disastrous to next year's blooming. On the other hand, I never remember having better ripened pseudo-bulbs of *C. Mossiæ*, *C. Trianae*, and the upright growing kinds as represented by *C. bicolor* and *C. guttata*.

C. Gaskelliana flowered very freely and well, but a few plants are making a second growth. As these flower earlier it does not matter so much, for there is yet plenty of time to get the last new growths finished and well ripened. What splendid bulbs they are this year, also those of *C. Mendeli* and the useful *C. labiata* autumnale. The latter has a few flowers already open, and the successional plants are full of promise. There is not a more satisfactory kind to grow than the latter, being first-rate in all respects, and wonderfully free in producing good backbreaks.

These and many other points of interest will be found on looking through the plants at this time—a very good one by the way for a thorough cleaning and re-arranging previous to the

winter. It will often be found on examining the plants separately that insects, more especially scale, are making headway on the last new growths, and if these are seen to at once, and removed, there will be a great difference in the appearance of the plants next spring, the spots left on the leaves being fewer, and the health of the plants improved. Even supposing there are no insects found the sponging has a good effect by removing accumulated dust and dirt, and enables the plants to breathe more freely, so to speak. The compost, too, in some few cases may need attention, though it is rather late to disturb the plants much.

Among the Cattleyas repotted or surface dressed recently may be mentioned *C. Warneri*, *C. granulosa*, and *C. Leopoldi*, all of which are now rooting freely, and have apparently benefited by the change. But these are free-rooting kinds late in the season, and what is proper for them would not do for all species. *C. bicolor*, for instance, I should not like to repot after flowering, for although a few roots are emitted late in the autumn they would not, I think, become well established again before the winter. *C. Bowringiana* requires perhaps more water at this season than any other kind if in good condition at the roots and provided with good drainage. This has also done well this season, and on account of its distinct character and freedom of blooming at a dull season should be largely grown.

By these few remarks it will be seen that though the time for growth is practically over for the year cultivators must still be on the alert, and by noting the peculiarities of the individual kinds, the manner of growing, time of going to rest, and other details, may learn useful lessons to guide them in the future, and perhaps the most important of all will be the need of studying the plants separately, and avoiding the too common practice of treating all alike because they are members of the same genus.

ZYGOPETALUM GAUTIERI.

This is a late autumn flowering species, well worthy of extended culture, the flowers being large, bright in colour, and freely produced when the plants are healthy. The racemes are produced along with the young growth, and each bears six or seven flowers. The sepals and petals are yellowish green, with large spots of deep chocolate, and the labellum is of varying shades of purple and blue. The flowers last a long time in good condition, and are pleasantly though not heavily perfumed.

Z. Gautieri does not require much compost, the roots thriving best when grown on trellised rafts lightly dressed with peat and moss, or when wired to pieces of Tree Fern stems. The great advantage of the latter mode of culture is, that as the plants grow and the rhizomes extend, the roots have something to lay hold of, whereas in a pot or pan many would be produced over the sides and consequently out of reach of the compost. If kept healthy at the roots and the foliage free from insects, no great difficulty will be found in its culture. The best position for it is the shadiest part of the Cattleya house during the summer months, allowing the pseudo-bulbs to finish in the East Indian house. It is a native of Brazil, whence it was introduced in 1868.—H. R. R.

MODERN GRAPE GROWING—THE STONING PERIOD.

(Continued from page 300.)

DURING the three weeks after the first flower expands the berry stalks remain soft, and one need not be particular about cutting them off close to the base when taking out a berry, as what is left of the stem will shrivel away. But after this it is necessary to be more particular, for any portion that is left will become hard, and will not only be unsightly where it can be seen, but will be very liable to injure any berry that may come in contact with it during the process of swelling, or even when travelling if the bunch should be loose enough for the berries to move about. This hardening of the stem immediately precedes what is called stoning.

The centre of the stem becomes woody, and the hardening process is communicated to the seeds, first at the end nearest the stem, and gradually proceeding till the whole of the seed is hardened, when the visible expansion of the berry ceases for a time, generally about three weeks or a month. Perhaps some day we may be able to shorten this season of apparent non-progress, either by applying some necessary element to act at this particular stage, or by the raising of new varieties. Mr. Meredith used to have one Hamburgh Vine which he imagined did not stop for stoning, but I cannot say that he convinced me of this peculiarity. But certain it is that some of the early Peaches raised by Mr. Rivers and others make but very little stop compared with our old favourite, Royal George, and if this has been done with Peaches why should it not be done with Grapes? But at present we have the stoning, and immediately after it this period of seeming exhaustion and inactivity, when even the shoots, unless the treatment has been very liberal, will extend but very little.

Before this myriads of white globules of the superabundant sap have been seen exuding from young shoots and leaves, and very often from the berries as well; but now the Vine seems to want all it gets, and

something more, for these globules dry black, and very few fresh ones are seen afterwards. During this period of seeming stagnation the Grapes are liable to the affection called scalding, thought by many people to be caused by the sun acting on the berries while damp. But the most casual observer must have noticed that berries which the sun could not possibly reach directly also become scalded, and I may tell him that the scalding can take place without the presumed moisture on the berries, and also without the sun showing itself through the clouds for a moment. It is simply caused by too high a temperature, and fire heat at this particular time will produce it just as surely as the natural heat of the sun.

I have proved this years ago in sulphuring for mildew and red spider. By well coating the pipes with sulphur and heating a vinery on a coolish night up to 85° or 90°, keeping it to that temperature two or three hours, you will kill most of the red spider, though you cannot kill its eggs, and the mildew. You will also probably, and certainly if it gets a few degrees hotter, scorch some of the young growing shoots, and scald some of the berries, especially of Muscats and Lady Downe's. Some people may say it is the sulphur that does the mischief. I do not think it is. Firstly, because it is possible if the sulphur is not of good quality, or has been on the pipes a considerable time and lost part of its strength, to injure the shoots and berries in the same way, and yet leave the spider unharmed; and, secondly, it is easy to apply the sulphur sufficiently strong to kill red spider and mildew without injuring one of the berries which are stoning. The way to do it is to apply a larger quantity of sulphur and a less amount of fire. By having some sulphur mixed in the form of paste, applying it with a brush to the pipes, and at the same time before this has become dry dredge on as much more in a dry state as will stick, we can get a good quantity, as much as a quarter of an inch in thickness on the top of the pipes, and with this quantity a temperature of 80° for three hours during a cool night will be sufficient to kill red spider and mildew. It must be understood that the usual precaution of keeping the ventilators open till the pipes become hot and the extra moisture is driven off is an absolute necessity. It must also be borne in mind that there is only about a fortnight when this remedy can be safely applied, and it is rather towards the end of stoning than the beginning. Should there be a secondary hunch, as there sometimes is when an odd shoot has escaped our fingers, it will be coated all over with rust, showing plainly that it is not safe to attempt this operation till the skin has become somewhat hardened.

Well, then, we see that we can produce sufficient sulphurous acid for our purpose by using a comparatively small quantity of sulphur and a high temperature, or by using a large quantity of sulphur and a less amount of heat. Under any circumstances we are obliged to use more heat than is good for the fruit, and there is a certain amount of risk attending it. Can none of our friends tell us a simpler and safe way, either chemical or mechanical, of producing the necessary quantity of sulphurous acid? For it is at present the only effectual fumigant we have for the purpose. We want to be able to diffuse the sulphur fumes in the house without raising the temperature of the latter, and without applying 1° more heat to the sulphur than is absolutely necessary. Vapourised nicotine has been recommended and tried, but although very effectual for green fly and thrips, it will not touch red spider.

It has long been my practice, and I believe that of most growers, to endeavour to prevent temperatures rising too high during the stoning period; and if I am correct as to the cause of scalding, there is an additional reason for this. When once there are signs of some of the berries commencing to swell, or some of the larger ones show a suspicion of colour, all danger is over, and forcing may be proceeded with if necessary.—WM. TAYLOR.

(To be continued.)

RENOVATING EUCHARISES.

FIFTEEN years ago I found a dozen 8-inch potsful of Eucharis bulbs in a deplorable condition. Now we have two dozen specimens in perfect health, and if we had so minded might have had 100. From experiments made from time to time with bulbs that have become leafless we prefer the following compost for reinvigorating them:—Moss, Oak leaves, turf, charcoal, and sand in equal proportions, and when growing we feed the plants with liquid from the farmyard and soot water, always using it in a tepid state.

When preparing the compost we procure moss that is green, long, and wiry, from amongst heath if possible; the short green moss under trees will not do. This and half-decayed Oak leaves are cut short. We put ours through a chaff cutter. The turf must be very fibry and the fine shaken out, the charcoal crushed, and coarse Reigate silver sand. The only difference we make to the above when potting healthy plants is three parts turf instead of one. We consider May the best month for potting Eucharis where fire heat is a consideration.

Bulbs in bad condition should be shaken out of the soil and thoroughly washed in tepid soapy water, especially if any insects are harbouring between the scales; not that I believe the Eucharis mite as deadly an enemy as some writers state, but for the sake of giving the bulbs a sweet clean start into fresh soil. The Eucharis mite is, in my opinion, a scavenger. Let the pots be half filled with broken shreds, on this lay some clean moss, then 2 inches of the compost; on this set your bulbs, filling in between with more of the compost, making the whole moderately firm, leaving the tops of the bulbs just visible. When finished place in a warm moist atmosphere, but do not give any water. They must only get enough water to keep them from getting dust dry. This

rule holds good until they have made some leaves, when they may be kept a little more moist, but do not water freely, as is often recommended, until they are strong and healthy, and then only during the heat of summer. Answers to the four questions I have received:—

1st, We shade our Eucharis plants from 1st of May to 1st November.

2nd, We sometimes syringe during the heat of the day if the leaves are flagging, but not as a rule; keep the staging, floor, and walls wet when warm, but very little moisture is required during winter; we never syringe our plants then.

3rd, We give water only when the plants ask for it.

4th, Resting. Ours are evergreen, and always seem to be growing a little during winter.—A. H.

CULTURE OF CYCLAMENS.

IN the following brief notes I propose to give as clearly as possible my experience, with the object that it may be of benefit to my fellow gardeners and others who are interested in this beautiful plant. I am sorry to say that it is not cultivated so much in private places as it should be. I know from experience that it is not an easy plant to grow; on the contrary, for it requires strict attention from the seedling stage onwards. The system I follow differs considerably from any I have seen described, and previous to my adoption of this I had no satisfactory results.

In the cultivation of Cyclamens success will greatly depend on when the seed is sown, and the proper time will be as soon as the seed is ripe—namely, July, August, and September, the two former months being the best. The seed may be sown as late as January, but the results would not be so satisfactory. Sow in pans in a compost of rough sandy loam and leaf mould, well draining the pans, and not filling them, adding half an inch in depth to the same mixture finely sifted on the top. Press firmly and water with a fine-rose pot, so that the whole is moistened; when dry enough the seeds may be sown on the surface and pressed in lightly instead of scattering soil over them. Place a piece of paper over the pan, also a square of glass, until the seeds germinate, then remove the paper, allowing the glass to remain. Shade from hot sun until they form roots, and when this is accomplished gradually bring them to the light. When the young plants are about an inch long they should be pricked out into pans or boxes in the same compost as already recommended. Ventilation must be provided during the early part of the day, and they should also be slightly syringed two or three times daily.

When the weather becomes colder it will be necessary to remove them to a warm house, and, above all, place them as near the glass as possible; the temperature should be from 45° to 50°, where they may remain until the middle of April or the beginning of May. By that time it will be necessary to plant them out in a bed facing east, made of materials similar to a Cucumber bed, or any half-spent manure will do, for it is not necessary to have it hot. Cover the surface with a compost of loam and leaf mould to the depth of about 6 inches, made firm, so that when lifting time comes the plants will be taken up with a good ball of roots. They may be planted in rows 6 inches apart, so that when they begin to get crowded every alternate row may be lifted and transplanted as stated above. It is necessary that each plant should have ample room, and at the same time take care that the corms be well out of the soil.

The reason they are placed in an eastern position is that in the early stage of growth, and after being slightly dewed with a syringe, the frame can be closed much earlier. It should be understood that they require shading during hot weather to prevent flagging, with slight ventilation late at night. By this treatment they commence flowering early, but it is necessary to remove all the flowers until the plants are established. Green fly and red spider must be kept in check, or they will injure both leaves and flowers.

The treatment given may be continued until September, when lifting and potting will be necessary. This should be done with care, using no larger pots than are absolutely necessary to get the roots into, as they do not make much root either before potting or after. Keep them well up in the pots to avoid water standing on the corms, for if allowed to be left in that state some will damp off. When potted place them in a close frame, keep them near the glass, shade from hot sun for a few days, frequently syringing, and on dewy nights the lights can be drawn off. When they are established in these pots the lights are drawn off in bright sunny weather and the plants syringed several times a day, and by so doing they never flag. Close the frames about three o'clock in the afternoon, and open them about six or seven o'clock, according to the weather.

By this time the plants will commence throwing up a few flowers, which will be found useful. As the weather becomes too cold for them to remain in the frame remove them to any suitable house at command with a temperature of from 45° to 50°. Avoid a damp atmosphere; plenty of air must be admitted when the weather permits, and a little fire heat can be given with care. The leaves and flower stems are liable to damp near the corms, and when such is the case a little sulphur placed on the affected parts will prevent its progress. When the flowers are wanted for use they should be pulled out, not cut, as the pieces left (if cut) decay and affect those remaining. I have large plants grown in this way, which commence flowering early in November and continue until May. I also find that the early sown plants flower longer and later, producing more and better flowers.

A word respecting the old corms. I find from experience that they

are not worth the trouble of growing, for they come into bloom so late and they are not nearly so productive as young ones. Too much cannot be said in praise of the Cyclamen as a decorative plant; it has a fine appearance when grown well, the flowers are conspicuous, and the foliage beautiful.—M. W.

VINE ROOT-STEM DESTROYED.

ON examining the portion of stem and roots of a Vine which has been sent to me I discerned two things visible to the unaided eye—1, The spotted snake millipede (*Julus guttatus*, *Fab.*; *J. pulchellus*, *Leach*); 2, Small white knobs and streaks—the mycelium and rhizomorphs of a fungus. On cutting a slice of the root with a knife small egg-like bodies (about the size of a large pin-head when examined with a power of six diameters) were seen somewhat abundantly. The millipedes I found on the dead portion of the root-stem were scavengers feeding on and fostering in the dead organic matter. Likewise, the small bodies (*Hoplothrips*) found in the root-bark and wood immediately beneath were confined absolutely to the dead and decayed parts, having no connection whatever with the living portion of the root-stem, and were not the cause but the consequence of its unfortunate condition.

On searching for the real cause of death I found that the diameter of the Vine stem 5 inches above the ground level, or the surface of the soil, was $2\frac{1}{4}$ inches, or $6\frac{1}{2}$ inches in circumference, and at 4 inches below the ground level the circumference was 9 inches—that is, it was swollen. Down to this point (4 inches below ground) the stem of the Vine was quite healthy, and on removing a portion of bark bled a little. At 5 inches below the surface I came across brown matter (dead cells) separated by white substances (stout hyphæ of a fungus). The growth of the latter bodies between the bast (inner bark) and alburnum (young outer layers of wood) cells was evidently the cause of the swelling, and the abstraction of the contents of the cells resulted in the death of the Vine. The fungus grew upward in the stem, completely girdling it. The part below 5 inches from the surface was completely dead, and on this part only were found the animals before named.

Thus the fungus was fed by the elaborated and descending (so called) juices of the Vine, and in the early stages of attack would have somewhat the effect of “ringing”—causing the Vine to produce larger fruit. Such appears the case, for the berries of the bunch are large for Alicante, finely coloured and well flavoured. It was its last effort, for the fungus had slowly but surely seized on its victim, and was eating it away piecemeal from below upwards. Nevertheless, the Vine made an effort to retrieve its calamity, and emitted adventitious roots from the stem just beneath the surface. These, however, had been seized on by the fungus, for it pushes a quantity of mycelium up the stem outside the cortex among the old bark and over it, frequently level with and sometimes above the ground line, in advance of the stout hyphæ ascending in the bast cells and alburnous layers, and it is from this hyphæ that the rhizomorphs and the sclerotia form. By the latter the disease is carried over indefinite periods, the white mycelium spreading in the ground to long distances, afterwards destroying the whole of the tissues of the larger roots, until finally the stem is reached, and that being destroyed all round above the roots the Vine suddenly collapses, as in this case.

The root-fungus is *Dematophora necatrix*, and attacks Vines as described, also sometimes *Maréchal Niel* Rose trees. It is distributed throughout Austria, South-west Germany, Italy, Switzerland, France, and England. It was first publicly noticed as occurring in this country in the spring of this year by Mr. G. Massee, F.L.S., in the columns of a contemporary. My acquaintance with *Dematophora necatrix* dates from 1888, when it appeared on some Vines which produced excellent Grapes, but towards the close of the season had “brownure,” and were distressed in the principal leaves under powerful sun.

How this particular fungus manages to infest plants—healthy or unhealthy—is described as follows by Prof. Hartig:—“The parasite that we are here discussing spreads in the vineyards from plant to plant by means of its underground mycelium, so that we often hear of great damage being done. Other plants that are cultivated in the vineyards, such as fruit trees, Potatoes, Beans, Beet, and the like, also fall a victim to the fungus. During my investigations I found that the mycelium could at once kill young Maples, Oaks, Beeches [it killed specimens of over 48 feet in height in 1889] Pines, Spruces, &c.”

Soluble phenyle and Jeyes' fluid are excellent fungicides. When a wineglassful of these to 3 gallons of soft water, and that amount given per square yard, the fungi from some tree stumps and buried roots disappeared, and have not appeared again, while the grass was not injured in the least. That is as it should be. You can try 1 oz. Jeyes' fluid, or soluble phenyle, to $1\frac{1}{2}$ gallon of water. Much stronger doses are given, but they are not necessary, and may do harm to tender roots. Even smaller amounts of either fluid will destroy the parasite. Also remove the soil down to the roots, clear it all away—the 10 inches that never ought to have been put there. The main roots ought to start from the stem level with the soil. If they are above it all the better, only mulch or top-dress, so as to keep active feeders from the collar and near the surface. Give the watering with the preparation after the soil has been removed, and when it has soaked in top-dress with 2 or 3 inches, not more, over the stronger roots, with good turfy loam, and sprinkle on it 4 ozs. per square yard of the advertised fertilisers. If the main roots are not already affected by the fungus, or it has not got above the part from whence the soil is taken from the stems, the Vines will push fresh

roots from the live parts of the main roots, even callusing the part where the fungus has been destroyed in the living wood, pushing fresh roots, and thus promoting healthy growth.—G. ABBEY.

STORING TUBEROUS BEGONIAS.

A FEW remarks at the present time on the storing of Begonia tubers for the winter may be of some slight service to a few of the inexperienced admirers of this charming and useful flower. Too often it is to be feared, as soon as the flowering season is past, they get very poor treatment indeed, and are more often than not packed away under greenhouse stages and such places to take care of themselves. In consequence, owing to drip and other evils, many of them come to grief long before the spring, causing much annoyance. Given proper storage throughout the winter the death rate should not be higher than 1 per cent.

The best method, to my knowledge, is that of dry storage in boxes or barrels. The tubers must be carefully lifted, or in the case of pot plants shaken out, care being taken that the roots immediately surrounding them are not rubbed off, as many of these live through the winter and send forth fresh rootlets in the spring. If they are numerous use barrels, and place alternate layers of dry soil (preferably leaf mould), placing sufficient between the layers of tubers to effectually prevent them coming into contact with each other.

With the choicer varieties, such as the pot ones and any seedlings of great merit, which it is desirable should be kept specially labelled, shallow boxes of about 4 inches in depth will be found to answer admirably. To insure the correct labelling of these fasten the label by the aid of tacks to the outside of the box, directly opposite the root or roots, keeping these latter in place by laying pieces of lath between each variety as it is placed in the box. In the case of those in barrels, if more than one variety is packed together place sheets of stout brown paper, with the label placed below it, before commencing with a fresh sort.

When all have been properly packed, store the boxes or barrels away in some cool place, taking care that it is both mice and frost proof. Although they will suffer no harm so long as the temperature is not allowed to fall below freezing point, it is better to be sure that it never falls much below 40° , and then no undue risk is incurred. Thus stored no more attention will be required before next March or April, unless the tubers are needed for early flowering, when they should be started in February; but a few remarks on this phase of their culture may very fittingly be held over for the present.—BEGON.

DARLINGTON GARDENERS' INSTITUTE.

APPLE AND PEAR EXHIBITION.

THE Committee of the above Institute is to be congratulated on the success that attended its efforts in promoting such an excellent exhibition as was held on 25th and 26th October. The object in view was to show what can be done in fruit growing in England. It was also desired to show the varieties best adapted for local cultivation. The attendance was large on both days, and the spirit of inquiry manifested by the persons present showed they were interested in the exhibition.

Messrs. T. Rivers & Sons, Sawbridgeworth, had a magnificent collection, most noticeable in which were Cox's Orange Pippin, Scarlet Golden Pippin, Bismarck, Mère de Ménage, Wadhurst Pippin, Nelson Codlin, Dumelow's Seedling, and Lane's Prince Albert Apples, with Pitmaston Duchess, Marie Louise, and Conference Pears. Messrs. J. Backhouse & Son, York, were admirably represented by a collection of over sixty varieties of Apples.

Local nurserymen well sustained their reputation, Messrs. Kent and Brydon staging a good collection of over fifty varieties. The leading sorts were Lord Lennox, Scarlet Pearmain, Bramley's Seedling, Sleeping Beauty, Dr. Harvey, Red Robin, Dumelow's Seedling, Stirling Castle, Lane's Prince Albert, New Hawthornden, Cox's Pomona, and Gloria Mundi Apples; Louise Bonne of Jersey and Pitmaston Duchess Pears.

The exhibits from private growers, though more limited in variety, were in no way behind those of nurserymen in point of quality. Mr. McIndoe, gardener to Sir J. W. Pease, Bart., staged Ribston Pippin, Blenheim Orange Pippin, King of the Russets, Gipsy King, Cellini, and Emperor Alexander Apples; Beurré Clairgeau and Durondeau Pears in beautiful condition for size and colour. Mr. Douglas, gardener to the Viscountess Downe, Baldersby Park, staged thirty-six varieties, of which the following were very fine:—Grey Leadington, Mère de Ménage, Warner's King, Cellini, Peasgood's Nonesuch, Reinette de Canada Apples; and Doyenné du Comice, Marie Louise, and Beurré Hardy Pears.

The best dish of Apples in the show was one of Bismarck, sent by Colonel Scurfield, Harworth-on-Tees. Grand as this Apple generally is, it is questionable if a better half dozen has ever been exhibited. Another noticeable collection came from Mr. Lec, gardener to Lady Cowell, Clifton Castle. King of the Pippins was grand, both in size and colour; Bramley's Seedling, Blenheim Orange, Peasgood's Nonesuch, Warner's King, New Hawthornden Apples, Marie Louise and Pitmaston Duchess Pears were all excellent. Lord Darramore, Sir David Dale, Sir T. Fry, H. F. Pease, Esq., M.P.; Mrs. G. Pease, Mrs. A. Backhouse, J. B. Hodgkin, Esq.; and Messrs. Glaister, Suffield, Mallabar; Barron & Mackay were exhibitors of collections comprising the varieties above named, and all in good condition.

The report would not be complete if mention were not made of a dish of Bess Pool Apples and Pitmaston Duchess Pear, the last admitted to be the best dish in the room, grown by Wm. Smith, Esq., North Rise, whose soil is a poor clay. Added to this the disadvantage of being in close proximity to some of our public works and the smoke from them, they reflect the highest credit upon the skill and perseverance of the grower under adverse circumstances.—J. S. O.

APPLES AND THEIR PRICE.

THERE is no doubt that a want of proper care in picking, grading, and packing Apples has a great deal to do with the unfortunate prices that growers often obtain for their produce. But, as "A. D." truly said in a late number of the Journal, "London is the worst market to which to send fruit when it is very abundant, but especially is it so when the sample is poor or even moderate."

It was to the last mentioned cause, no doubt, that the extraordinary price realised for a ton of Somersetshire Apples was due, but what about the top London prices? In the last number of the Journal (page 403) Apples per bushel at Covent Garden Market are reported at 1s. 3d. to 3s., yet fair Blenheim Orange, not graded or selected, are snapped up in this neighbourhood (Suffolk) at 10s. a sack (3 bushels), and in many cases you would have to fetch them yourselves. They are thus distinctly dearer at the orchard side than the top London price. Here is where there seems to me to be "something rotten in the State of Denmark." Whose fault it is I cannot say, but I suppose it is that dealers in Apples do not form such a regular and organised trade as dealers in corn, for instance. I am always telling friends in London who beg for a basket, or what not, of country produce, that everything which can be grown or reared by an amateur in the country can be purchased in London cheaper as to quality than we can produce it, with the sole exception, perhaps, of fresh eggs.

As to the grading of Apples. I wrote lately to a certain district for a quotation of prices of certain Apples, and received two prices, selected and "ordinary," or some such term. This did not seem to me quite satisfactory, for I thought there ought to be three classes. Milk in my dairy is speedily divided into cream, skim milk, and new milk. I have no doubt the "new milk" class is unknown where Apples are graded at all, but I think it should be known if "ordinary" Apples, or whatever they are called, are fruits with all the good ones taken out. However, now that Britons have taken so seriously to grow their own crops of that fine fruit, the Apple, it must take some time before the management of it becomes so organised that equal distribution and uniform prices can be attained.

Many of my Apple trees have now blossoms and young Apples on them, showing that we may have too much of even such a good thing as "Ripened Wood."—W. R. RAILLEM.

TRENT PARK.

THIS, the residence of F. A. Bevan, Esq., is most pleasantly situated two and a half miles from New Barnet Station on the Great Northern line. The drive to the mansion through the well-timbered Park is about a mile long, part of the way through an avenue of vigorous growing Lime trees. The house is a squarely built structure, not very ornamental, but now made more pleasant by the aid of fast-growing climbers, which tone down somewhat the plain appearance which it has. A magnificent sheet of water on the north side, about a quarter of a mile distant, adds much to the beauty of the place. The pleasure gardens surrounding the mansion are about 20 acres in extent, pleasing undulations naturally formed meeting the eye from many points of view. There is no regular flower garden in the usual way of beds devoted entirely to them, but very large plots of ground are planted with choice collections of flowering and foliage plants. In front of these a broad space is reserved for spring and summer flowering plants. A pretty effect is thus obtained. The kitchen gardens and glass are situated a quarter of a mile from the mansion. Entering the kitchen garden by a side door the head gardener's house is passed, and a well-built structure it is, and most pleasantly situated. Inside the walled part of the garden the area is about 2 acres, devoted to vegetables, hardy fruit, and flowers. Broad paths run down the centre, round the sides, and across, the border next the paths in several instances being occupied with flowers. Roses are largely grown on one of these borders, of which the best varieties are planted in blocks of one sort, and a very good display is thus made. A collection of herbaceous plants is being made, in addition to annuals, such as Stocks, Zinnias, Cosmos, and others.

Mr. Lees, the head gardener, recognises the importance and value of Michaelmas Daisies, not only for embellishing the garden but for supplying cut flowers. He has already a grand collection of the more choice varieties, and purposes adding to them considerably. Such varieties as Robert Parker, cordifolius elegans, roseus, dumosus, Amellus, and puniceus pulcherrimus were making a charming display at the time of my visit. On each side of one of the paths in the kitchen garden is a row of bush-trained Apple trees of approved kinds. Gooseberries are trained to wires 3 feet high, the rows 8 feet apart; in this way the fruit is easily gathered, the trees kept clean, while between the rows crops of some low growing vegetables or salading may be grown. The walls are well covered with various kinds of fruit trees, Peaches with a southern aspect succeed admirably, and so do Apricots—Moor Park mainly—against a west wall. Pears are being extended, the bulk of these in

double cordon form, with a few trained fan fashion. The usual vegetable quarters were fully and systematically cropped, the demand being too heavy to allow of much land lying idle.

The glass department is somewhat extensive. Orchids are a feature, several houses being filled with them. A capital lot of fifty plants of *Dendrobium-Phalaenopsis Schröderianum* were carrying upwards of 100 spikes, and made a charming display. *Phalaenopsis Schilleriana*, *P. Luddemanniana*, *P. amabile*, and *P. grandiflora* were quite at home in baskets and on blocks suspended from the roof in a low span-roofed house, the gravel on the stage underneath them being covered with sphagnum moss for the purpose of providing additional moisture, a plan which appeared to be justifiable. *Calanthe Veitchi* promises fine flower spikes, so vigorous are they in growth. Two very fine specimens in wire baskets of *Cymbidium Lowianum* cannot fail to arrest attention on entering another house. The baskets are entirely hidden with masses of *Adiantum cuneatum* and *A. decorum*, the whole producing a fine effect. *Cattleyas*, *Dendrobiums*, *Laelias*, and *Cœlogynes* were in admirable condition. Such *Cypripediums* as *Spicerianum*, *Chamberlainianum*, *grande*, *Rothschildianum*, *Morganiae*, *Sedeni candidulum*, *insigne*, *i. Maulei*, and *Chantini* were in perfect health. Cool-house Orchids are largely grown, some 500 plants annually make a gorgeous display. *Odontoglossums* are especially noteworthy, one plant of *crispum* had a spike showing five branches.

Crotons are numerous grown in a span-roofed house, most of the plants being grown on single stems, and in pots 5 inches and 6 inches in diameter, for house decoration. It would be difficult indeed to find a healthier, better-coloured collection anywhere. Carnations are here much appreciated, especially during winter and early spring; but few varieties are grown—*Souvenir de Malmaison*, *Winter Cheer*, *Germania*, *Miss Joliffe Improved*, *Mrs. Lewellyn* (bright rose), and *Mrs. Moore* (white), being of the best. In the greenhouse the usual plants, such as *Arum Lilies* and winter-flowering *Pelargoniums*, were in the best of health. *Marie Louise Violets* were safely stored away in frames for future blossoming.

Fruit under glass is both well and extensively grown. Muscat of Alexandria Grapes were thoroughly well represented. The Vines are quite thirty years old, but appear to be in prime condition, judging from the crop of well-finished bunches. Other kinds—such as *Black Hamburgh*, *Madresfield Court*, and *Foster's Seedling*—were and had borne heavy crops of capital fruit. Eight hundred Strawberries are fruited in pots, but three varieties being grown—*Vicomtesse Héricart de Thury*, *Royal Sovereign*, and *Noble*; and, judging from the present state of the plants, full crops of fruit may be expected in March and April. The trees of Peaches and Nectarines had been cleared of their crop of fruit. *Fig Brown Turkey* succeeds admirably here, in spite of the fact that the house devoted to its culture faces due east.

The condition of the garden reflects much credit on its custodian, Mr. Lees, for the able manner in which all departments are managed, and cannot fail to be a source of gratification to his employer. It was a most enjoyable day, and rendered the more so by the kind hospitality of Mrs. Lees to—A RAMBLER.

FRUIT GROWING IN GERMANY.

IN a report on the trade of the consular district of Frankfort-on-Main, Sir Charles Oppenheimer, Her Majesty's Consul-General at that town, refers to the efforts which are being made in Germany to promote the culture of fruit and berries. Fruit growing is now, it seems, fostered a good deal by societies whose task it is to discuss the progress made in this field and to help their members practically and theoretically in the selection of the qualities and the treatment of cultivation. In the neighbourhood of Frankfort, there is especially the Royal College for fruit, Vine, and floriculture at Geisenheim-am-Rhein, which exercises a very beneficial influence. It organises series of lectures for the instruction of suitable persons, who are trained as fruit or Vine growers or florists. It also sends round travelling teachers, who give lectures on questions appertaining to this subject, and who also give advice as to the most lucrative way of disposing of the fruit crops, as to the best methods of drying and preserving kernel and stone fruits and vegetables, the packing of the fruit, the preparation of fruit syrups, jellies, marmalades, juices, and as to the preserving of the fruit. The culture of berry fruits has been especially promoted by the introduction of wines and other productions, made from different berries which have been brought before the consumers by the numerous exhibitions, where, by means of prizes, endeavours were made to increase the zeal of the growers to produce fruit suitable for the market.

Of late, special attention has been directed to the better disposal of the fruit crops, since the cultivation itself has made undoubted progress. Thus, at Frankfort a central dépôt for the sale of fruit has been founded which offers its services gratuitously. It accepts offers from the growers and hands them on as demands arise. It likewise arranges in autumn large fruit sales, at which the supply as well as the demand is very lively.

During the season of 1894, at the commencement of August, goods had already changed hands at the central office to the weight of upwards of 2,200,000 lbs., almost exclusively berry fruits. The central office gives its assistance to all interested parties, to buyers as well as purchasers, entirely free of charge. It does not even ask for the reimbursement of its own expenses. The enterprise is purely conducive of the public good, and is intended to promote German fruit cultivation. It has been successfully initiated already in a few South German cities,

and it is intended this summer to establish similar institutions in other places after the Frankfort pattern. The wealth of the population has already been advanced, in some instances in quite a remarkable degree, by the culture of fruit and berry trees.

Sir Charles Oppenheimer refers to the Cherry orchards at Guben, as well as to "the orchard of the capital," for such is considered the small harbour town of Werder, situated between Potsdam and Berlin, on white sand hills near the River Spree. There the growing of fruit, notwithstanding the unfavourable soil, has increased wonderfully. The fruit excels by its superior quality and is preferred by consumers. The growers, who have organised themselves into trade unions, are now in possession of a harbour fleet of their own, and, during the season, ship their produce every morning in their own steamers to the markets at Berlin.—("Journal of the Board of Agriculture.")

DEATH OF MR. C. F. BAUSE.

ON Monday, the 28th, the grave closed over the remains of this well-known raiser and cultivator of plants, in the presence of many mourners—members of his family and friends. The coffin was covered with wreaths, and floral emblems were brought or sent by those by whom the deceased was esteemed, for placing on his tomb. The place chosen for his interment was the extremely neatly kept and pleasantly situated churchyard of Shirley, near Croydon—a favourite place for interments in the district, and it would not be easy to find a country churchyard containing so many beautiful memorials of the dead. The Rev. W. Wilks, the vicar, was present, but did not officiate; the clergyman of the church at Norwood, where Mr. Bause died, and in which the first portion of the service was held, completing the melancholy duty. In addition to the mournful family and relatives of the deceased at the graveside (which is contiguous to the resting place of the parents of the famous John Ruskin) were noticed Messrs. W. Marshall, J. Laing, H. Laing, A. F. Barron, W. G. Head (and Mrs. Head), B. Wynne, J. Wright, and a number of other personal friends of the deceased, several of them either growers of produce for or connected with Covent Garden, where Mr. Bause was so well known and so highly respected.

Mr. Bause had been in indifferent health for a year or more, and it eventually became apparent that he was gradually but surely declining. His buoyant spirits supported him for a long time, but were subdued by the progress of an internal complaint that would not yield to treatment, and which culminated in a paralytic seizure about six weeks ago; from that time his case was hopeless, and the end came on the morning of the 23rd inst. at his home, the Morland Nursery, South Norwood, at the comparatively early age of fifty-six years.

Mr. Christian Frederick Bause was born at Rölichen, Saxe Coburg Gotha, and having a natural love for gardening, and especially for plants, was determined to make their culture his vocation. After serving in gardens on the Continent, including those of Mons. Nathaniel de Rothchild in Switzerland, he found his way to England, and entered the service of Mr. Herbst, then a grower of plants for Covent Garden and a pioneer in the supply of certain kinds, such as Palms and Ferns, with the forcing of Lilies of the Valley, which brought him fame and wealth. A man of energy and cultural skill, with high ideals of excellence, Mr. Herbst, no doubt, stimulated his ardent pupil to similarly exert himself to achieve the best that he could accomplish by thoughtful and persevering industry. He accomplished much, and has left the world much richer than he found it in beautiful plants, for the raising of which he will long be remembered.

Every change that Mr. Bause made appeared to be followed by something new in the form of plants or of methods. On leaving Mr. Herbst he secured employment in the gardens of the Royal Horticultural Society at Chiswick, and there made his first "hit" as a raiser of plants by breaking into the Coleuses and bringing out new varieties that caused no small sensation at the time. He found some scraggy plants of the old small but bright Blumei with another or two of less beauty which had served their decorative purpose, and were ready to be thrown away. With the foliage gone there was nothing attractive left, the flowers being insignificant; but the ardent young plantsman thought of the pollen. The plants were saved, the pollen used, and in due time the world was startled by the result—such varieties as had never then been seen or dreamt of—Berkleyi, Marshalli, Bausei, and several others; but the last-named, with its large velvety brightly toothed leaves, was the gem of the collection, and realised the highest price at the famous sale in Stevens' Rooms about thirty years ago, and only three or four years after the arrival of the young German in England. We have a wealth of Coleuses now, and beautiful forms are raised from seed in the ordinary routine; but Mr. Bause was the Columbus who led the way in the improvement of these plants.

Mr. Bause then gave his mind to Caladiums, and after studying the then existing varieties and colours, thought he could see his way to the production of a yellow ground variety, and set himself the task of producing it. He not only produced one, but more—a royal race, some of the varieties, if not all, being still in cultivation. The Dieffenbachias also attracted his attention, and his triumph in this direction was the now well known, and still the most effective, D. Bausei. Quick to detect real merit, and apt in securing those who possess it, Messrs. J. Veitch & Sons obtained the services of Mr. Bause. He there raised new Poinsettias, and commenced the crossing of Hippeastrums, thus laying the foundation of the grand collection of to-day, and in reference to which he would be a bold man who would venture to place a limit to future possibilities. To Mr. Bause, too, if we mistake not, is

due the credit of making one of the most elegant of all table and decorative plants, Aralia Veitchi, a popular marketable commodity. By the course of raising from cuttings it was tediously slow; but if A. Veitchi would not "strike," A. reticulata and others would, so these he raised as stocks for grafting, and thus the elegant Veitchi was produced in thousands, and sent over the length and breadth of the land.

Eventually Mr. Bause left Chelsea to become manager of the Melbourne Nursery, Anerley, for the late Mr. John Wills. He there propagated and grew vast numbers of plants for decorative purposes, working like a Trojan almost night and day; but he did something more, for, as if by a stroke of genius, he may be said to have practically revolutionised the Dracenas, and it was done in this way. Arriving at Anerley he found some old leafless stumps of plants—some under the potting bench, some on the rubbish heap. "No, they are not dead," he said; "and if they will grow they will flower, and if they flower they will produce pollen, and then nobody knows what." They did grow and flower, no one, not even the raiser himself, anticipating the extraordinary result—a veritable *embarass des riches* of forms and colours never before seen. The seed was sown on August 1st, 1874, and on November 10th, 1875, splendidly grown plants were exhibited; 1700 seedlings were raised, and 36 of them first described in the *Journal of Horticulture*, November 11th, 1875. It was a selection from these plants that defeated in a memorable contest at Brussels (in 1876) the

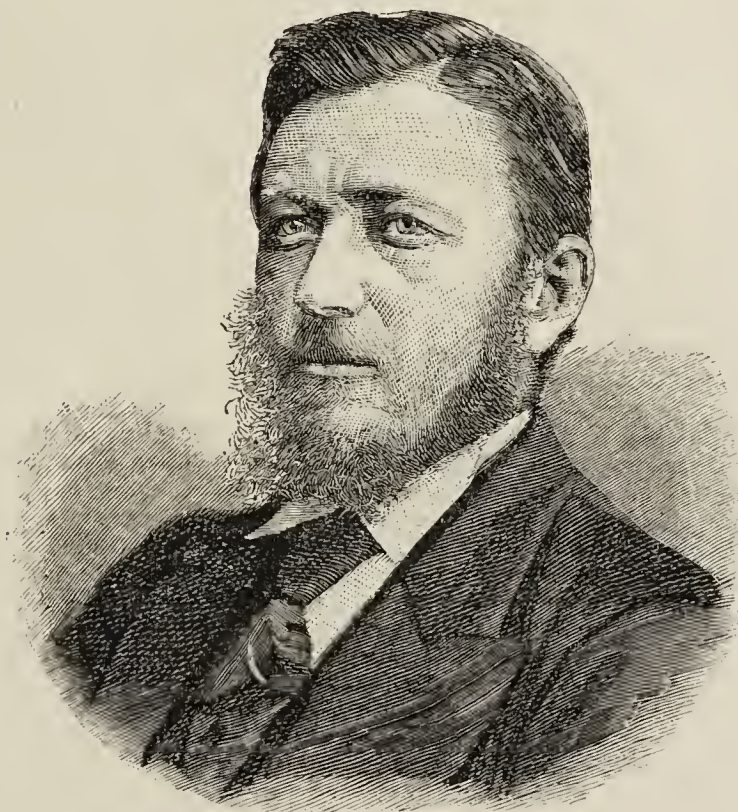


FIG. 65.—MR. C. F. BAUSE.

grandest specimens of pre-existing forms ever seen as grown by Mr. Linden, the Anerley seedlings thus securing the "Grand Gold Medal" and 500 francs for plants "remarkable for their novelty, their culture, and their beauty." A gold medal had been previously awarded for them by the Royal Horticultural Society, and this medal was given by Mr. Wills to his manager, who had won it so well.

Looking ahead, Mr. Bause thought the time had arrived for making a business of his own, and he eventually commenced at Norwood. By indomitable labour he succeeded in making the Morland Nursery, Portland Road, South Norwood, what it is to-day, a large block of excellent houses filled with splendid plants of a few kinds most in demand—Palms, Crotons, Aspidistras, and Dracenas chiefly—than which no one for years has sent finer into Covent Garden for decorative purposes. He has also supplied the "trade" largely, besides doing a good Continental business. He has, in a word, done wonders in the time by excellent work and a whole-hearted devotion to duty. There he raised many new, distinct, and elegant Ferns which made their way because of their merits, and he is the originator of the dwarf and brilliant Caladiums which passed into the hands of Messrs. Veitch & Sons, and which they are distributing so widely.

For the purpose of acquiring freehold land it was necessary that Mr. Bause should become naturalised, and he was thus in due form made a British subject. A more loyal Englishman and more genuine friend was not to be found. To know him intimately was to like him, and all who had that privilege will cherish his memory and mourn with his widow and family on the loss they have sustained. Happily he leaves sons who have long since attained to their majority, and the elder, Mr. F. C. Bause, has conducted the business for a long time, ably assisted by his brother-in-law Mr. Luther, a descendant of the world-famed divine, Martin Luther. It will be continued as usual, and there can only be one wish at home and abroad, and this is, that it will be continuously and progressively prosperous.

Our portrait of the late Mr. Bause was taken at the time the Dracenas were honoured, and when he was about thirty-six years of age.



EVENTS OF THE WEEK.—Several Chrysanthemum shows are announced for the coming week, and a list of the chief of them will be found on page 416.

— WEATHER IN LONDON.—Sharp frosts have visited the metropolis on several nights during the past week, while fogs in the evenings and mornings have been constant though not very thick. On Monday afternoon the weather changed, as in the evening and night some rain fell. Tuesday, however, was dull and cold. During the night there was a frost, and at the time of going to press on Wednesday the air was sharp and clear.

— WEATHER IN THE NORTH.—Bright days with continuous frost, averaging between 5° and 6°, marked the week ending the 29th, 9° being registered on Monday morning. Frost of greater severity is reported from various parts of the country. Between Friday night and Saturday morning snow fell in most districts, about an inch in this locality. This mostly disappeared during an hour or two on Sunday afternoon, but frost soon returned, and seems like continuing.—B. D. S. *Perthshire*.

— UNITED HORTICULTURAL BENEFIT AND PROVIDENT SOCIETY.—Since giving our report of the annual dinner of the above Society we have been requested to state that Messrs. A. F. Barron, Chiswick, and Geo. Monro, Covent Garden, have each contributed one guinea in addition to the amount published in our last issue.

— PRIZE ESSAY PRESENTATION.—At the meeting of the Royal Horticultural Society's Committees at the Drill Hall, Westminster, on Tuesday last, the prizes offered by the above Society for the essay on the Commercial Aspect of Hardy Fruit Growing in Great Britain were presented to the two successful competitors, Messrs. Lewis Castle and S. T. Wright, together with the silver medals given by Dr. Hogg. In the unavoidable absence of the President of the Society, Sir Trevor Lawrence, Bart., the presentations were made by Sir Alexander Arbuthnot, Bart. Mr. Lewis Castle being absent, the Rev. W. Wilks received the medal and cheque on his behalf, and when handing the prize to Mr. Wright Sir Alexander said it gave him great pleasure to present it, and stated that it was the intention of the Society to give one prize of £10, but so good were the essays of the two successful competitors that it was found impossible to judge between them. The Society therefore decided to raise the prize to £15 and divide it equally. Dr. Hogg had also come forward and added to the prize money in both cases a large silver medal, which he (Sir Alexander) thought would be even of more durable value to the recipients than the money. Mr. Wright, in acknowledgment, briefly thanked both the Society and Dr. Hogg for the prize and medal, adding that he hoped the essay would be of assistance in furthering the interests of fruit growing in this country.

— DECORATIVE PLANTS IN SMALL POTS.—The culture of these was dealt with in a paper by Mr. J. Hudson, read at the October meeting of the Brighton and Sussex Horticultural Society. The writer referred to the common fault on the part of the cultivator in the use of too large pots. A relatively small pot served to check the injury likely to arise from overwatering. A change in the size should be made only to the next number, and good peat soil must be used, which should be firmly pressed. The chief endeavour ought to be to obtain a sturdy growth from the first. It would be a mistake with Palms, for instance, to suppose that they would grow more rapidly in large pots; indeed, even when root-bound, they would grow better than if overpotted. Overcrowding also should be carefully avoided. If Palms were overcrowded the result would be seen in the attenuated leaves and the weak leafstalks, and they would speedily lose their freshness when placed in the dwelling house. Overfeeding was as mischievous to plant life as in the animal world. A reduction in the temperature also should be followed by a reduction in the supply of water, and, as any check interfered with the absorption of water, overpotting must result in a chill to the roots. Another common mistake was the attempt to grow too many plants, the result being often that all proved indifferent, whereas a few really well-growing specimens might have been grown with less trouble.

— WEATHER AT SHOREHAM, SUSSEX.—“G. H.” writes:—“A sudden change occurred here on the 23rd inst. Between 5 and 7 A.M. on that date the thermometer fell from 39° down to 20°, or 12° of frost, and as it had been raining during the night the effects of the frost can be better imagined than described.”

— FROST.—On the morning of the 27th the water, both in front and behind Uckfield Mill, was frozen over. This has not previously occurred in October during the past forty-six years. All outdoor flowers and autumnal beauty have suddenly disappeared, and I fear many were caught napping with half-hardy plants.—A. P.

— OCTOBER FROSTS IN BEDFORDSHIRE.—We have had several unusual frosts for October within the past few days. On October 24th the lowest temperature registered was 15° Fahr.; on October 25th, 17°; October 26th, 14°; and October 28th, 10°. The last named reading popularly rendered as 22° of frost is extremely keen even for a low situation on cold soil.—OBSERVER.

— WEATHER IN SOUTH WALES.—There has been a great change in the weather here during the past week. On the night of the 21st a very strong gale was blowing, with heavy rain, and at daylight the following morning the ground was covered with snow, which continued to fall until 11.30 A.M. We have had rain and snow every day since, with very sharp frosts on each night. The snow that was in the gauge on the morning of the 27th, when thawed, registered 0.06; the total amount of rain and snow for the above dates, inclusive, being 1.01 inch.—W. MABBOTT, *Gwerllwyn House, Dowlais*.

— FROST IN THE ISLE OF WIGHT.—The glorious weather experienced here up to the present week, together with the brilliant appearance of the flower borders, almost led one to think that the summer months were still with us; but, alas! all is changed. On the 23rd inst. rain fell heavily all day, we registered 0.55 inch; and on the morning of the 24th we awoke to find that “Jack Frost” had paid us his first visit, to the extent of 7°, silently sending to rest his many victims, some never to wake again.—W. H. Y., *Foreman Royal Gardens, Osborne*.

— EUPHORBIA SPLENDENS AND CAMELLIAS.—Amongst the most notable objects connected with the old established nurseries of Mr. John Stevens (an old Chiswick man, and a thirty-years patron of the *Journal of Horticulture*), at Coventry, is a long row, about 50 feet, of Euphorbia splendens, planted out against the back wall of one of the plant houses, and where they have for many years past afforded a plentiful supply of flowers for the large trade which is there done in bouquets and other floral decorations. The plants were not trained to the wall, but allowed to grow bush-like, and must present a striking effect when in full bloom. In another long range of glass are fine old specimens of the white flowered varieties of Camellias studded with thousands of swelling buds on the eve of expansion; two or three of these veterans measure each about 12 feet high and the same in diameter. They are planted out in square built pits, and wooden stages or platforms are erected around a few of them for gathering the blooms.

— A VARIEGATED DECORATIVE PELARGONIUM.—In the way of novelties Mr. Stevens' son showed me a new seedling Pelargonium which he had raised from a double-petalled pink-coloured variety. The variegation of the foliage is pure white and green, handsome and of good substance. The small truss of bright red double flowers, though small in truss and pip, which latter feature Mr. Stevens hopes will eventually be improved, afforded a pleasing contrast together. Another seedling, with equally beautiful silvery foliage and an orange-scarlet coloured double flower, and larger in petal than the former, Mr. Stevens intends to “take care of.”

— PITMASTON DUCHESS PEAR.—An interesting event in connection with Mr. Stevens' horticultural career is the fact that he assisted in the distribution of the grafts of the Pitmaston Duchess Pear when he was gardener to the late John Williams, Esq., of Malvern Hall, Knowle, North Warwickshire, the son of the raiser of this noble looking Pear at Pitmaston. A large number of grafts were sent at the same time to the Horticultural Society's Garden at Chiswick. Mr. Stevens relates a rather amusing story anent a commercial transaction of this Pear, to the effect that the representative of one of the largest nurseries in the kingdom noticed shortly after the distribution of the Pear a good stock of young trees of it in a nursery near Birmingham, and he was so much impressed with the character of the fruit that he at once purchased the whole of them, but in ignorance of the fact that already there was a larger stock of it at home. As a result he was richly bantered for the unconscious transaction.—W. G.

— MR. J. NIEMETZ, one of the prominent pomologists of Russia, has been sent by the Government of his country to make a tour of the United States and Canada in the interests of Russian pomology. In his large experimental orchard at Rovenko Mr. Niemetz has under trial 1200 varieties of Apples alone, and of other fruits in proportion.

— SHIRLEY GARDENERS' AND AMATEURS' ASSOCIATION. — Two lectures, under the auspices of the Hants County Council, were given by Mr. E. Molyneux, Swanmore Park Gardens—one at Highfield, Southampton, on the 25th inst., the subject being "Hardy Fruit Culture for Cottage Gardens and Allotments," and the other at Nursling on the 28th inst. on the "Cultivation of Fruit and Vegetables for Exhibition, and Hints on Packing for Transit." There was a capital attendance at each lecture, that at Nursling being exceptionally good. Both subjects were treated in an excellent manner by the lecturer, though each would bear a course of lectures to do it full justice.

— ENGLISH AND AUSTRALIAN DROUGHT.—Mr. Robert Owen of Maidenhead, in writing to a correspondent in Australia on the drought of the past summer in England, has received the following reply:—"You mentioned in your letter that you had been having a very dry season. I wonder what you would say to an Australian drought such as we have been experiencing for the past six months. Since February we have only had 2½ inches of rain. From July 1st we have had about three-quarters of an inch, and not a drop for the last month. The consequence is most of the country is all on fire; 500 miles of the coast line is one continuation of burning country, and vessels report meeting the smoke 300 miles out to sea. The winds are, therefore, quite hot and terribly drying. Many homesteads, orchards, farms, and fences are burnt out, and numbers are without water. Fortunately, I have it laid on, and have to water continually. I have lost some trees that are several years old."

— PLANTING WALL TREES.—Reading over the article that was published last week over "H. D.'s" initials, I noticed what seemed to be to me either a grave clerical or typographical error in one word. Referring to the preparations for planting, "H. D." is made to say, "The holes should in the meantime be partly filled with the prepared compost; this ought to be trodden *firmly* when it happens to be rather heavy or wet." Should not that italicised word have been *lightly*? For to tread wet or stiff soil in such holes as are referred to, and firmly, means the creation beneath the trees of a hard, impervious floor, or body of soil, that would be productive of great harm. In all cases the treading should be moderate, as it is better to allow soil to settle down evenly. But would it not be far wiser to get out the holes and fill right to the top with new soil or compost fully a fortnight before the trees came to hand; so that the soil would have settled down naturally? By that time very little would need removing from the surface to enable the planting to be properly performed. But, further, is it not a mistake to advise the making of too deep holes, and filling up with too enriched soil? Holes 20 inches in depth and with the bottom deeply broken in ordinary soil suffice as a rule because the aim of the gardener in all cases should be rather to encourage the keeping of the roots near the surface than to send them deep down. Once the trees get well established a firm surface is better than soil very light, loose, or porous.—A. D.

— READING LITERARY AND SCIENTIFIC SOCIETY.—A paper of considerable literary value and instruction on "Roses" was contributed to this Society at the usual meeting on Tuesday evening, October 22nd, at the Abbey Hall, by the Rev. Alan Cheales, the attendance, unfortunately, being particularly scanty. The President, Mr. T. H. White, occupied the chair. Mr. Cheales quoted poetical references to the Rose from Herrick, Fenton, Gay, Sheridan, Cambridge, Congreve, and Sir Walter Scott. The Rose claimed the poet as much as the poet the Rose. He further quoted from the Greek and Latin poets, and referred to passages by Camoens, Ariosto, Browning, Dr. Watts, Hood, Dodsley, Schiller, Tennyson, Jean Ingelow, Dryden, Edmund Moore, Montgomery, Shenstone, Shakespeare, Rutherford, Gray, Whitehead, and others. Many countries claimed and cherished the Rose. In no land had it made itself so much at home as in England. The Rose had long been the national badge; and many had thought that the Rose itself gave the name to our island. Mr. Cheales passed on to the progress of the Rose, dealing more particularly with the historical side of its development, and gave the names of some of the best specimens, and stated the dates of their introduction. He also imparted valuable information with reference to raising from seed, briaring, budding, and exhibiting. A discussion followed, and Mr. Cheales replied.—("Reading Mercury.")

— FLOWERING OF JERUSALEM ARTICHOKES.—It is not at all an unusual thing for this vegetable to flower in the gardens here, as they do so nearly every year. The flowers, however, are more abundant this year than I have ever known them. We have a bed about 30 yards long by 12 wide, and the stems rise from 12 to 15 feet high. They have been on the same ground for the last fifteen years, and no manure is given except the ashes of burnt refuse. For about a month the flowers made quite a display, but the frosts during the past week have now spoilt them. Ten degrees have been recorded here on three mornings.—A. HARDING, *Orton Gardens, Peterborough.*

— ACONITUM FISHERI.—This late-flowering Monkshood makes a very dwarf and compact plant, hardly a foot high, with large panicles of pale purplish-blue flowers. It remains in bloom for a considerable time, from September until late in the autumn, and will grow in very dry and sunny positions. During a dry season it is one of the few hardy herbaceous plants that stand perfectly fresh and healthy, uninjured by sun and drought. The flowers, says the "Garden and Forest," are larger and of a paler colour than those of the common Monkshood (*A. Napellus*), and the inflorescence is immense, considering the size of the plant. The ternate leaves are very thick and leathery and of a deep green colour. The compact, floriferous habit of this plant makes it valuable for rockeries and select borders. All Monkshoods are, however, very poisonous, and the nearly related Delphiniums are far more desirable for small lawns and gardens.

— THE SURREY COUNTY TRIAL POTATOES.—Permit me to state, in relation to the varied results from cooking found in the tubers of similar varieties of these Potatoes at Carshalton, that whilst in some cases the leafage at lifting time had disappeared, in other cases it was still strong and vigorous. It was a matter of necessity that all should be lifted by the end of September. If some of the breadths could have been left a fortnight longer no doubt the tubers would have materially improved in texture. Very great allowance must be made; first, for the fact that the long spell of drought rendered, with all late varieties, the formation of tubers unduly late, hence very many sorts had the tubers when lifted with skins of the tenderest. Also, second, that so many of the varieties were those which improve by keeping; therefore cooking early in October was hardly a fair test of quality under such conditions. But all the same, the cooking gave very excellent results generally, especially from the sandy and chalky soils. In all cases the tubers were cooked in their skins, and for that reason fully five minutes longer boiling was needed. From a cropping point of view, it was most evident that the richest soil was not so tuber-productive as poorer soil that had been trenched previous to planting, the former soil having only been ploughed or shallow dug. The trial has, however, proved that sand and chalk give not only least disease, but the best quality in the tubers, though not always such size as may have come from stiffer soils. The total number of varieties was seventy.—A. DEAN.

— WAKEFIELD PAXTON SOCIETY.—The subject for discussion at the meeting on the 19th inst. of the members of the Paxton Society was "Apples." Mr. Brown of Outwood was in the chair, and Mr. B. Whiteley occupied the vice-chair. There was a large attendance. There was a magnificent exhibition of kitchen or cooking and dessert Apples, no less than 100 dishes, sent by various local growers, being placed on the tables by Mr. Blackburn, the energetic and popular Curator. The essayist was Mr. Thomas Wilson, foreman at Silcoates Nursery, and his maiden lecture was of a thoroughly practical, useful, and interesting character, and secured for him some well deserved eulogiums. His lecture had been carefully prepared, was up to date, and it was well read. Mr. Wilson, who has had much experience in the growing of fruit trees, gave the Paxtonians the full benefit of it, and no doubt his lecture will have the effect of inducing some persons who are not already owners of Apple trees to secure a few. He commenced by pointing out the best site for an Apple orchard, saying that it should be on a gentle slope, and sheltered as much as possible from the west winds. The soil should be a rich, open loam, and the best stimulant was partly decayed stable manure. He warned his audience against planting Apple trees too deeply, and he recommended the pyramid and bush forms of tree as the best. Yearly pruning was necessary to success; the trees should not be allowed to become entangled masses like some of the old Apple orchards. He denounced the practice of ringing Apple trees, named the dessert and kitchen Apples which thrive best in the district, and said that Apple trees would become both pleasing and profitable if grown in shrubberies and borders, and a long and interesting discussion followed the lecture.—("Wakefield Express.")



CHRYSANTHEMUM SHOWS.

As is usual at this time of the year we have received numerous intimations of Chrysanthemum shows which are to be held during the coming season. Space, however, can only be found for mentioning those which have been advertised in our columns. If any have been omitted we shall be glad to add them to the following list. We append the names and addresses of the respective secretaries.

- Nov. 2nd.—CRYSTAL PALACE.—W. G. Head, Crystal Palace, S.E.
- „ 4th and 5th.—BATTERSEA.—J. O. Langrish, 167, Elsley Road, Battersea, S.W.
- „ 5th and 6th.—HANLEY (Staffs).—J. and A. Kent, Hanley, Staffs.
- „ 5th and 6th.—HEREFORDSHIRE.—J. Ough, Hereford.
- „ 5th, 6th, and 7th.—NATIONAL CHRYSANTHEMUM SOCIETY (Royal Aquarium, Westminster).—R. Dean, Ranelagh Road, Ealing, W.
- „ 5th and 6th.—BRIGHTON.—The Secretary, 56, Queen's Road, Brighton.
- „ 5th and 6th.—WATFORD.—C. R. Humbert, Watford.
- „ 6th.—READING.—W. L. Walker, Dunollie, Bulmershe Rd., Reading.
- „ 6th and 7th.—BROMLEY (Kent).—W. Weeks, 29, Widmore Road, Bromley, Kent.
- „ 6th and 7th.—WOLVERHAMPTON.—J. H. Wheeler, The Gardens, Glen Bank, Tettenhall.
- „ 7th.—BIRKENHEAD AND WIRRAL.—W. Bassett, 23, Grove Road, Rock Ferry.
- „ 7th and 8th.—HARROGATE.—L. Hobkinson, 40, Cold Bath Road, Harrogate.
- „ 8th.—WINDSOR.—Mr. Finch, High Street, Eton.
- „ 12th and 13th.—KINGSTON-ON-THAMES.—F. J. Hayward, High Street, Kingston-on-Thames.
- „ 12th and 13th.—LIVERPOOL.—W. Dickson, 7, Victoria Street, Liverpool.
- „ 12th and 13th.—PLYMOUTH (West of England).—C. Wilson, 4, North Hill, Plymouth.
- „ 13th and 14th.—BIRMINGHAM.—J. Hughes, High Street, Harborne, Birmingham.
- „ 13th and 14th.—BOURNEMOUTH.—J. Spong, Landisfarne Gardens, Bournemouth.
- „ 13th and 14th.—BRISTOL.—E. G. Cooper, Mervyn Road, Bishopston, Bristol.
- „ 13th and 14th.—HERTFORD.—Jason Fears, Hertford.
- „ 13th and 14th.—HULL.—E. Harland and J. Dixon, Manor Street, Hull.
- „ 13th and 14th.—RUGBY.—William Bayant, 8, Barby Road, Rugby.
- „ 14th and 15th.—WINCHESTER.—Chaloner Shenton, Westgate Chambers, Winchester.
- „ 15th and 16th.—BOLTON.—J. Hicks, Markland Hill Lane, Heaton, Bolton.
- „ 15th and 16th.—ECCLES AND PATRICROFT.—H. Huber, Hazeldene, Winton, Patricroft, Manchester.
- „ 15th and 16th.—SHEFFIELD.—W. Houseley, 177, Cemetery Road, Sheffield.
- „ 15th and 16th.—BRADFORD.—J. Collier, 51, Midland Road, Frizinghall, Bradford.
- „ 19th and 20th.—LEEDS PAXTON.—J. Campbell, Methley Park Gardens, Leeds.
- „ 20th and 21st.—SOUTH SHIELDS.—Bernard Cowan, Harton, South Shields.
- „ 20th, 21st, and 22nd.—YORK.—J. Lazenby, 13, Feasegate, York.
- „ 29th and 30th.—ALDERLEY EDGE.—G. Leadbetter, jun, Fern Bank, Trafford Road, Alderley Edge.

CHRYSANTHEMUM LAGO MAGGIORE.

STAGED at the meeting of the Royal Horticultural Society, held in the Drill Hall, on the 15th inst., by H. Briscoe-Ironside, Esq., Cedar Lodge, Burgess Hill, was a superb Chrysanthemum named Lago Maggiore, that was deservedly adjudged an award of merit by the Floral Committee. It belongs to the Japanese section, and extensive though this already is, the variety mentioned, and which is represented by the woodcut (fig. 66), cannot prove other than an acquisition. The reflexing florets are long, slightly twisted at the point, and of a most beautiful yellow colour. To some minds the blooms as exhibited might appear rather flat, but that is common to many new varieties when first exhibited, and fulness follows in due time. Bearing in mind the popularity of yellow Chrysanthemums, we are of the opinion that Lago Maggiore will, when known, be accorded extensive cultivation. It is such an intense yellow that its colour is said to shine out clearly under artificial light.

NEW VARIETY "EMILY SILSBURY."

THE above new white variety which, through a clerical error, has been spelt "Spilsbury" in your previous reports of this new introduction, was raised at Shanklin by Mr. Martin Silsbury, who, with his brother James, cultivates a very choice selection of Chrysanthemums and Carnations. They have been very successful hybridists, and the cross between Condor and Miss Anna Hartshorn produced various varieties, the best being the above, which will be a grand addition to our exhibition varieties, plentiful as whites now are. The flowers certainly approach in character *Mdlle. Thérèse Rey*, but instead of having an outer ray of long guard-like florets and then building up pyramidal, as in the latter, it builds up a regular solid flower after the shape of *Vivian Morel*. It is also constant, and can be had in bloom in all stages and all seasons, which cannot be said of *Madame Thérèse Rey*, which is a rather uncertain variety, so many of the buds coming blind. I have had an opportunity of seeing this variety for the last two years in different stages, and can confidently recommend it as being a distinct and fine variety either for decoration or exhibition.—C. ORCHARD, *Bembridge, I.W.*

CHRYSANTHEMUM DUCHESS OF YORK.

ON page 366 "R. P. R." in his notes anent the Chrysanthemums in the Liverpool district quotes from some of the growers their opinion that this Japanese "will never become large enough to rank with the best for exhibition." With a view to assuage the feelings of the said growers somewhat I send you a bloom to show that there is no need for fear on this score. The flower in question has been cut several days, and has therefore lost its freshness somewhat, or what is generally known as having "gone down." You will be able to see, though, what a magnificent bloom it was when first cut; you will also note what a lot of "stuff" it has in it, as growers use the term. When cut it measured $7\frac{1}{2}$ inches in diameter without being in any way stretched out. In depth it was 6 inches. I think the disappointed Liverpool growers will admit that a bloom measuring these sizes is "large enough to rank amongst the best exhibition varieties." Wilfred Marshall is certainly a deserving variety, but it lacks the grace of petal and refinement of well-grown blooms of the Duchess of York. In my opinion this Japanese Chrysanthemum provides an ideal form for raisers and cultivators to keep in their mind's eye, as it were. I was prepared to hear complaints of a similar character this season, but any want of size or fulness in the blooms I attribute to the weakness of the plants obtainable this spring, owing to the very hard propagation required to meet the popular demand.—E. MOLYNEUX.

[The bloom is very fine, and quite large enough even for exhibiting at Liverpool.]

NATIONAL CHRYSANTHEMUM SOCIETY.

WE are requested to announce that the Great Jubilee exhibition of the N.C.S. in 1896 will take place on November 3rd, 4th, 5th, and 6th.

ON Monday evening last the General Committee of this Society held a meeting at Anderton's Hotel, Fleet Street, Mr. B. Wynne presiding. After the minutes had been read and confirmed and other preliminaries disposed of, the Secretary reported that all the prize money awarded at the October show had been paid, and a list of exhibitors of miscellaneous groups was read to whom medals had been awarded, all of which were confirmed.

Complaints were made of the bad lighting of the Royal Aquarium during the afternoon and evening, and a resolution was passed directing the Secretary to call attention to the matter, and expressing a hope that it would be better on the occasion of the ensuing November Show. The Committee then had under consideration some details relating to the Jubilee Exhibition next year, which occupied a large portion of the evening. A preliminary schedule of the special Jubilee classes is in the press, and will be shortly ready for publication. A list of contributions to the special prize fund of £1000 has been opened, and it is hoped that a cordial response will be received, so that this important event in the annals of horticulture may be celebrated in a befitting manner.

A motion was made that a bronze Jubilee medal be presented to every local society affiliated to the N.C.S. in October, 1896, for competition at their shows next year. This was done in the centenary year (1890), and the medals much valued.

It was announced that the Society's annual dinner will take place on the 27th November, and that Sir Edwin Saunders will preside.

Mr. G. Gordon, in referring to the proposed new edition of the Society's catalogue, recommended the Committee to follow the precedent set some years ago, when thirty of the leading experts were asked to send in returns for the purpose. Mr. Payne, in reply, said it was a valuable suggestion, and as the Catalogue Committee were to hold a meeting that evening, the recommendation should be considered, and he expected that the report of the Catalogue Committee would be presented on the next occasion of the General Committee meeting.

Mr. Godfrey, and others. First-class certificates were awarded as follows :—

Edith Tabor.—A very fine Japanese of large size with long drooping florets curly at the tips; colour a pure canary yellow faintly shaded lemon yellow. From Mr. Notcutt.

Mrs. C. Blick.—A large Japanese, with narrow grooved florets curly at the tips; colour pure white. Shown by Mr. Chas. Blick.

John Seward.—Japanese, with a great length of floret; a large



FIG. 66.—CHRYSANTHEMUM LAGO MAGGIORE.

The election of new members, twenty-six in all, followed, and the meeting, which was fairly well attended, closed rather earlier than usual at this time of the year.

A MEETING of the Floral Committee was held at the Royal Aquarium on Wednesday, October 23rd, when Mr. T. Bevan occupied the chair. There was a large attendance of members and visitors, and a remarkable display of novelties, some of them being in excellent form. Among the numerous exhibitors on this occasion were Messrs. Cannell and Sons, Mons. Ernest Calvat, Mr. Briscoe Ironside, Mr. H. J. Jones, Mr. Wm. Seward, Mr. J. H. Weeks, Mr. W. Wells, Mr. R. Owen,

substantial show flower; florets rather broad and of medium width; colour a beautiful shade of deep canary yellow tinted lemon yellow, reverse silvery. Raised and exhibited by Mr. Wm. Seward.

Dorothy Seward.—A deep rich crimson Japanese tinted carmine, fine golden reverse. Also from Mr. W. Seward.

Mrs. J. Shrimpton.—A large Japanese with very long florets which are twisted at the tips; colour deep orange yellow streaked reddish crimson. Another of Mr. Seward's.

Piccinino.—This is a pretty Pompon raised by Mr. H. Briscoe Ironside; it is rosy purple in colour with a silvery reverse; a neat little globular flower. Exhibited by the raiser.

Lady Byron.—A big globular Japanese, incurving in form, a cross between Mrs. Alpheus Hardy and Puritan; broad grooved florets strongly incurved; a solid-looking flower for the exhibition board; colour pure white. Sent by Mr. J. H. Weeks.

Miss Annie Holden.—A single variety; a yellow Mary Anderson. From Messrs. H. Cannell & Sons.

Mutual Friend.—A large white American-raised Japanese, with very long wax-like florets, curly at the tips, deeply grooved, and a fine addition. Mr. E. Beckett was the exhibitor of this.

Emily Silsbury.—A white Japanese of spreading form, erroneously referred to in a former report as Emily Spilsbury. Staged by Mr. H. J. Jones.

D. B. Crane.—One of the old type of incurved, but of an unusually deep golden shade of amber; a solid and substantial looking flower. From Mr. H. J. Jones.

Ethel Addison.—A massive incurving Japanese with very broad florets, forming a globular flower of large proportions; colour inside rich rosy amaranth, reverse silvery. Also from Mr. Jones.

Dorothy Gibson.—A large reflexed variety, with regularly arranged flat florets; above the usual size, and probably of Japanese origin; colour deep golden yellow. From Mr. R. Owen.

There were some other noteworthy exhibits, which the Committee wished to see again; and perhaps the most meritorious of the varieties that failed to secure awards were Madame A. de Galbert, a large white Japanese with broad florets; Mrs. James Lewis, a big solid Japanese, colour creamy white, one of Mr. Calvat's novelties for 1896; T. B. Haywood, of the same type and colour; Ré d'Italia, a long straggling Japanese, crimson and yellow; Beauty of Teignmouth, Japanese incurved, amaranth crimson and silver reverse; M. Georges Biron; Pride of Madford, an Australian seedling, yellow; Source d'Or; Madame Ad. Moulin, M. G. Montigny, M. Benj. Giroud, and M. Aug. Gaché.

ENGLISH CHRYSANTHEMUM RAISERS.

APART from the trade growers, it is interesting to observe at the recent floral meetings that English amateurs are still pursuing the interesting work of seedling raising. Mr. William Seward brought forward at the Aquarium meeting on the 23rd inst. several promising novelties, of which three were awarded first-class certificates. Mr. H. Briscoe Ironside also staged a number of Japanese and Pompons, and was awarded a certificate for a pretty little Pompon Piccinino, already described in another place. All Mr. Ironside's novelties bear Italian names, such as Pallanza, Castagnolia Milano, Suno, and Ré d'Italia. The last-named belongs to what might be termed the spidery class of Japanese. It has an enormous length of floret, and the bloom would measure more than a foot across. The florets are tubular, golden straw, yellow outside, with a lining of reddish chestnut inside.

YELLOW CHRYSANTHEMUMS.

WE had a good instalment of these last season, and Duchess of York, Admiral Avellan, Miss Goschen, M. Panckoucke, Wilfred Marshall, Duchess of Wellington, Miss Maggie Blenkinson, Charles H. Curtis, H. L. Sunderbruck, Globe d'Or, Directeur Tisserand, and Charles Cox, mostly belonging to the Japanese section will no doubt all be seen in good form this season.

This season, however, some new competitors have appeared on the scene. Phœbus, recently certificated, is a very pretty tone of colour; Boule d'Or, already mentioned, and figured in the Journal, is another; A. H. Fewkes, an American incurving Japanese, is a good addition; so, too, is Mr. Owen's little Pompon Yellow Gem. John Seward is very fine, even for a novelty; but the palm must, I think, be awarded to Edith Tabor, whose delicate shade of canary yellow tinted lemon, and its large size and graceful drooping florets will recommend it to many exhibitors. It is as shown a most telling variety.—P.

SPECIALTIES IN SCHEDULES.

FOLLOWING my usual plan of noting the salient points in the prizes offered by the leading societies devoted to Chrysanthemums, I find I have in my diary this year a note of not less than 106 competitive exhibitions, commencing with Havant, October 29th, and finishing with Dunfermline, November 30th. The annual show of the Kent County Chrysanthemum Society, which opened the London season, is reported in another page.

Saturday, November 2nd, is the day selected for the exhibition at the Crystal Palace—a site not excelled anywhere. Formerly the combination class was much in vogue here, but a change is now being tried. Substantial prizes are offered for the two sections—Japanese and incurved separately. For thirty-six of the former in not less than twenty-four varieties, £6, £5, and £4 are offered in three prizes. Classes are provided to embrace all sections, sufficient to make a really good show. Plants in pots receive considerable encouragement.

Monday, November 4th, is the chosen date for three shows, St. Neots, Dulwich, and Battersea. On Tuesday, 5th, the N.C.S. holds its carnival in the Royal Aquarium. This is the chief exhibition of the year. The valuable trophy and £10 is given to the first prize collection, which may be contributed by one person or by several belonging to one society. The greatest interest, though, is centred in the two large classes in which the Holmes' Memorial cups play such an important part. In the Japanese section forty-eight distinct blooms are required. In addition to the cups alluded to, £10, £7, £4, and £2 are offered in four prizes. Similar sums are provided for the incurved section, the class being confined to thirty-six blooms, distinct. In the former section Mr.

Lees is the holder of the coveted trophy, and Mr. Mease in the latter is enjoying the sweets of victory of last year. From what I hear there is likely to be a great struggle this year to wrest these trophies from the present holders. In the class for twenty-four distinct Japanese blooms a silver cup, value 7 guineas, is added to the cash prize of £3 for the winner; truly a liberal provision. What should prove an interesting class is the one for eighteen Japanese blooms shown in six vases, with not less than 1 foot of stem to be seen above the top of the vase. Plants in pots, too, receive much encouragement. The President offers a handsome drawing-room clock, valued at £8, as first prize for a group of Chrysanthemums, mingled with foliage plants arranged for effect in a space 20 feet by 8 feet.

At Brighton the same day, what usually proves to be a remarkably good show opens. Nowhere can better groups of Chrysanthemums alone be seen than here; £5 is offered as first prize, with three others of substantial value. Ten other classes are provided for plants. Cut blooms receive considerable attention also. For thirty-six Japanese, in not less than twenty-four varieties, a challenge cup and £5 is offered for the premier award.

Watford, Ascot, and Windsor hold their shows on the 5th, 6th, and 8th. All three are of importance in the metropolitan area. The former is noted for the high quality of the Japanese blooms, Ascot for its cut blooms and groups of Chrysanthemums, and Windsor for general excellence.

At Exeter on the 7th the 182nd November meeting is held. Very fine are the cut blooms, Apples, and Pears at this show annually.

The following week is an extraordinarily busy one, there being no less than fifty exhibitions. On Tuesday, 12th, the Kingston, Plymouth, and Liverpool shows are held amongst others. At the former place the usual 25-guinea cup is offered for forty-eight cut blooms, and numerous other classes are provided.

Most liberal are the prizes offered at Plymouth for cut blooms, £10, £7, £4, £2 being given for forty-eight Japanese in twenty-four varieties; £4, £3, £2 for twenty-four incurved, and numerous other classes as well are amply provided for. A competition between the horticultural societies of Devon, Somerset, Dorset, and Cornwall should prove interesting. The class—twenty-four Japanese and twelve incurved—is a very easy one to fill.

Going northward, we find the Horticultural Association of Liverpool holding its annual show, as usual, in St. George's Hall. Perhaps in no other place have Chrysanthemums been so long and so well cultivated as in the Liverpool neighbourhood. The autumn show is still one of the best in the country. Liberal prizes are offered, and as growers are so numerous the competition is especially keen.

On Wednesday the 13th no less than eighteen meetings are held, many of them important ones, especially those held in the northern centres. Birmingham has long enjoyed the reputation of holding one of the finest autumn shows in the country; nowhere have I seen such competition as here in the large classes. For twenty-four incurved blooms, distinct, prizes of £10, £7 10s., £5, £2 10s., £1 10s., and £1 are offered. Similar prizes are provided for the same number of Japanese blooms. Specimen-trained Chrysanthemums are perhaps seen better here than at any other show. The exhibition of Primulas is in itself worth going miles to see.

Hull opens its show on the same date, and is looked forward to with much interest. No society offers so many and such valuable prizes for Chrysanthemums alone as this. The finest groups of Chrysanthemums and foliage plants are seen here annually. A challenge vase, value 20 guineas, along with £6 in cash, is offered as first prize; this, with substantial second and third prizes, naturally incites brisk competition. Much progress has here been made, too, in the growth of specimen Chrysanthemums. It is, however, in the cut bloom department that the exhibition is strong; no less a sum than £10, with a silver cup, is offered for twenty-four incurved blooms in eighteen varieties. A similar class is provided for the Japanese section, with the exception that the blooms are required to be distinct. A new class has this year been introduced into the schedule. Twelve vases of Chrysanthemum blooms, in twelve varieties, three blooms of each to be shown on foliated stems above the vase. Five guineas are offered as first prize, which should incite competition.

At Bristol the thirty-second autumn exhibition commences on the same day as Hull and Birmingham. This is the most important Chrysanthemum centre in the West of England; many excellent specimens, both plants and cut blooms, are seen here. A challenge vase is offered as first prize for thirty-six Japanese blooms, and for twenty-four incurved £5 is offered as the leading prize.

In the winter gardens attached to the Hotel Mont Doré the Bournemouth Chrysanthemum Society holds its exhibition, which if not as large as some noted, is productive generally of some of the best blooms seen during the season. £10 are offered as first prize for thirty-six blooms, half to be incurved and the remainder Japanese; good second and third prizes also are provided.

At Cardiff the Welsh cultivators meet in friendly rivalry on the 13th inst. The classes are easy and the prizes good, while the exhibits leave little to be desired. One of the best of southern exhibitions is that held at Reading on the same date. Cut blooms here are usually quite up to the highest standard of merit, the classes numerous, and the enthusiasm great.

Many notable exhibitions are to be held on the 14th inst. Perhaps the most important is that of the Scottish Horticultural Association in the Waverley Market Hall. No site is better adapted for such a meeting in the United Kingdom, and certainly more enthusiasm could not be

displayed than is found amongst Scottish gardeners. The prizes are numerous and good; £20 in plate is given as first prize for forty-eight Japanese blooms, with £12, £8, £5, and £3 to follow. Much encouragement is given to Chrysanthemums in vases, to be staged with stems and foliage; £7 is offered as first prize for twelve vases, three blooms in each.

If not a large show, that held on the same date in the Guildhall, Winchester, ranks as one the best in the kingdom for the quality of the blooms displayed. The usual challenge vase with £7 added is given as first prize for forty-eight blooms in two sections.

The meeting at Bradford is fixed for the 15th also, and is sure to be a good one. The Ancient Society of York Florists meets in the exhibition building on the 20th. No less than forty-eight classes are scheduled for Chrysanthemums alone, the bulk of them having substantial prizes allotted.—E. MOLYNEUX.

THE ISLE OF WIGHT.

MANY were the surmises amongst growers as to what effect the almost tropical weather experienced during the past summer would have on the Chrysanthemum; and doubts were expressed as to whether the result would not be over-ripened wood and premature flowering. Such, however, is not the case here, the salubrious air, combined with the high temperature, seems to have suited the plants well, for taking them all around they have rarely been seen better. The chief complaint is the ravages of green fly and other insect pests which are more plentiful than usual this year.

Many of the newer Japanese varieties have not come up to their reputation, due, no doubt, to hard propagation the first season. Whites seem to predominate, and yet there is room for improvement, for we have not yet reached the required ball of snow, so many having greenish shades or heavy massive florets. Yellows have received some good additions, but a good Sunflower is yet very hard to beat. Some good primrose shades seem wanting to tone down the more decided colours. Now some of our English raisers are working and crossing scientifically we may yet command some colours and tints yet unapproached.

Mr. H. LOVE, SANDOWN. — Being a very successful prizewinner this season and last at the National Chrysanthemum Society's exhibitions, Mr. Love has added to his local reputation as being a very successful amateur cultivator. His annual display of plants and cut flowers at his business shop in the town have "pulled up" many a passer-by, and it is not too much to say the very fine blooms of the choicest varieties arranged have surprised many of the public, and given an impetus to the more general cultivation in the neighbourhood. The plants are grown by him in his garden at Morton, and flowered in two lean-to houses. Here he may be found nearly every afternoon assiduously attending to his favourites, and the display well repays him for his labour. The plants are dwarf and generally strong and robust, the collection containing most of the newest varieties.

Mrs. C. E. Shea looks promising, long drooping florets, sulphury white; Madame Carnot, another fine white, broader florets; Philadelphia is dwarf and very promising, opening sulphury white; The Queen, large, and a heavy built flower; and Mrs. Walter Cutting, blush white, with stout florets. Of yellows, Duchess of York is unfolding early narrow florets, but it is too soon to form an opinion of its merits; Duchess of Wellington has longer and stouter florets of a deep colour.

Sunflower is well represented, and very telling; Golden Wedding, looks to have outlived the disease, but coming late; President Armand is a very distinct flower, with its long, half-tubular florets, showing more of the brassy amber turnover than the deep crimson inside. The two are a striking contrast. Robert Owen is coming much better this year, and is grand here; also Duke of York, Commandant Blusset, Lily Love, Charles Davis, Colonel W. B. Smith, Mrs. E. G. Hill, Colonel Chase, Van den Heede, Hairy Wonder (very good), Madame Octavie Mirbeau, and Louise, very fine and dwarf.

J. DARBY, ESQ., YARBOROUGH HOUSE, BRADING.—Here Mr. George Bent, the gardener, has again a splendid collection of about 300 well grown plants, stout, bushy, and healthy, carrying from three to twelve flowers of the highest quality, and likewise containing many of the newest varieties. Duchess of York is rather late, but looks promising. Philadelphia is deep, full, and creamy white. Madame Carnot, large and good. Mdle. M. A. de Galbert is another fine white in the way of Mdle. Marie Hoste. Mons. Chas. Molin is a fine well-built flower, a great improvement on L'Adorable. Pallanza is a beautiful deep yellow of medium size. Mrs. W. H. Lees is large, white, and good. Challenge, yellow, is coming much better this year. Richard Dean has large chestnut red flowers; and H. Jacotot Fils, a strong grower, with large petals, crimson, with a golden reverse, is also very effective. Mons. Gruyer, a large rose pink, is this season good, as also is Lady Randolph, purple amaranth. President Armand is a grand addition, and Mrs. W. G. Godfrey is one of the largest of the hairy section.

Duchess of Wellington is of good colour and fine flower. Madame Chas. Molin, a large white. Eda Prass, very pretty pink. J. W. Moorman, incurved Jap. of good substance. James Agate, white incurved, with good flowers; and Viscountess Hambledon, are all included in superb condition. Other good varieties are Mons. Georges Biron, Inter-Ocean, The Queen, Mons. L. Sunderbruck, Madame Ad. Chatin, Miss Maggie Blenkiron, L'Isère, very fine and distinct, of the Dragon type; Robert Owen, good; Mrs. T. Denne, Hairy Wonder, Van den Heede, Good Gracious, Florence Davis, Niveus, Royal Windsor, Mutual Friend, Mdle. Thérèse Rey, Lord Brook; Rose Wynne, Thos. Wilkins, H. Shoesmith, and Mons. Sunderbruck.

UNDERMOUNT, BONCHURCH.—This beautiful demesne of H. Mitchell, Esq., is situated in one of the most charming parts of the Undercliffe, screened from the north and east by lofty hills and Ivy-covered rocks. It is approached from the main road by a unique carriage drive forming a tunnel cut through the solid rock of a lofty cragg, the tunnel being decorated with shells and antlers. The front commands a splendid view of the English Channel, as seen through the stately Elms and lesser ornamental foliage plants which abound to the water's edge. Passing through ranges of Orchid houses, ferneries, stoves, and vineries, stopping only to notice a splendid house of Maidenhair Ferns in varieties, we reach a vinery containing Chrysanthemums reserved for exhibition cut blooms. Mr. Frank Orchard, the gardener, is at home amongst the Chrysanthemums. Having previously won honours in other parts of the country, he entered for and secured the Isle of Wight challenge cup last year for thirty-six cut blooms, and is now preparing for the final tussle next week at Ryde. The collection here comprises about 700 plants of all sections. The principal show is in the magnificent conservatory attached to the residence, amidst lofty Palms and Tree Ferns, and overhung with Bougainvilleas, Cobæas, Jasminums, and other creepers which hang suspended from the iron girders that support the dome. The effect is grand, and the approach to the reception rooms is flanked on the right and left by two well-arranged groups on a raised stone balcony, others being dotted amongst the Ferns and Palms, a group of Pompons around the fountain basin beneath, and well-trained standard Chrysanthemums on the balcony steps, the whole being very effective far into the winter months.

Some of the finest blooms of Japanese are Ethel Addison, broad florets and large flower; Wilfred Marshall, Viscountess Hambledon, Mrs. E. S. Trafford, distinct shade of bronze; Louise, very solid; Duchess of Wellington, good colour and fine; Duchess of York, is late here; Vice-President Audignier, very fine; also Miss Alice Seward, a full, round flower; Mrs. E. G. Hill, Silver Cloud, very promising; Commandant Blusset, grand colour; A. H. Fewkes, good grower and deep colour; Wm. Fife, Gloire du Rocher, Wm. Seward, Puritan, Bride of Maidenhead, Beauty of Exmouth, Vivian Morel, H. Jacotot Fils, Miss Rose Shotta, Miss Goschen, W. G. Newitt, pure white; L'Isère, Mrs. F. L. Aimes, C. Orchard, distinct colour, and coming full flower; Mdle. Thérèse Rey, Mons. Panckoucke. Amongst the incurved first must be mentioned Globe d'Or, a grand flower, and a decided acquisition; Lord Rosebery, rather washy colour; Robert Petfield, Madame Darier, John Lambert, Lord Alcester, Queen of England, Violet Tomlin, Belle Wilson, good colour; Mons. R. Bahuant, and Miss Marie Simpson.

THE CASTLE, ST. HELENS. — The gardens of this very pretty residence of S. W. Ridley, Esq., overlooking Bembridge Harbour, contain a very good collection of plants and fruits in its well-kept grounds; and the glass houses for some years past have supplied many of the local exhibitions with the principal specimen plants, both hard and soft-wooded. Mr. G. Wilkins, the gardener, has won high honours in all classes of garden produce, as well as for Chrysanthemums; and although he does not now exhibit, there is still a collection of about 300 plants grown, some of which are producing exceptionally fine flowers. It is a pleasure to see that very chaste variety Mrs. J. Wright again in such excellent form, two plants only 6 feet in height bearing six flowers each, with pearl-like florets, being very distinct from other whites, and too good to discard yet. Excelsior is also good in form and colour. Amongst others Gloire du Rocher, G. C. Schwabe, Edwin Molyneux, good; Mdle. Marie Hoste, Florence Davis, Princess May, Eda Prass, Sunflower, grand and good; Vivian Morel, L'Isère, Commandant Blusset, Inter-Ocean, Mdle. Leo Levêque, The Queen, fine large flower; and Madame Ad. Chatin are all worthy of mention. There are also some very fine incurves grown here, most of the best exhibition varieties being well represented. Jeanne d'Arc is especially good this season.

ST. HELEN'S HOUSE.—This is situated opposite the former, and also the seat of S. E. Ridley, Esq., Mr. G. Wilkins having charge of the two places. In a long glass range the variety Edwin Molyneux is coming good, there being some of the best blooms hitherto seen this season. Other good varieties are Alberic Landen, Col. W. B. Smith, good; W. K. Woodcock, Waban, Golden Dragon, good; Miss Dorothy Shea, rather dull; Mons. Bergman, good yellow, medium size for cutting purposes; Mrs. J. Clinton, primrose yellow; Gloire du Rocher, Mrs. J. Wright, Mrs. G. Glenny, Jeanne d'Arc, good; Mons. R. Bahuant, and others.—C. O.

ROYAL EXOTIC NURSERIES, CHELSEA.

IN spite of many drawbacks, such as a smoky atmosphere and other disadvantages well known to Chrysanthemum growers in metropolitan districts, the various collections are this year of a high order of merit, proving that London growers are second to none in the cultivation of these popular flowers. Messrs. Jas. Veitch & Sons, whilst not making such a speciality of Chrysanthemums as some other well known growers, have this season a show at Chelsea in every way worthy of this famous firm. Those who saw the variety and general excellence of the blooms shown in their group at the early Aquarium show, in spite of the unfavourable influence of the late recent September sunshine, would gather some idea of the superior cultivation brought to bear on the Chelsea collection. Mr. J. Weeks, the competent grower, appears to have attained a very commendable object—viz., producing large, perfectly shaped flowers on dwarf plants, and these placed in long lines down the span-roofed houses have a most effective appearance. The main portion of the plants are grouped in a large house, forming a massive bank of bloom.

As might be expected, Messrs. Veitch's list is a complete and exhaustive one, which, while it includes all the recent introductions, contains many old favourites which have won honours in many a contest. As in other cases, complaints are made of the detriments caused amongst the early buds by the tropical sunshine; though any shortcomings arising from this cause are counterbalanced by the general excellence of the successional flowers. The plants themselves speak plainly of good culture, being sturdy and clothed to the pots with green, leathery foliage, a condition aimed at by all Chrysanthemum enthusiasts. To enumerate even a small percentage of the varieties in evidence would be a task too great for the space at command, but here and there were noted several, some well known, others more rare, which called forth ejaculations of praise and were consequently dotted down.

Good blooms of M. Georges Biron claimed attention; it is of light crimson with buff reverse, and long, flat, and slightly drooping florets; the plants run about 3 feet 6 inches in height, are sturdy, and of good habit. Similar in character were examples of Mrs. F. James, with large blooms of orange shaded terra cotta. A handsome flower of extra size and substance is G. C. Schwabe, of bright carmine rose with gold points to the florets. Madame Ad. Moulin is a striking flower, white in colour with a green tinge, and of large, spreading, and drooping habit. Another bearing the same surname is M. Charles Moulin, a large reflexed bloom of good depth; the habit is dwarf, and the colour a striking combination of bronze and yellow. William Bolin was much admired with its broad petals, which recurve to a handsome specimen, while the colour is a rich rose amaranth.

Duchess of York has extra large flowers, massive and graceful in form, and of a soft light yellow shade, with florets long, drooping and elegantly cut. Mrs. W. J. Godfrey claimed much attention. It is a seedling from Mrs. Alpheus Hardy, of the same form and habit, but considerably larger; the florets are of great width, of good substance, incurving and decurving in an elegant manner. Pallanza is very striking at Chelsea with its refined flowers of the richest golden yellow. Dwarf, sturdy plants of Lady Randolph were also noticed, the large and full reflexed flowers, with florets amaranth crimson and silvery reverse, being singularly striking. Col. W. B. Smith is a fine variety of old gold colour with a shade of terra cotta, and long broad florets twisting in a distinct manner and building up fine incurved flowers of excellent proportions. Very promising looked the claret-crimson blooms of Thomas H. Dennis. Eva Knowles is well worthy of mention, having already won several certificates; the colour is reddish apricot with golden reverse, with florets long, spreading, and slightly reversed, while the habit, as seen at Messrs. Veitch's, leaves nothing to be desired. Miss Louise de Black is a good flower of rich golden yellow. Commandant Blusset, which has already figured conspicuously this season, was creditably represented, as also was Louise, a rosy blush with broad incurved petals and full flowers. Amongst others no longer novelties, but worthy of being placed with the best, were noticed fine examples of Louis Boehmer, Edwin Molyneux, and many others, together with excellent flowers of last year's sensation, Hairy Wonder.

Incurved are included in great variety, Charles H. Curtis, a fine deep yellow; Major Bonnafron, a finely formed flower of the same colour; and J. Agate, well known as being a fine bloom of pure ivory white, being distinctly conspicuous.

It would be an easy matter to go on discriminating and enumerating the superb examples included in the collection. Sufficient, however, has been said to show that Chrysanthemum culture, like everything else with which the appellation of Veitch is connected, is done well, and the present display is sufficient to place the firm in the front ranks of growers of the queen of the autumn.

RYECROFT NURSERY, LEWISHAM.

H. J. JONES—perhaps no name is better known in connection with the Chrysanthemum, and any visitor to the nursery of this accomplished grower would expect to see something out of the ordinary, for wherever these favourite flowers are grown—and indeed where are they not?—it may be taken as almost a foregone conclusion that there will be included varieties which owe their origin to the Ryecroft Nurseries. To any Chrysanthemum enthusiast a chat with a man so well versed in their culture, so up to date in his information, and so interested in his work, is a pleasure only to be surpassed by a visit to the field of his labours. The season of 1895 has on the whole been favourable to the Chrysanthemum grower, and the Ryecroft show is indeed a superb one—in point of numbers greater than any of its predecessors, while for quality it could not be readily surpassed.

For those who have not visited this nursery it would be no easy matter to comprehend the magnitude of the collection, and it is equally as difficult to describe in black and white the effect and variety caused by the 7000 plants grown. Three large houses are utilised for their reception, and in the first of these the middle and sides present a maze of flowers, while a winding path round the house does away with any idea of formality that might arise from the solid bank of blooms. In the other houses giants of many feet high occupy the centres, and the side stages are reserved for dwarf and decorative plants. Nomenclature in a collection like this is no small matter, yet there is no confusion, indeed Mr. Jones seems to know them all by sight, and the general rule seems to be large blooms and green healthy foliage from base to summit.

Mr. Jones' idea seems to be to keep up with the times, in some instances he appears to be a little in front of them, as several varieties were noticed at the date of our visit which are as yet but little or quite unknown outside the precincts of Ryecroft Nursery. Amongst these were Emily Silsbury, a grand bloom, coming midway between Condor

and Thérèse Rey, being pure white, large, full, and of superb form, and Mrs. G. Gower with blooms of crimson and gold, light and elegant, large and full in the centre. Maggie Shea is a fine seedling, canary yellow in colour, with a white reverse, while the bloom is large and of good formation. Mr. W. Wright is a Ryecroft seedling with long drooping petals of wine red inside, with a buff reverse. Another Ryecroft seedling of more than ordinary merit is Mrs. Cotesworthy Bond, an incurved Japanese with large flowers and medium petals of the purest white. Another good flower was noticed in Lady T. Smith, a Japanese reflexed; white, slightly flushed with rose. Mrs. Richards is a fine new white seedling, and in contrast the very deep yellow Japanese, Lago Maggiore (see fig. 66, page 417), attracted attention. Tendresse and Le Fringant, both new French seedlings, the latter bright crimson and gold, are promising well. A promising hairy flower, by name P. Marieton, claimed attention; it is of a deep golden chestnut hue, very distinct, and is considered by Mr. Jones to be of its class next in order to the now well known Hairy Wonder. The above are but a few of the many seedlings under trial; others have not yet flowered, and doubtless there are amongst these recent introductions some that will be heard more about later on.

Turning from the new to those that have undergone severe criticism during last and previous seasons, many of which came out of the ordeal with a certificate or some other honour. Though these have already been heard of they are so conspicuous at Ryecroft that to see and not mention them would be far from fair. First amongst the Japanese comes Duchess of York with its large massive blooms of a soft light yellow; the florets, which are long and exquisitely cut, droop and build up a true Japanese. Amongst others, for which Mr. Jones is directly responsible, were noticed Lady Randolph, a full reflexed flower with florets substantial, and of a fine amaranth crimson colour with silvery reverse. Mrs. H. T. Drewett is a most handsome flower, creamy white in colour; the shape is reflexed, and florets long and narrow. No variety is more conspicuous in the Ryecroft collection than that grand incurved Chas. H. Curtis; the colour is rich deep yellow, the blooms are extra large, well incurved, and of good depth, the florets being slightly pointed; it ought in fact to have a place in every collection. Another fine yellow variety of true Japanese character is Pallanza, a most striking flower of great refinement. Attention was directed to fine flowers of Duchess of Wellington, also a pure golden yellow with very long drooping florets, the centre incurving, and building up a large striking flower.

This extensive collection includes varieties from all sources, and amongst the transatlantic introductions were noticed A. H. Fewkes, a rich golden yellow of the E. Molyneux type, with broad flat petals; International is a spreading bloom of enormous size, and straw coloured in hue; Mrs. E. G. Hill has a fine, slightly incurving flower, white in colour, with a lavender shade.

The continental introductions are well represented by M. Joanny Molin, a fine dark crimson bloom of high merit; M. Thomas Hayllor, a remarkable flower of rich deep crimson, with silvery reverse, some of the petals twist, and give the flower of a two coloured variety; Mons. Panckoucke, which was much admired last year; and Phoebus, a clear, pleasing shade of yellow, with long, broad, and incurving petals.

Among the incurved varieties new introductions are much more rare, though superb flowers of many already known were conspicuous. These included D. B. Crane, a full, deep flower of rich bronze buff shaded red, with inside of petals light crimson; Mr. James Murray, a large globular pink flower of perfect shape; and Mrs. W. Peto, a fine golden yellow flower, and deep, well built flower. Space forbids the mention of others of merit; suffice to say that the collection throughout is of high order, and of the many seedlings on trial we may expect to hear more as the season advances.

CHRYSANTHEMUM SHOWS.

HAVANT.—OCTOBER 29TH.

THE twelfth annual autumn exhibition was held in the Town Hall and was a success. To this society belongs the credit of opening the regular autumn exhibitions of Chrysanthemums, and if this is a fair representation of what the season is to be we shall look forward to a busy one. As usual the cut bloom classes were the best, the quality leaving little to be desired in that direction. The arrangements were perfect under the able leadership of Mr. W. E. Tidy, the Honorary Secretary, assisted by a hardworking Committee. Fruit was well shown, but space precludes us giving details of the classes.

In the cut bloom department the principal class was that for twenty-four Japanese, in not less than eighteen varieties. Mr. Penford, gardener to Sir F. Fitzwygram, Bart., M.P., Leigh Park, Havant, was ahead of all others with large massive examples of Mons. Panckoucke, Mrs. W. H. Lees, W. Seward, Charles Davis, Edwin Molyneux, Madame Ad. Chatin, Vivian Morel, Col. W. B. Smith, Madame Carnot (magnificent), and Sunflower, amongst others. Mr. Tidy, manager Brockhampton Nursery, Havant, was a grand second; and Mr. C. Steptoe, gardener to G. Gale, Esq., Horndean, third. For eighteen Japanese, Mr. Agate, Havant, was easily first, staging blooms remarkable for colour and freshness; Mr. Woodfine, gardener to Major C. P. Boyd, Emsworth House, Emsworth, being a good second. In the class for twelve Japanese, Mr. Agate was again successful with a beautiful collection. Mr. Penford was second with smaller blooms; and Mr. Steptoe third.

Incurved varieties were numerous shown for this early date. For twenty-four, in not less than eighteen varieties, Mr. Penford was first with medium sized, neatly finished examples of Robert Petfield, Lord Alcester, Globe d'Or, C. H. Curtis, Madame Darrier, Princess of Wales,

and Violet Tomlin. Mr. Agate was second with smaller but meritorious examples, and Mr. Tidy third. For six blooms Mr. Agate was first; Mr. R. J. Palmer, gardener to E. C. Legge, Esq., Ashling House, Chichester, second; and Mr. Woodfine third. Anemone-flowered varieties were but sparsely shown, Mr. Steptoe winning for twelve with creditable examples. Pompons, in twelve bunches of three blooms each, made a pleasing display. Messrs. H. Snook (Fitzroy Street, Fratton), Agate, and Steptoe were the respective winners. Single-flowered varieties were well represented. For twelve bunches, of three blooms each, Mr. Agate was first and Mr. Steptoe second.

Groups of Chrysanthemums were not numerous. By far the most important exhibit in this section was that from Mr. Tidy, who staged plants carrying good blooms. Mr. Chester, gardener to Sir W. Pink, Shrover Hall, Cosham, was second. Mr. Tidy also staged the premier group of Pompon and single-flowered varieties.

KENT COUNTY.—OCTOBER 30TH AND 31ST.

THE annual exhibition of the above Chrysanthemum and Horticultural Society was opened on Wednesday at Blackheath. Chrysanthemums were, of course, the chief feature, many of the classes being well filled with creditable examples. In addition to these several classes were provided for fruit and vegetables, and among the miscellaneous exhibitors were Messrs. G. Bunyard & Co., Maidstone; J. Laing & Sons, Forest Hill; J. Peed & Sons, Norwood, and H. Cannell and Sons, Swanley, staging fruit, plants, and flowers in quantity and variety.

There were three competitors in the class for a group of Chrysanthemums, arranged in a space of 50 superficial feet. The first prize and silver cup were awarded to Mr. F. Fox, gardener to Mrs. Penn, Lee, for a compact though somewhat stiff arrangement. Mr. A. W. Holland, Lee Park Nursery, was second; and Mr. T. Dobson, gardener to F. P. Preston, Esq., Lee, followed with the third.

In the cut bloom section the premier class was that for thirty-six, to be composed of eighteen incurved and eighteen Japanese. The first prize fell to Mr. R. Leadbetter, gardener to A. G. Hubbuck, Esq., Chislehurst, whose Japanese were exceptionally fine, and composed of International, H. L. Sunderbruck, Mrs. H. Lees, Edwin Molyneux, Mrs. C. Harman Payne, Chas. Davis, Vivian Morel, Pallanza, John Shrimpton, Miss Dorothy Shea, Hairy Wonder, Amos Perry, Souvenir de Toulson, Charles Shrimpton, Mademoiselle Thérèse Rey, Col. W. B. Smith, Etoile de Lyon, and Boule d'Or. Incurved—J. Agate, Prince Alfred, Novelty, Alfred Salter, Lord Alcester, Baron Hirsch, John Lambert, John Doughty, Alfred Lyne, Robert Petfield, Queen of England, Refulgens, Empress of India, Brookleigh Gem, Guernsey Nugget, Mons. P. Martignac, Madame Darrier, and Madame F. Mistral. Mr. C. Payne, gardener to C. J. Whittington, Esq., Bickley, was a creditable second; and Mr. S. B. Wheadon, gardener to R. J. Collier, Esq., Bickley, third.

Mr. J. Blackburne, gardener to J. Scott, Esq., jun., Chislehurst, was a capital first with twenty-four Japanese, staging in good form International, Van den Heede, Commandant Blussett, Prefet Robert, Princess May, Charles Davis, Mons. Panckoucke, Vivian Morel, W. Seward, Mdlle. Thérèse Rey, C. Shrimpton, Good Gracious, Edwin Molyneux, Marquis de Paris, Sunflower, H. L. Sunderbruck, Hairy Wonder, Duke of York, G. C. Schwabe, Souvenir de Petite Amie, Mrs. W. H. Lees, Col. W. B. Smith, Miss Dorothy Shea, and Beauté Toulousaine. The second and third places were occupied by Mr. C. Payne and Mr. R. Leadbetter in the foregoing order.

The first prize for twelve Japanese was won by Mr. J. Blackburn with good flowers of International, G. C. Schwabe, C. Shrimpton, Duke of York, Sunflower, Mrs. W. H. Lees, Van den Heede, Mdlle. Thérèse Rey, Edwin Molyneux, Col. W. B. Smith, Vivian Morel, and Madame Marius Ricoud. Mr. R. Filkins, gardener to Miss Alexander, Chislehurst, was a good second; and the third prize fell to Mr. R. Leadbetter. There were ten exhibitors in this class.

Mr. T. Osman, gardener to S. J. Baker, Esq., Chertsey, was first for twelve incurved, staging Queen of England, Baron Hirsch, Pince of Wales, Madame Darrier, Miss Haggas, Alfred Salter, Jeanne d'Arc, Brookleigh Gem, Prince Alfred, Lord Wolseley, Mrs. Dixon, and Alfred Lyne. Mr. J. Lyne, gardener to H. J. Tiarks, Esq., Chislehurst, was second; and Mr. R. Leadbetter third.

Mr. R. Leadbetter was first with twelve reflexed blooms, staging amongst others good flowers of Amy Furze, King of the Crimson, Felicity, Cloth of Gold, and Richard Smith. Mr. E. Russell was first with twelve Anemone-flowered Chrysanthemums, staging Sir Walter Raleigh, Nelson, John Bunyan, Mr. W. Astor, W. G. Drover, and others in good form. Mr. R. Leadbetter followed with second, and Mr. E. Russell, gardener to T. Pim, Esq., Crayford, third. The last named exhibitor was first with twelve Pompons; second, Mr. J. Knapp, gardener to F. W. Amsden, Esq., Croydon.

For six white Japanese of one variety Mr. R. Filkins was a good first with Mdlle. Thérèse Rey, Mr. J. Blackburn second with the same variety, and Mr. A. Tomalin, Crayford, third with Avalanche. Mr. J. Knapp was first for six coloured Japanese with Sunflower, Mr. R. Filkins second with W. Seward, and Mr. A. Tomalin third. Mr. T. Osman was first for six incurved blooms of one variety with Jeanne d'Arc, Mr. E. Russell second with Baron Hirsch, and Mr. A. Tomalin third.

Mr. T. Couldring was first for twelve incurved blooms grown within three miles of Blackheath, the same exhibitor also being first for twelve Japanese subject to similar conditions. Mr. Couldring was also first for six incurved blooms for a similar number of Japanese; Mr. T. Stockwell, gardener to G. Chittick, Esq., Lee Park, being second in the latter class.

AMATEURS.—Mrs. G. A. Silver, Bromley, was first with twelve Japanese, showing amongst others good examples of Edwin Molyneux, Miss Dorothy Shea, Sunflower, W. H. Lincoln, and Stanstead Surprise. Mr. R. J. Worthington, Plumstead Common, was a good second; Mr. J. Moore, Greenwich, third. Mr. W. E. Reeve, Plumstead Common, was first with six Japanese of one variety, showing Vivian Morel; and Mr. J. Rose, Plumstead, second with Col. W. B. Smith.

Mr. H. A. Elliot, Lee, was first with six Japanese; Mr. R. J. Worthington second; and Mr. S. F. Solly, Forest Hill, third. For six Japanese of one variety Mr. F. T. Shepley was first with fine Sunflowers; and Mr. Jas. Moore, Greenwich, second with Mr. C. E. Shea. Mr. R. J. Worthington was first with six distinct Japanese, followed by Mr. Shepley and Mr. Solly second and third. Mr. H. D. Ambrose was first with twelve distinct Japanese blooms.

A pleasing arrangement shown by Mr. A. De Winton was first in the class for a bouquet of Chrysanthemums, Mr. T. Osman following with second. The last named exhibitor was first for an epergne of Chrysanthemums, followed by Mr. Gatehouse, Lewisham, second, and Mr. H.



FIG. 67.—DICENTRA CANADENSIS.

De Winton third. A pleasing arrangement shown by Mr. J. Lyne was first in the class for a group of flower and foliage plants, and consisted of Orchids, Chrysanthemums, and foliage plants. Mr. A. Tomalin was a good second, and Mr. F. Fox third.

DICENTRA CANADENSIS.

UNDER the name of *Dicentra* are included several elegant hardy plants which have been variously named *Diclytras* or *Dielytras* and *Corydalises*. Some of these are familiar plants in North America, bearing special popular names like Dutchman's Breeches (*Dicentra cucullaria*) and Squirrel Corn (*D. canadensis*), the last named being the subject of our illustration (fig. 67), and one of the most graceful of the family. In Canada and some of the Northern United States this *Dicentra* is frequently found in rocky woods, producing its white and purple tinted fragrant flowers freely during May and June. The leaves are finely cut and slightly glaucous, forming a dense tuft from which partially drooping racemes arise bearing the neat pendulous flowers. The plant is a perennial with numerous small yellow pea-like tubers; it is hardy, readily increased, and succeeds well on a rockery or in an ordinary border.

ROYAL HORTICULTURAL SOCIETY.

DRILL HALL, OCTOBER 29TH.

At the Drill Hall on Tuesday last the exhibits were not nearly so numerous as has been the case at the last few meetings, but taken as a whole the quality was uniformly good. Chrysanthemums, though not exhibited in large collections, made an imposing display, and as will be seen below, several awards of merit were recommended. Orchids were not at all numerous, and with only one or two exceptions, nothing of particular interest was staged. Potatoes from Messrs. Sutton & Sons, Vine leaves from Stirling, and other exhibits before the Fruit and Vegetable Committee were splendid, and attracted much attention.

FRUIT COMMITTEE.—Present: P. Crowley, Esq. (in the chair); with Rev. W. Wilks, Messrs. G. Bunyard, H. J. Pearson, S. T. Wright, J. H. Veitch, J. Cheal, G. Reynolds, F. Q. Lane, H. Balderson, G. T. Miles, W. Bates, C. Herrin, W. Pope, R. Fyfe, A. H. Pearson, A. Dean, and J. Wright.

Though large collections of produce were staged in the hall very few new varieties of fruit were placed on the Committee table for examination.

Mr. Empson again sent from Amphill House Gardens *Anthony's Favourite Melon*, a medium sized delicately netted fruit. It is a scarlet-fleshed variety, and was found to be unusually rich and luscious for the time of the year. An award of merit was voted unanimously.

Mr. Owen Thomas sent fruits of his white-fleshed Melon *The Duchess*. Though very sweet and delicately flavoured, the flesh was too hard for representing the variety in its best character. Mr. Thomas also sent a fruit of the "Frogmore" Melon, a scarlet-fleshed variety, evidently distinct in character, and so promising that the Committee desired to see it in the summer, when its already good and somewhat new flavour would be more fully developed.

Mr. Robert Fenn sent a dish of his favourite cooking *Apple Pay-the-Rent*, and an award of merit was without dissent awarded. It is a round, full medium sized fruit, ready for use when large enough, and continuing firm until spring. Its name was given because of the old tree, always bearing saleable fruit, the value of which equalled what would be a fair rent for the orchard. Mr. Fenn has raised several trees, which are now in bearing. They may be described as models in form—low, round, open-headed standards, the branches having no disposition to cross and crowd each other, while they are free from canker or ailment of any kind. It is an Apple for use and market, not a highly coloured gigantic exhibition variety. Some members of the Committee thought it resembled a hard Ecklinville, but though the tree grows and bears as well as does that favourite autumn Apple, yet the variety is entirely distinct, the fruits being greenish yellow, slightly russety, and about as firm as Dumelow's Seedling.

Mr. Fenn also exhibited Pea-like tubers of *Solanum Fendleri*, also two seasons' growth of a cross from it with a cultivated variety showing tubers ranging from 1 oz. to 2 ozs. each. The same exhibitor also sent tubers of his red Cricket Ball Potato, the first variety raised by artificial pollination in the garden of Woodstock Rectory in 1858. A vote of thanks was accorded.

Charles E. Shea, Esq., sent baskets of Gaseigne's Scarlet Seedling Apple, fine fruits, splendidly coloured. The tree is an excellent bearer, and the fruits of the first class for cooking, and good also for dessert—an Apple worth trying in many gardens. Mr. Anthony Waterer sent fruits of Apple *Sanspareil*, of Continental origin, and said to be a great and constant bearer. The fruits were referred to Chiswick for keeping till fruits of Rivers' Codlin can be sent for comparison, though we think the varieties are distinct.

Silver-gilt Banksian medals were awarded to Messrs. Sutton & Sons and Messrs. Cannell & Sons for large collections of Potatoes; also a similar award to Mr. Empson for a splendid collection of eighty varieties of vegetables and forty of Gourds, in which both high quality and taste in arrangement were very conspicuous.

A silver medal was unanimously granted to Messrs. D. & W. Buchanan, Forth Vineyards, Kippen, Stirling, for a beautiful exhibit of excellent Grapes, Tomatoes, and coloured Vine leaves artistically displayed. Similar awards were made for an excellent assortment of salads, also for a collection of fruit, exhibited by Mr. Wythes, from Syon House.

FLORAL COMMITTEE.—Present: W. Marshall, Esq. (in the chair); and Rev. H. Dombrain, with Messrs. J. Fraser, J. Laing, H. B. May, H. Herbst, R. Dean, R. Owen, G. Stevens, J. Jennings, C. Jefferies, H. Briscoe Ironside, J. D. Pawle, C. E. Pearson, C. Blick, H. Cannell, and W. Barr.

Mr. H. J. Jones, Lewisham, sent a small collection of fine Chrysanthemum blooms, both incurved and Japanese. Amongst the former were Chas. H. Curtis, D. B. Crane, and Mr. Jas. Murray, and the latter included Queen of Buffs, Mrs. E. G. Whittle, Mr. P. Percival, and Madame A. Moulin. Flowers of a pretty single, Miss Annie Holder, were also shown by the same grower. Mr. J. George, Putney, sent samples of his patent Orchid basket with samples of peat. From Mr. Robert Owen, Maidenhead, came several new seedling Chrysanthemums—viz., Rose Owen and Ada Falford (incurved), Dorothy Gibson (reflexed), and Charles Young (Japanese).

Mr. J. Agate sent flowers of Chrysanthemum *Beauty of Teignmouth*. Seedling Chrysanthemums were staged by Mr. W. E. Tidy, Havant—namely, Mrs. W. E. Tidy, Zealandia, Miss Mabel Foster, Mrs. F. G. Foster, Miss Violet Foster, and Duke of Connaught. Mr. Stevens, Putney, sent blooms of incurved Chrysanthemums *Madame F. Mistral*,

and Mr. T. R. Cuckney, Langwathley, sent blooms of *Cambria*. From Mr. R. C. Notcutt, Ipswich, came excellent blooms of *Edith Tabor* and *Miss Bostock*. Mr. Chas. E. Shea, Fooks Cray, was represented by good blooms of Chrysanthemums *Maggie Shea* and *Elsie Teichmann*.

H. Briscoe Ironside, Esq., Burgess Hill, sent several fine Chrysanthemum blooms, notably *Miss Florence Lunn* and *Mrs. Briscoe Ironside*. Mr. Rickwood, gardener to Dowager Lady Freake, Twickenham, sent blooms of a reflexed Japanese sport from *La Triomphante*. Messrs. H. Cannell & Sons, Swanley, were represented by a small but effective collection of Chrysanthemums and Cannas. Amongst the former were *Miss Annie Holden*, *Fashion*, *Yellow Source d'Or*, *E. G. Hazeldene*, and *Kentish White*; whilst among the latter *Princess Bonnie*, *Queen Charlotte*, and *Admiral Avellan* were included. Messrs. R. Wallace & Co., Colchester, sent flowers of *Lycoris aurea*. Flowers of *Nerine Alleni* were staged by Mr. R. H. Allen, Guernsey.

Mr. J. F. McLeod, Dover House, Roehampton, sent blooms of yellow Japanese Chrysanthemum *Belle Jeune*; and from Mr. C. H. Ratsch, Bournemouth, came flowers of a sport from *Source d'Or*. Mr. G. Bond, gardener to S. T. Fisher, Esq., Streatham, staged a fine collection of dwarf Crotons in great variety. Included in the group were *angustifolius*, *Flambeau*, *Nimrod*, *Nestor*, *Sunshine*, *Flamingo*, *Magnificent*, and *Beauty* all showing signs of good cultivation (silver Banksian medal).

Messrs. Jas. Veitch & Sons, Chelsea, sent *Begonias Splendent*, *Success*, *Eclipse*, and *Sidonie*. The same firm also exhibited a large group of Chrysanthemums, comprised of dwarf plants and superb blooms of the best varieties. Noticeable in the collection were *Vivian Morel*, *Charles Davies*, *Colonel W. B. Smith*, *Pallanza*, *Mrs. F. Jameson*, *Van den Heede*, *G. C. Schwabe*, *Louise*, *Duke of York*, *William Seward*, *International*, *Madame Carnot*, *Kentish Yellow*, *Eva Knowles*, *Madame Calvat*, and *John Shrimpton* (silver Flora medal). Mr. W. Wells, Redhill, sent Chrysanthemums *Mr. H. J. Jones*, *Mons. Chenon de Lèche*, and *Reine d'Angleterre*. From Mr. Anthony Waterer, Woking, came a magnificent specimen plant of *Quercus americana coccinea splendens*. Mr. Chas. Blick, gardener to Martin R. Smith, Esq., Hayes, sent a number of dwarf plants of Chrysanthemum *Mrs. Charles Blick*. Messrs. B. S. Williams & Son, Holloway, sent a plant of *Bouvardia Silver Queen*, and Chrysanthemum *Reine d'Angleterre*.

ORCHID COMMITTEE.—Present: H. J. Veitch, Esq. (in the chair); with Messrs. Jas. O'Brien, H. M. Pollett, T. Statter, S. Courtauld, W. Cobb, T. W. Bond, H. J. Chapman, E. Hill, J. T. Gabriel, H. Ballantine, and T. B. Heywood.

Mr. H. J. Chapman, gardener to R. I. Measures, Esq., Camberwell, staged a small collection of Orchids, comprising a profusely flowered piece of *Ornithorynchum album*, *Cypripedium Leeannum superbum*, *C. Anthurium*, *C. insigne*, Cambridge Lodge variety, *C. Annie Measures*, *Cattleya Hardyana*, *C. labiata*, R. I. Measures' variety, and *Cypripedium Allanium superbum* (silver Banksian medal). From G. C. Raphael, Esq., Englefield Green, came a spike of a fine form of *Vanda coerulea*, *Cattleya labiata autumnalis*, *Raphael's var.*, and *Zygopetalum Burckii*. *Cattleyas* were beautifully shown by Mr. Johnson, gardener to T. Statter, Esq., Stand Hall, Manchester; *Cattleya labiata Excelsior*, *C. l. rubens*, *C. aurea Johnsoniana*, and *C. a. magnifica*, amongst others, were particularly prominent. The same exhibitor also staged a bloom of a hybrid *Cypripedium* named *Edwardi* and a variety of *C. Spicerianum* called *virescens* (silver Flora medal).

Messrs. Hugh Low & Co., Upper Clapton, staged a showy group of Orchids, composed mainly of forms of *Cattleya labiata*, though a variety of *Cypripedium insigne* named *Laura Kimball* was very prominent (silver Flora medal). Messrs. W. L. Lewis & Co., Southgate, arranged some charming cut blooms of Orchids, amongst which were *Oncidium varicosum*, *Cypripedium insigne Maulei*, *Cattleya labiata*, and several others. Mons. G. Mantin, Château de Bel-Air, France, received a first-class certificate for *Cattleya Mantini*, as also did Messrs. J. Veitch and Sons.

A few Orchids were exhibited by Messrs. J. Veitch & Sons in addition to the one mentioned above. These comprised *Lælio-Cattleya Euphrosyne*, *L. C. Statteriana*, *Cattleya Eurydice*, and *Cypripedium Thora*. Mr. D. Kemp, gardener to W. Bryant, Esq., Slough, sent blooms of the Stoke Park variety of *Cattleya labiata*. F. Hardy, Esq., received an award of merit for *Cattleya Bowringiana gigantea*, which is described below.

The small group of Orchids arranged by Messrs. F. Sander & Co., St. Albans, was very bright and extremely diversified. The plants were in splendid health, and comprised *Catasetum Christyanum*, *Cattleya labiata*, *Zygopetalum crinitum*, *Habenaria Susannæ*, *Calanthes Florence* and *Clive*, *Oncidium tigrinum*, *Lælia Dayana*, *Sophrontitis grandiflora* and *coccinea*, *Oncidium Rogersi*, and *Dendrobium phalaenopsis Schröderianum*.

CERTIFICATES AND AWARDS OF MERIT.

Begonia Success (J. Veitch & Sons).—This is a pretty semi-double Begonia, crimson in colour, with plant of pleasing branching habit (award of merit).

Cattleya aurea Johnsoniana (W. Johnson).—The forms of *C. aurea* are now becoming somewhat numerous, and this is one of the best of them. The sepals and petals are very pale yellow flushed and shaded with rose, the lip being darker and more finely marked than in the type (first-class certificate).

Cattleya Bowringiana gigantea (F. Hardy).—The large, richly coloured blooms of this variety are very decidedly in advance of those of the typical form (award of merit).

Cattleya Eurydice (J. Veitch & Sons).—The sepals and petals of this variety are dull lilac with deeper spots; the lip is crimson purple with yellow towards the throat. It is the result of a cross between *Aclandiae* and *labiata* (award of merit).

Cattleya Mantini (J. Veitch & Sons and G. Mantin).—This hybrid was described in our issue of the 17th inst. (first-class certificate).

Chrysanthemum Beauty of Teignmouth (J. Agate).—An incurved Japanese, with a crimson flower having a silvery reverse. The florets are very much curled at the tips (award of merit).

Chrysanthemum C. H. Curtis (H. J. Jones).—The innovations of the incurved are not so numerous as the Japanese, and consequently this should be highly appreciated. The form is excellent, and the colour pure yellow (award of merit).

Chrysanthemum Dorothy Gibson (R. Owen).—A handsome yellow reflexed of almost perfect form (award of merit).

Chrysanthemum Edith Tabor (R. C. Notcutt).—A very beautiful yellow variety, somewhat after the style of *Mdlle. Thérèse Rey* (award of merit).

Chrysanthemum Miss A. Holden (H. J. Jones).—A floriferous single, with sulphur coloured flowers. It is a sport from the well-known *Mary Anderson* (award of merit).

Chrysanthemum Miss Florence Lunn (H. Briscoe Ironside).—This is a full, well formed, and compact flower of true reflexed character, with colour of purplish crimson (award of merit).

Chrysanthemum Mons. Cheron de Leche (W. Wells).—A reflexed Japanese of splendid size and substance. The broad florets are rosy buff margined with yellow (award of merit).

Chrysanthemum Mrs. Briscoe Ironside (H. Briscoe Ironside).—A large, full flowered incurved Japanese of a soft flesh colour, with long, narrow florets, twisting, and building up a fine bloom (award of merit).

Chrysanthemum Mrs. Charles Blick (Charles Blick).—A pure white slightly incurved Japanese. The flowers are large, deep, and have a very full centre (award of merit).

Chrysanthemum Mrs. E. G. Whittle (H. J. Jones).—A creamy white Japanese of fine form. The florets are broad and tipped with yellow (award of merit).

Chrysanthemum Queen of Buffs (H. J. Jones).—The name of this Japanese tells its colour. The florets are broad and stout (award of merit).

Chrysanthemum Rose Owen (R. Owen).—A fine incurved with rose coloured flowers, of which the florets are edged with white (award of merit).

Chrysanthemum Yellow Source d'Or (Cannell & Sons).—A golden yellow form of the well-known *Source d'Or* (award of merit).

Cypripedium Allanium, superbum (H. J. Chapman).—This is totally distinct from the type, and in every way superior. The dorsal sepal is white with a green base and rose coloured flushings. The ground colour of the base is green with brown markings and spots. The pouch is larger, and of an intense purplish brown shade (award of merit).

Cypripedium insigne Laura Kimball (H. Low & Co.).—A handsome form of the type. The petals and lip are clear yellow, the former having numerous hairs at the base. The dorsal sepal is yellow, with a broad white margin (award of merit).

Laelio-Cattleya Euphrosyne (J. Veitch & Sons).—A bigeneric hybrid obtained from a cross between *Cattleya Warscewiczii* and *Laelia pumila Dayana*. The sepals and petals are purplish rose, the lip being velvety maroon with a pale rose tip. The side lobes are pale canary yellow (award of merit).

Lycoris aurea (R. Wallace & Co.).—This is an old introduction from Japan, but little known or grown in this country. The colour is bright golden yellow. Quite distinct from the family of *Nerines* (first-class certificate).

THE LECTURE.

A most interesting item in the day's proceedings was the able and instructive discourse on "Potatoes," by Mr. A. W. Sutton, a member of the well known Reading firm so closely connected with the cultivation of this important vegetable. The essayist dealt most ably with his subject, and gave a graphic history of the Potato from the time of its introduction into Europe to the present day. What added much interest to the paper was the introduction of forty-five magic lantern slides, by which illustrations were given of all forms of the *Solanum* family, showing plainly the marked difference in the size and condition of the Potato when first introduced into Europe and as it is now grown in our gardens.

Mr. Sutton commenced his lecture by a concise narrative of the origin of the Potato, its introduction into Europe, and its geographical distribution generally. After complimentary references to Mr. Baker for his "Review of the Tuber-bearing Species of *Solanums*," and to Lord Cathcart for his exhaustive paper on the history and disease susceptibilities of the Potato, he introduced on the screen the portrait of Gerarde (see page 407); also Potatoes as they grew in his garden three centuries ago.

Referring to the latter Mr. Sutton remarked that the picture suggested many thoughts and comparisons. How little like the fine, handsome, and even tubers we see at this time for sale at all the greengrocers in London and elsewhere! Then also the use of the Potato in Gerarde's time by the wealthy few as a luxury of questionable value or utility, how different to the present enormous consumption in all civilised parts of the world!

The lecturer continued:—While Gerarde's Potato is before us it may be interesting to note that the acreage planted in the United Kingdom in

1894 amounted to 1,232,055 acres, averaging 3 tons 15 cwt. 2 qrs. 20 lbs. per acre, or a total of 4,662,147 tons grown in the United Kingdom besides a large quantity imported. Reckoning the entire population as 37,880,764 this would allow about 2 cwt. 1 qr. 24 lbs. for every man, woman, and child per annum, but these figures make no allowance for the quantity annually consumed in feeding cattle, which is always considerable and varies chiefly in proportion to the market value of Potatoes.

On the excellent authority of Monsieur H. de Vilmorin, it was stated that the acreage under cultivation in France is annually about 3,342,500, and the total yield for the whole of that country is 10,100,000 tons, or making allowance for the quantity exported and imported the figures stand at 10,000,000 tons. Whilst in England, Potatoes are grown almost entirely for use as a vegetable, Monsieur Vilmorin estimates that about two-fifths or 4,000,000 tons are annually used in France in the manufacture of starch and alcohol.

According to Herr Fritz Benary of Erfurt, the total acreage devoted to Potatoes in the German Empire in 1893 was 7,592,165 acres, and the total quantity of Potatoes harvested amounted to 32,277,851 tons, or allowing for the quantities imported and exported, 32,376,497 tons, which was the total quantity available. Out of this total 6,074,732 tons were used for seed purposes to plant the crops of the following year, leaving 26,301,765 tons for consumption. Of this enormous quantity, 26,301,765 tons, Herr Benary says that 1,313,584 tons were used for distilling purposes, but he is unable to say how much of the remaining 24,988,180 tons were used as vegetables, and how much in the manufacture of starch, as no statistics are available.

From the figures above quoted we get some idea of the enormous commercial and economical advantages which have resulted from the scientific researches of those who first discovered and introduced the Potato into Europe. How marvellously has the Potato grown in popularity since Gerarde's day!

DEGENERATION AND IMPROVEMENT.

The lecturer went on to say that although Potatoes may be kept through the winter and planted again the next spring they are in no respect anything more or less than portions of the old plant which had died down and apparently ceased to exist the previous autumn. Consequently while through the almost unlimited prolongation of the life of a single Potato plant weakness and deterioration often set in, there is practically no room for improving the original type by any selection of tubers. This anyone can prove by planting a tuber which may from some cause or other be mis-shapen and the produce will be found to revert to the same handsome and uniform type as the other Potatoes which were growing on the same plant. The only modification of this rule he was acquainted with is in the cases where all the tubers of one plant show a uniform divergence in character, either for better or worse. When this is so it is possible that by the selection of all or any of these tubers a slightly different Potato might result, as in the case of some types of the Ashleaf section which are dwarfer and more compact, or else taller and coarser-growing than others. Outside the Ashleaf class, however, I know of no such instances.

In reference to this point Monsieur Vilmorin mentions he does not consider a really first-class seedling Potato is liable to degenerate so quickly as is generally supposed. If degeneration sets in soon after its introduction it merely proves that the variety is one which never ought to have been brought to public notice.

RAISING SEEDLINGS.

Anyone attempting to raise seedling Potatoes, continued Mr. Sutton, must have patience. Like many other species which are not habitually multiplied by the seed, the Potato has a remarkable tendency to revert to the wild form. It may be necessary to cultivate 100 or even 1000 seedlings before finding one which is really worthy of a place amongst the better varieties already existing. Mons. Vilmorin says that in France the raising of seed Potatoes has been proceeded with in a somewhat haphazard manner, whereas in England, on the other hand, a more systematic method has been followed, mentioning that richness in starch, excellence of flavour, power of resisting disease, with little tendency to develop haulm, are the characters we generally seek. Unfortunately, he says, they are not always able to profit in France by progress realised in England, because the French have a marked preference for Potatoes with yellow flesh, whereas in England, for many years past, there has been a preference for white-fleshed Potatoes. On this account even the celebrated *Magnum Bonum*, which was first distributed from Reading in 1876, after having enjoyed a brief popularity in the Paris markets, has been almost abandoned as a table variety on account of the flesh being too pale in colour. Mons. Vilmorin remarks that in Germany considerable attention has been given to raising seed Potatoes, but more particularly with the object of raising varieties which are specially adapted for the production of alcohol and starch.

THE ILLUSTRATIONS.

Mr. Sutton then showed a number of dissolving pictures illustrating the flower with pistil and anthers, and showing the means used for hybridisation. Following this came a most interesting slide showing the top growth and tubers at the end of the first year, or, more correctly speaking, the second year. A similar seedling was shown in its fourth year, indicating the gradual maturing of the tubers into a fixed and regular type. Mr. Sutton here added that it was not until the fourth or fifth year that it is possible to say how far the character of the seedling is fixed. Pictures were then given of other species and varieties of

Potatoes of more or less distinct forms and characteristics, such as *Solanum tuberosum* and *Papa Amarilla*. Following these were shown Potatoes hailing from various parts of the world.

The first was a Potato which was found growing in South Africa, and of which tubers were sent to Messrs. Sutton. This has been grown at Reading for seven years, and is distinct from all known Potatoes both in tuber, foliage, and flower. The foliage is exceedingly dark in colour, the stems very erect and bushy—growing more densely than any other variety—the leaves are very round, in fact at first sight unlike those of the Potato. The tubers are mostly oblong, with the eyes or buds almost as strongly developed as in the Fir-apple varieties, and are in colour white mottled with purple. It bears a profusion of purple flowers. Mr. Sutton saw no disease until 1894, then it suffered badly.

An illustration was next given of a Potato found growing apparently wild in the Rocky Mountains, and is almost a counterpart of the large white Fir-apple Potato. Next came the red and white Fir-apple Potatoes which have been grown at Reading for many years, and have never shown any tendency to assume the form or characteristics of the ordinary Potato of commerce. When showing a picture of the black Congo Potato, Mr. Sutton remarked this Potato, like the Fir-apple varieties, has the buds or eyes very strongly developed, and though the flavour is excellent when cooked in the ordinary way, it is chiefly valuable on account of the colour of the flesh, which is a dense purple or almost black, rendering it useful for ornamental cookery. Next followed a Norwegian Potato, and Mr. Sutton continued:—"This is a Potato grown rather extensively in Norway, and Commander F. W. E. Crowe, who sent it us, considered it extremely valuable for the supply of so-called new Potatoes throughout the year, as the tubers seldom are larger than an Almond, and by lifting the crop before it is quite ripe the close texture peculiar to new Potatoes is retained indefinitely."

Slides were then exhibited showing many various kinds of *Solanums*, and their properties were explained, after which followed several pictures of some of the highest types of seedling Potatoes which have been introduced by Messrs. Sutton, the crosses having been made in the majority of cases by the late Mr. Clarke, so well known as the raiser of Suttons' Magnum Bonum, and two by Mr. Robert Fenn, one of the oldest and best authorities living on the artificial crossing of Potatoes. Mr. Sutton referred to the uses of Bouillie Bordelaise as an application for preventing Potato disease, and presented a picture showing the marked difference of two plots of Suttons' Magnum Bonum growing side by side during the past season, one having been sprayed three times, and the other not sprayed at all. Reference was made to some interesting experiments in grafting the Tomato, now known as *Lycopersicum esculentum*, but formerly called *Solanum Lycopersicum*. A bunch of Tomatoes and flowers were shown, in which was noticed the great similarity between them and Potato flowers and berries. Mr. Sutton brought his able lecture to a close by producing a photograph from Gerarde's illustrations of the Tomato plant, as known to him in 1597, together with Gerarde's description of the plant, which was very curious by way of comparison with the Tomato as it is known to us.

At the close of the lecture a hearty vote of thanks was given to Mr. Sutton for the able and interesting manner in which he had dealt with the subject, and an interesting discussion followed.

CROTONS.

So many splendid Crotons have been introduced to our gardens that it has elevated the genus to a wonderfully high degree of popularity. They are not perhaps grown so much as they should be by people who have only small houses at their command, for the majority of the varieties are neat in growth, elegant in habit, and wonderfully rich in colour. If, however, we enter a house of considerable dimensions we generally meet with good specimens. For decorative purposes the richly coloured variegation of the Croton forms a striking and pleasing contrast to the other plants utilised, such as the brilliant bracts of the Poinsettias and the bright flowers of *Euphorbia jacquiniæflora*.

Most of the varieties grow very freely, but a considerable amount of care is required to develop the richest colouration, and a specimen, when seen from a distance of a few yards, ought to have the appearance of a fountain of burnished gold. The causes of green foliage may be safely attributed to growing the plants under too dense a shade, as an abundance of light is absolutely necessary, and the plants should not be shaded except for an hour or two in the middle of the day when the sun is exceptionally powerful. They should also be kept quite near to the roof glass except in severe frosty weather. The compost I have found answer admirably is made of equal parts of good turfy loam and fibrous peat, with a liberal addition of silver sand and a small quantity of charcoal and crocks broken very small. The pots must be clean and well drained, sprinkling a few crushed bones over the crocks, being careful to avoid overpotting, as it is worthy of mention that well furnished specimens 2 feet high and as much in diameter can be grown in 6-inch pots. In the majority of cases repotting once a year will be quite sufficient, and I prefer to carry out this operation in the month of February, as that allows them time for roots to become well established in the new soil before the sun becomes powerful. The temperature of an ordinary stove which is kept at about 65° in winter and 75° in the summer is all that is required in that respect.

To give a list of the many really good varieties now in cultivation would occupy too much space, but I may mention the following twelve as being desirable for growing in small houses—viz., Countess, Johannis,

aigburthiensis, elegantissima, Princess Waldeck, Queen Victoria, ruberrimus, Warreni, majesticus, Flambeau, superbum, and Mrs. Dorman.—H. T. M.

TREES AND SHRUBS AT ALTRINCHAM.

IN these days of extensive fruit planting one naturally expects to find the pace being kept up by all firms of repute and of enterprise. Messrs. Clibran have long been famed for flower culture and distribution. They are also extensive growers of trees and shrubs. The fruit trees are cultivated at Hale. Healthy bushes, many carrying handsome fruit, were to be met by the thousand, and all other fruits in various kinds were admirably represented, such as trained trees of Cherries, Plums, Apricots, Peaches, and Nectarines. Only the best varieties, old and new, are grown, those known as obsolete or inferior being eliminated. Lemon oil is the great insecticide on which they pin their faith, frequent syringings during the season tending to keep the foliage in the excellent condition in which I found it. Before leaving the fruit I should like to mention that Figs and Vines in pots were looking their best.

Of trees and shrubs there are about 30 acres grown at Altrincham, and a still larger area at Carrington, about three miles distant. The great work of planting which is being done for the Welsh Land Commissioners is certain to make great inroads into their stock, but ample provision has been made for the future. Amongst the Coniferae the charming *Picea pungens glauca* is, as it deserves, a rapidly growing favourite. In the hardy ornamental deciduous department the Acers were very striking by their beautiful leafage. *Aesculus rubicunda* Brioti was pointed out as a great improvement on the old Scarlet Chestnut, and likely to take high rank.

Evergreen and deciduous flowering shrubs were in excellent condition. *Casalpinia japonica* is a most attractive flowering shrub, flowers yellow with red filaments and anthers. The Snowdrop Trees are also worthy of more extended cultivation, whilst the Weigelas, especially the newer sorts, contain wonderful improvements. Roses are extensively grown, and the Teas in pots very strong, with not a trace of mildew to be seen. Plants under glass were in the usual healthy condition, but only one can be mentioned, and its worth cannot be adequately described for autumn decoration—*Vitis Coignetiae*. Its magnificent leaves are of a brilliant scarlet hue, and there is certainly nothing to approach it for bright colouring.—A VISITOR.



FRUIT FORCING.

Peaches and Nectarines.—Earliest Forced House.—The trees have been at rest some time, the roof lights removed, the house thoroughly cleansed, the trees untied, pruned, dressed with an approved advertised insecticide, re-arranged and tied on the trellis, the border surface dressed, and all prepared for a start when the time arrives. Nothing further is required. If, however, the work has not been done, no further delay should be allowed. Where the roof lights have not been removed, care must be taken not to allow the soil to become too dry at the roots of the trees, as this is often a cause of the blossom buds falling. If the trees are weakly, or with a great quantity of bloom buds, it is not a bad plan, indeed we have found it excellent, to remove the buds on the lower side of the shoots by drawing a gloved hand reverse way of the growths, following with a supply of liquid manure, or giving a top-dressing of the advertised fertilisers after properly moistening the soil down to the drainage and washing-in moderately. This will greatly benefit the trees in swelling their buds at the proper time, and aid in the development of a strong blossom.

In case the border is not satisfactory, the surface soil should be removed down to the roots, not disturbing them materially, yet not losing the opportunity of bringing any that can be nearer the surface or laying them in fresh material, otherwise removing the soil from amongst them and supplying fresh loam, not covering the upper crust more than 2 or 3 inches. If the loam be light add a fourth of dried and pounded clay or clay marl, with about a bushel of wood ashes to every cartload of soil, or 7 lbs. of basic slag powder, and 3½ lbs. of kainit, thoroughly incorporated, making it firm and giving a good watering. Borders that are rich in humus through heavy dressings of manure will be benefited by dressing with air-slaked lime, dry and floury, 1 peck per rod being a suitable quantity, mixing with the surface soil as deeply as practicable without disturbing the roots to any great extent, omitting the top-dressing before named.

Loss no time in completing the pruning and dressing, cleansing the house, and admitting air to the fullest possible extent. The outside border being thoroughly moistened, it may be covered with a few inches thickness of leaves, with a little litter on them to prevent their blowing about. It is imperative that the soil of borders where early forcing is carried on be kept from getting frozen.

Second Early Forced House.—The trees being leafless should be pruned after unttying, dressed, and re-arranged on the trellis. This, with

a thorough cleansing of the house by the use of soap—the advertised carbolic and petroleum softsoaps being excellent—brush, and hot water, makes an end of all insects before they have time to become ensconced in the cracks and crevices of the structure. In pruning early forced trees it is not advisable to cut away much wood, but where weakly and crowded it should be judiciously thinned, removing any useless parts that have escaped the thinning after the fruit was gathered, and any long unripened growths may be cut back to a triple bud, making sure that the central bud is a wood bud or to a growth bud on well-ripened wood. Shoots, however, that are well ripened need not be shortened under any circumstances, having usually a few wood buds at the base and one at the extremity, the rest being blossom buds chiefly. It is, however, a mistake to retain too much wood, which weakens the trees in flowering, and there is not space to train in the young growths without crowding. Treat the trees in other respects, as regards the house and borders, as advised for the earliest house.

Succession Houses.—The trees will be casting their leaves, which may be collected as they fall and be burned where the trees have been infested with fungal and insect pests. The leaves, however, must not be forcibly removed, but a gentle shaking or a very light brushing over with a broom will bring down any that are matured. When the foliage is down and there being any scale syringe the trees and house with water at a temperature of 130° to 140°. This will make quick work of all the insects it reaches, and even cause their eggs to addle, for all succumb to sudden parboiling, caustic, and corrosive substances; even fungi resting spores cannot resist such influences. Then cleanse the house and trees, walls and borders—everything, for cleanliness is, after all is said, combined with suitable nutrition and proper management, the best preventive and safeguard against fungoid and insect diseases. If the trees are too vigorous and do not set and stone the fruits satisfactorily they should be lifted, which is preferably whilst the trees have some leaves on the least ripened wood, keeping the lights over the trees until the leaves have fallen. If the roof lights are not moveable admit air to the fullest extent, and be careful to prevent the soil becoming dry.

Late Houses.—In the southern parts of the country, and in cold districts where the trees are assisted in the spring and as required during growth in cold periods, the wood has matured well, there being nothing required but to admit air freely; but where green leaves hang long it is an indication of unripe wood, and the roof lights must not be removed for some time longer, and if this condition prevails generally the trees should be lifted carefully and root-pruned. If this is performed judiciously it will not prejudice next year's crop; but it must be done when the greater part of the leaves have fallen, yet with some on the laterals or other immature growths. The principal wood, however, must be firm, otherwise it will shrivel, and there must not be any loss from excessive evaporation; but by keeping the house rather close, syringing the trees occasionally, and shading the house if bright weather prevails, no possible harm can follow. Under ordinary circumstances of weather at this time of year those precautions are not necessary. It is only when the trees are gross and the wood unripe that the careful treatment is necessary, and it is for such cases that lifting is particularly necessary.

In the case of young trees it will suffice to take out a trench one-third the distance from the stem the trees cover of trellis, and down so as to cut all roots through to the drainage, leaving the trench open for a fortnight, not allowing the soil in the radius to become so dry as to distress the foliage to a very severe degree of flagging, and then the trench may be filled in firmly. With this salutary check to the growth the energies of the trees will be concentrated on the maturing of the growths and buds, also storing matter so essential for securing a good set and satisfactory stoning of the fruit.

Unheated Houses.—Ventilation in these must be given to the fullest extent, and the wood, if necessary, should be thinned, to admit light and air freely to the growths. This assists the wood in maturing and storing it with matter for the coming season, and where this is not sufficient, over-luxuriance or a tendency to late growth is overcome by lifting, which must not be done until the wood becomes firm, and while the foliage is upon the trees. Lifting and laying the roots near the surface and firm soil is the surest remedy for trees that fail to set and stone full crops of fruit. After the leaves fall the roof lights may be removed, thus securing complete rest, instead of alternating excitement and check as trees under glass are subjected to.

Melons.—Frame Melons are over, but excellent fruits of Scarlet Perfection remain for use, they being cut with a portion of stem when changing for ripening, and kept since in a dry rather warm room (have ripened and are ripening), so that they are acceptable for dessert, as variety is always desirable. In heated pits we still have fruit of the variety named and Longleaf Perfection, with Scarlet Gem and Pine-apple Gem for those requiring a Melon of best quality. In houses the supply will be kept up until Martinmas, if not Christmas. Exquisite is an excellent high quality late variety, and of taking appearance; but it is liable to attack from a fungus (*Gloeosporium*), and bacteria enter by its pustules, and the fruit rots, with an extremely nasty flavour and nauseous smell.

This is a common affection of late Melons, and we find the best antidote is to place a little sulphur in the evaporation troughs, and keep them charged with soft water. Some of the sulphur is dissolved, and passes off with the water in the form of vapour. This chokes off the fungus, and if there be none of its pustules the bacterial germs are powerless to pierce the rind. Only sufficient water should be given to prevent flagging, and moisture withheld from the atmosphere when the

fruit is ripening. Maintain a night temperature of 65°, 70° to 75° by day, and 80° to 90° from sun heat, with a little ventilation on favourable occasions, admitting a slight amount constantly to prevent deposition of moisture on the foliage. Plants swelling their fruit will require more root and air moisture, but avoid a very wet soil or a saturated atmosphere, and afford plenty of heat, with enough air to insure a circulation.

THE KITCHEN GARDEN.

Globe Artichokes.—These are not perfectly hardy, and unless protected a severe winter will destroy the greater portion of the clumps. Cut out all the old flower stems and shorten back any old leaves there may be, not, however, interfering with the heart of the sucker growths, as these will give the earliest and probably the best flower heads next season.

Cauliflowers.—Young plants cannot be depended on to stand through the winter without being afforded some protection. If sown late in a frame they may as well be left where they are, taking the precaution to keep them free of weeds, and to thin out where crowded. Give abundance of air, only covering with the frame lights whenever it is frosty, a further covering with mats doing good service when it is extra cold. Any sown late on a warm border may also be protected with shallow frames or hand-lights. It is a good practice to place a number in pots and to winter in cool houses, pits or frames. A single plant is enough for a 3-inch pot, two plants going into a 5-inch pot. In each and every case avoid undue coddling.

Early Broccoli.—Veitch's Autumn Protecting and other good forms of early Broccoli are not hardy enough and too valuable to be left to take their chance. Only a moderately severe frost will go through the hearts, while a severe one would destroy the crop. In order, therefore, to be on the safe side, a portion of the crop should be lifted. A vinery, in which the Vines are resting, and late Peach houses are good places in which to store a large number of plants. Trim off the oldest leaves, lift with a little soil about the roots, and replant moderately thickly and firmly in rich soil. Then if they are kept well supplied with water they will root freely into the soil and produce good hearts.

Lettuce.—Plants half-grown will not stand much frost, and if lifted and replanted in frames, giving them some good soil to root in, serviceable hearts may be had for mixing with Endive during the winter. Small plants of the hardiest forms of Cos and Cabbage Lettuce, notably Brown Cos and All the Year Round, raised in the open, will usually stand more frost than when partially sheltered by walls. Seeing that there no certainty about their hardiness it is advisable to fill some shallow frames, boxes, or hand-lights with a portion of the plants, protecting these during the prevalence of severe frosts.

Seakale.—The leaves come away from the crowns freely after severe autumn frosts, and an early clearance is desirable in the case of any to be forced early. It answers well to bare the crowns somewhat so as to further expose them to the frosts, any so treated forcing more readily than do those that have not experienced a severe check. The old or purple tipped Seakale is seldom injured by frosts. If the crowns of the Lily White are left unprotected a severe frost is liable to spoil the whole of them. They ought, therefore, to have either a ridge of light soil or ashes drawn over them in preference to a heavy covering of manure, or else be lifted, bedded in closely and protected as often as necessary. There is another advantage attending this practice of lifting Seakale roots of either variety somewhat early—they are available at all times, or when it is too frosty to lift any from the open ground; surround them with either moist sand or soil, but do not coddle in a shed. It is the younger straight roots that are the best for lifting and storing preparatory to forcing in either deep boxes, pots, frames or Mushroom houses. The coarsest of the side roots or thongs should be saved during the process of lifting, and be shortened to a length of 4 inches, taking a slice off the thicker end and then tying in bundles. Bury them in sand or fine soil. They will be handy for propagating purposes next spring.

THE BEE-KEEPER.

THE APIARY.

THE flowering of plants has been throughout the year rather abnormal with us. Many flowers which we expected to see in June and July did not appear till August and September, while our herbaceous borders were all aglow with a second bloom of the year, and at the present time many clumps of Croci, Snowdrops, and other spring-flowering bulbs are well above the ground. Up till the 17th October many plants and flowers remained as fresh as they were at midsummer, yet for all the profusion of flowers dear to bees, and the exceedingly fine weather, I never knew so little pollen carried into the hives. I have read much about pollen-bound hives, but never experienced a case; bees seem to know their future wants, and provide accordingly.

It may be argued by some that hives may be overloaded with honey, but in well regulated apiaries that seldom if ever occurs. The brood nest never should be allowed to be filled with honey. Youthful, fertile, and prolific queens are the key to success in

preventing it. Our bees have been as erratic as the weather, and before August was out breeding stopped; brood was thrown out, and at a time too, when everything was promising. According to some writers my bees are too old to be of any worth for the coming season. Of that time will tell, but my faith is as firm as ever in the utility of my aged bees, and I am looking forward to the early coming of spring flowers, and to an unusual deposition of eggs in the early year by our long-rested queens, and fear not the lacking of spirit in our aged but willing workers.

It is a common thing for queens to lay eggs which are never allowed to hatch, but the less we interfere with or feed our bees out of season the less waste of eggs and bee life will there be. Our hives are all finished up for the winter and covered, so that perfect dryness is secured. A watch will be kept over them, so that accidents occurring and damage done will be rectified immediately, and if need be syrup supplied. Beyond that they will not be interfered with in any respect. The entrances may have to be extended in some from half an inch to 1 inch, as they are at present, but not until the bees are observed to make an attempt to widen them.

It is a good plan to clear away the snow in front of the hives when there is a likelihood of the temperature rising above freezing. This prevents water accumulating in front of them, and gives the bees a more comfortable footing when they alight. A little dried bracken strewn around the flight place provides a good resting place. Snow after it has been partly thawed, then frozen, does not kill bees as the soft snow does. A great deal can be done to aid bees and prevent their destruction by paying attention to such matters as these.

THE VALE OF CLYDE BEE-KEEPERS' ASSOCIATION SHOW.

The above show was held in Mr. Struther's lesser hall, Blantyre, on Saturday, the 19th October, under the auspices of the Blantyre No. 1 Bee Club. The exhibits were all of exceptionally fine character, not a bad sample of honey or honeycomb being staged. For a silver medal value 35s. the competition was keen, and took the judges one and a half hour to decide. All the prizes went to members of the club, in fact they were the only bee-keepers of the county who had superior comb honey. Members of the horticultural club visited the show, and were so well pleased with it that an effort will be made to have it in conjunction with a Chrysanthemum and vegetable show next year. Already four gold medals and several silver ones are promised for the 1896 show, and if the horticulturists come forward in the same liberal spirit it may develop into one of the best shows in the kingdom. The club paid all the prizes on the 24th, after which a good balance was left.—A LANARKSHIRE BEE-KEEPER.

SEASONABLE NOTES.

THE low temperature registered during the past week will be a reminder to bee-keepers that winter is within measurable distance. To-day, October 26th, the ground is covered with snow, and for several days past the thermometer in this district (South Yorkshire) has registered from 9° to 12° of frost, which is exceptional for so early in the season. This is the more remarkable after the weather experienced in September, and on referring to a daily register of the weather kept for upwards of thirty years I cannot find a parallel.

A few days ago the autumn flowers were blooming profusely in all directions; now they are a blackened mass, and bee-keepers who, before the frost appeared, could not harden their hearts to clear away plants that had been bright with flowers throughout the summer, will not delay any longer, but will start at once, and fill all suitable spaces with plants and bulbs for spring flowering. These I consider are the most beautiful of all; perhaps it is that after the long dreary winter we appreciate them more. They are visited by the bees when they come out of their winter quarters, and are on the look out for the pollen, and the sweet nectar obtained from many of them.

Bees will now be quiet in their hives, and care should be taken that they have plenty of warm covering on the top of the frames. Cushions of cork, dust, or chaff answer the purpose admirably, so do old pieces of carpet or any other warm material; but in no case should the frames be taken out of the hive or the bees interfered with in any way, as a great amount of harm is sometimes caused by bee-keepers examining their stocks in cold weather, resulting in chilled brood. All entrances that were reduced early in the autumn to prevent robbing may now be opened their full width, as abundance of bottom ventilation will be the means of keeping the bees in good health, and will prevent moisture condensing on the combs. If ventilated floor boards are used this will not be necessary.

Now is a good time, after a fall of snow or heavy rain, to examine the roofs and coverings of hives, to see that all are waterproof, as after the dry weather cracks will often appear in wooden

roofs, and if not repaired the drip will soon ruin even the strongest stocks. Zinc makes the best covering for the purpose that I am acquainted with, although some bee-keepers object to its use, owing to its attracting the heat from the sun. If, however, the hives are shaded in very hot weather no harm will happen to them, as this will prevent the stocks from getting overheated and the combs from breaking down, and the hive will have the advantage of being thoroughly waterproof.—AN ENGLISH BEE-KEEPER.

TRADE CATALOGUES RECEIVED.

Kelway & Sons, Langport.—*Wholesale List of Gladioli.*
R. Smith & Co., Worcester.—*General Catalogue of Nursery Stock.*



* All correspondence should be directed either to "THE EDITOR" or to "THE PUBLISHER." Letters addressed to Dr. Hogg or members of the staff often remain unopened unavoidably. We request that no one will write privately to any of our correspondents, as doing so subjects them to unjustifiable trouble and expense.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Bee subjects, and should never send more than two or three questions at once. All articles intended for insertion should be written on one side of the paper only. We cannot reply to questions through the post, and we do not undertake to return rejected communications.

Name and Address (J. F. C.).—C. Colebrook, nurseryman, Grimsby.

Liliums for Market (Inquirer).—You will find an article on page 406 by a grower of Liliums for the Liverpool market, and if you succeed as well as he has done you will have little cause of complaint, so far as regards the cultivation of the plants and quality of the flowers.

Stove for Heating Fruit Room (C. P.).—There is no objection to the employment of a paraffin stove for keeping frost out of a fruit room, and various sizes can be seen at ironmongers. Many recent improvements have been made in oil stoves, and if you state your requirements to an ironmonger he would supply the correct thing. It is better to heat moderately than highly—that is, have a stove that will not need to be made very hot to keep out frost. It is important that the best kind of petroleum be used and the wicks kept clean for keeping the room sweet.

Pear Tree Leaves Discoloured (C. C. E.).—The leaves have been infested by various insects—one, a caterpillar, eating holes through the leaves, also eating them away at the edges here and there; it has then joined two or three leaves together, become a pupa, and from that emerged as a small moth, an empty pupa case being left behind amongst the silky web-like matter. There has also been some Pear leaf blister moth caterpillars at work, these burrowing in the leaves, and when full grown leave them for cracks in the bark or crevices in walls, where they spin a white silken cocoon and become pupæ, from which they appear as tiny moths in early summer. But the chief affection is that of Pear sawfly (*Selandra atra*) larvæ, commonly called slugworm, which are leech-like creatures, and clear away the whole of the upper soft substance of the leaf in the parts they infest, and give them a skeletonised appearance. For further particulars and treatment see reply to "A. B." (Cherry Tree Leaves Skeletonised), October 17th, 1895, page 380.

Apple Lady Henniker (Fruit Man).—In the "Fruit Manual" the following description and history are given:—"Fruit, very large, 3½ inches wide, and 3 inches high; roundish, narrowing a little towards the apex, and with blunt angles on the sides, which terminate in prominent ridges round the eye. Skin, yellow on the shaded side, with a faint blush of red, which is covered with broken streaks of crimson on the side next the sun. Eye, large and open, with short segments, and set in a very deep and angular basin. Stamens, median; tube, conical or funnel-shaped. Stalk, very short, set in a very deep, wide, russet cavity. Flesh, very tender in the grain, well flavoured, and with a pleasant perfume. Cells, obovate; abaxile. A first-rate Apple, chiefly valuable as a cooking variety; but useful also in the dessert. October to February. This Apple was raised at Thornham Hall, near Eye, in Suffolk, and the account of it, furnished in 1873 by Mr. John Perkins, the gardener there, is the following:—"Between the years 1840 and 1850 the late Lord Henniker had great quantities of cider made to give away in the summer months. Several bushels of Apple pips were sown in beds, from which the most promising seedlings were selected and planted; these were reduced every few years. The last thinning was about seven years ago, when thirty-three trees were cut out. The tree

in question was always the favourite, and it has been carefully preserved. It is largely used here when large and handsome dishes of mixed fruit are required for the dinner table. Its appearance by lamp-light is most telling. The tree is very healthy, and a great bearer."

Wood from Alexander and Grosse Mignonne Peach Trees (Tyron).—The shoots of Alexander are strong and long jointed, brown on the side exposed to the sun, and quite green on the shaded or under side. The buds on the strongest and longest shoot are more prominent, but more defective than on the moderately stout and shorter shoot; indeed, the buds on this are such as ought to develop into blossoms later on; but the wood is far from ripened, and as that is so is the store of matter upon which a satisfactory setting and stoning depends. The shoots of Grosse Mignonne are even stronger and the buds more prominent than in the case of Alexander. The buds, however, are imperfect and the wood quite immature, it being doubtful if they will be retained and develop into blossom. We should lift the trees without delay, and in replanting make the soil quite firm, adding some old mortar rubbish, or preferably clay marl, dried and pounded, to the soil, which is certainly rich enough to produce such wood, but unquestionably deficient in calcareous matter. About a fourth of clay marl would make a great difference provided the soil was made firm. If old mortar rubbish be used about one-fifth suffices. The check consequent on lifting would tend to further the ripening of the wood, and the green parts would elaborate so much matter, so that there is a possibility of the buds improving, especially if the trees are well exposed to light and have plenty of air. The flow pipe going through the house would certainly not interfere with the buds in the manner you describe, for it is not a case of over-maturity but of immaturity; yet the warmth is not advisable where rest is desirable. That, however, could be overcome by admitting ventilation, so as to prevent the temperature from being such as to affect the trees. Immaturity is the cause of the failure, and without shorter jointed wood and more perfectly formed buds disaster must continue.

African Groundsel (T. S.).—This name has been given to a somewhat remarkable climbing or trailing plant—*Senecio macroglossa*. It has leaves like Ivy and flowers resembling those of the *Etoile d'Or* variety of *Chrysanthemum frutescens*. *Senecio macroglossus* has been found on the Table Mountain, at the Cape of Good Hope, and in other districts of South Africa, seeds having been first sent to Kew by Mr. Sanderson in 1868, and from these probably the first plants grown in this country were raised. Sir Joseph Hooker states that he has heard that in some continental or other cities this plant is grown in rooms and trained round the walls near the ceiling, and from its peculiar succulent structure it would, no doubt, be fitted for such dry positions, though its strength would be severely tested in ordinary English rooms. The best position for it is a greenhouse or cool stove, but the former is preferable, as it cannot endure a moist atmosphere. It is not particular as to compost, light sandy loam with a little leaf soil or old decayed manure being suitable, and if grown in a pot this must be thoroughly drained and water very carefully supplied.

Pleroma elegans (Amateur).—This is an evergreen shrub, with purple flowers produced in June. Repot in spring, and again in June for young plants, training in the pyramidal form, and stopping the growths up to July, so as to induce a compact habit. Established plants must be cut-in closely after flowering, and kept rather dry and cool for about three weeks, and then rather close and moist, being careful not to overwater; and when the young shoots are an inch long turn the plant out of the pot, remove most of the old soil without disrooting much, and repot in the same size of pot. Keep it rather close, moist, and shaded for a few days, then admit air moderately, and keep in a light airy position over the winter. In April shift it into a pot 2 to 4 inches larger in diameter, and the plant will be the better for placing in a Peach house started to ripen the fruit in June, the moisture from syringing and the well-ventilated atmosphere securing a stiff vigorous growth. Failing this convenience keep it in the warmest part of the house, but well ventilated, and syringed twice daily. In July place it in a cool airy house, shielded from midday sun. In September return it to the greenhouse, assigning it a light airy position. The shoots if growing irregularly may be stopped, but not after June, and they should be tied in autumn after the manner of Azaleas. If the plants are young they may be potted in June, in addition to spring potting; the plants will therefore have a season to grow in, and another to flower, so that two sets of plants will need to be grown to have flowers every year. Sandy fibrous peat four parts, very fibrous sandy loam one part, and one part in equal proportions of pieces of charcoal, broken pots, and silver sand, well mixed, and used rather rough. The drainage must be good. Cuttings of half-ripened shoots, short and stubby, root readily in sand over sandy peat, under a bell-glass placed in a close frame, and gentle bottom heat, tilting the glass on one side at night to prevent damping.

Names of Fruits.—Notice.—We have pleasure in naming good typical fruits (when the names are discoverable) for the convenience of regular subscribers, who are the growers of such fruit, and not collectors of specimens from non-subscribers. This latter procedure is wholly irregular, and we trust that none of our readers will allow themselves to be made the mediums in infringing our rules. Special attention is directed to the following decision, the object of which is to discourage the growth of inferior and promote the culture of superior varieties. In consequence of the large number of worthless Apples and Pears sent to this office to be named, it has been decided to name only

specimens and varieties of approved merit, and to reject the inferior, which are not worth sending or growing. The names and addresses of senders of fruit to be named must in all cases be enclosed with the specimens, whether letters referring to the fruit are sent by post or not. The names are not necessarily required for publication, initials sufficing for that. Only six specimens can be named at once, and any beyond that number cannot be preserved. They should be sent on the first indication of change towards ripening. Dessert Pears cannot be named in a hard green state. (Mayflower).—Fine but irregular specimens of Hollandbury. (W. H. L.).—1, Souvenir du Congrès; 2, Durondeau; 3, Beurré Clairgeau; 4, Dumelow's Seedling (coloured); 5, Possibly Lane's Prince Albert. (G. M.).—1, London Pippin; 2, Winter Greening; 3, Queen Caroline; 4, Lemon Pippin; 5, Minchull Crab. (F. G.).—1, Duchesse d'Angoulême; 2, Maréchal de Cour. (J. K.).—1, Cockpit; 2, uncertain, eye imperfect; 3, Uvedale's St. Germain (small); 4, Chaumontel. (C. S. & Co.).—4, Beauty of Kent; 5, Waltham Abbey Seedling; 6, Reinette de Caux. The others we regard as local orchard seedlings. (South Devon).—1, Lewis' Incomparable; 2, Alfriston; 3, Devonshire Queen; 4 and 5, local. (G. W.).—1, Beurré Clairgeau; 2, Fondante d'Automne; 3, not recognisable; 4, Beurré Superfin; 5, Marie Louise; 6, Colmar. (Somerset).—2, Mère de Ménage; 4, New Bess Pool. The others are not known, probably local, and not worthy of names or perpetuation. (Orchardist).—We regard all the Apples you have sent as of local origin. They certainly have no generally recognised names. Some of them presumably have local names, but these can only be obtained by local nurserymen who devote special attention to fruit. Any names that may be otherwise given must be merely fanciful. (W. J. C.).—1, King of the Pippins; 2, Cox's Pomona; 3, Bess Pool; 4, Mère de Ménage.

Names of Plants.—We only undertake to name species of plants, not varieties that have originated from seeds and termed florists' flowers. Flowering specimens are necessary of flowering plants, and Fern fronds should bear spores. Specimens should arrive in a fresh state in firm boxes. Slightly damp moss, soft green grass, or leaves form the best packing, dry wool the worst. Not more than six specimens can be named at once, and the numbers should be visible without untying the ligatures, it being often difficult to separate them when the paper is damp. (R. P.).—1, Specimen insufficient; 2, *Ophiopogon spicatum variegatum*; 3, not recognisable; 4, *Cassia corymbosa*; 5, *Clematis Flammula*; 6, apparently a *Lonicera*. (Junior).—We do not remember an Orchid from you.

COVENT GARDEN MARKET.—OCTOBER 30TH.

FRUIT.

MARKET very dull, with heavy supplies.

	s.	d.	s.	d.		s.	d.	s.	d.	
Apples, per bushel	1	3	to	3	0	Filberts, per 100 lbs. ..	35	0	to 0	0
„ Nova Scotia, per						Grapes, per lb.	0	6	1	6
barrel.	13	0		17	0	Lemons, case	35	0	45	0
„ Tasmanian, per						Peaches, per dozen ..	1	0	10	0
case	0	0		0	0	Plums, per half sieve	0	0	0	0
Cobs, per 100 lbs.	35	0		37	6	St. Michael Pines, each	2	0	6	0

VEGETABLES.

	s.	d.	s.	d.		s.	d.	s.	d.		
Beans, per bushe	1	0	to	2	0	Mustard and Oress, punnet	0	2	to 0	0	
Beet, Red, dozen	1	0		0	0	Onions, bushel	3	6		4	0
Carrots, bunch	0	3		0	4	Parsley, dozen bunches ..	2	0		3	0
Cauliflowers, dozen	1	6		3	0	Parsnips, dozen	1	0		0	6
Celery, bundle	1	0		1	3	Potatoes, per cwt.	2	0		4	0
Coleworts, dozen bunches	2	0		4	0	Salsafy, bundle	1	0		1	6
Cucumbers, dozen	0	9		1	6	Seakale, per basket	0	0		0	0
Endive, dozen	1	3		1	6	Scorzoner, a bundle	1	6		0	0
Herbs, bunch	0	3		0	0	Shallots, per lb.	0	3		0	0
Leeks, bunch	0	2		0	0	Spinach, bushel	1	0		1	6
Lettuce, dozen	0	9		1	6	Tomatoes, per lb.	0	3		6	5
Mushrooms, punnet	0	9		1	0	Turnips, bunch	0	3		0	0

AVERAGE WHOLESALE PRICES.—OUT FLOWERS.—Orchid Blooms in variety.

	s.	d.	s.	d.		s.	d.	s.	d.		
Arum Lilies, 12 blooms ..	4	0	to	6	0	Marguerites, 12 bunches ..	1	6	to 3	0	
Asparagus Fern, per bunch	2	0		4	0	Orchids, various, dozen					
Bouvardias, bunch	0	6		1	0	blooms	1	6	18	0	
Carnations, 12 blooms ..	1	0		3	0	Pelargoniums, 12 bunches	4	0		9	0
Chrysanthemum, dozen						Primula (double), doz. spys.	0	6		1	0
blooms..	1	0		4	0	Roses (indoor), dozen ..	1	0		2	0
„ doz. bunches	3	0		6	0	„ Tea, white, dozen ..	1	0		2	0
Eucharis, dozen	3	0		5	0	„ Yellow, dozen (Niels)	3	0		6	0
Gardenias, dozen	2	0		3	0	„ Safrano (English),					
Geranium, scarlet, doz.						dozen.. .. .	1	6		3	0
bunches	4	0		6	0	„ Yellow, dozen blooms	0	6		0	9
Lilac (French) per bunch	4	0		5	0	„ Red, dozen blooms ..	1	0		1	6
Lilium lancifolium, twelve						„ various, doz. bunches	6	0		12	0
blooms	1	6		2	6	Smilax, per bunch	2	6		4	0
„ longiflorum, 12 blooms	4	0		6	0	Stephanotis, dozen sprays	2	0		4	0
Lily of the Valley, dozen						Tuberose, 12 blooms.. ..	0	4		0	6
sprays.. .. .	1	0		2	0	Violets, dozen bunches ..	1	6		2	0
Maidenhair Fern, doz. bchs.	4	0		6	0	Violets Parme (French),					
						per bunch	3	6		4	6

PLANTS IN POTS.

	s.	d.	s.	d.		s.	d.	s.	d.	
Arbor Vitæ (golden) dozen	6	0	to	12	0	Ferns in variety, dozen	4	0	to 18	0
Aspidistra, dozen	18	0		36	0	Ferns (small) per hundred	4	0	6	0
Aspidistra, specimen plant	5	0		10	6	Ficus elastica, each	1	0	7	0
Chrysanthemums, per doz	6	0		18	0	Foliage plants, var. each	2	0	10	0
Dracæna, various, dozen	12	0		30	0	Lycopodiums, dozen	3	0	4	0
Dracæna viridis, dozen	9	0		18	0	Marguerite Daisy, dozen	6	0	9	0
Ericas, various, per dozen	9	0		24	0	Myrtles, dozen	6	0	9	0
Euonymus, var., dozen	6	0		18	0	Palms, in var., each	1	0	15	0
Evergreens, in var., dozen	6	0		24	0	„ (specimens)	21	0	53	0



ASPECTS OF HOME FARMING.

OF table poultry we have had most difficulty in obtaining anything like a full supply of really first-class chickens. There may be plenty of healthy cockerels and pullets, but the difficulty is to have them with white flesh, fine white skin, deep fleshy breasts, straight breast-bones, small legs, well fattened, and of an attractive, refined appearance. It is not large, coarse birds that are wanted, but rather birds of medium size and high quality. Of pure breeds we prefer White and Silver-grey Dorkings, neat and plump if smallish birds; they are satisfactory when selected with care and skilfully fattened.

Indian Game under similar treatment are often excellent, especially when so fattened as to get rid of very much of the objectionable yellow skin. They are always plump, excellent eating, and well repay one for all the care that can be bestowed on them. Ground Oats mixed with milk should be given them early, before they are large enough for the actual fattening, which is usually done when they are in confinement, by cramming them with a mixture of ground Oats, milk, and mutton fat. If only due care is exercised with the food we do not usually shut them up for fattening, recourse only being had to fattening coops to bring on special batches of birds to keep up the supply. Some of the best table birds are cross-bred Indian Game-Dorkings that were never confined.

In cross-breeding for table we have found it of especial importance to select the hens very carefully, as they undoubtedly do affect the chickens very materially. A hen with coarse skin, or skin of bad colour, or blemish of any sort, should never be reserved for breeding. It is only by the exercise of much care and a resolute discarding of every faulty hen that high-class chickens can be bred. How difficult this is may be realised best, perhaps, at such an exhibition of table poultry as that at the recent London Dairy show. Cross-bred poultry were largely exhibited, but even among Indian Game-Dorkings there was much coarseness of skin, the first prize birds being faulty in this respect. Brahma-Dorkings were mostly coarse in skin and heavy in leg—not at all the sort of cross for home farm requirements. Indian Game Langshan were so good in colour, form, and plumpness that this cross under good management is likely to prove very useful.

Let it be clearly understood that the objects in breeding table poultry of the home farmer and tenant are totally distinct. "Give me Brahmas for choice. I have a large family, and size tells with me for table use more than anything else," said a tenant farmer to us. Evidently our small, though plump, birds would find no favour with him, nor could we accept his views in the selection and breeding of table poultry.

It must not be forgotten that large birds are useful at the home farm for festive occasions, and for *entrées* and other dishes. For this purpose we place the cockerels in a separate run or yard alone, never allowing them to be with the hens. They then grow to a large size, are much liked, and an occasional pair of them sent to table has quite a sensational effect. Though large, they are not necessarily coarse, and the flesh on the deep plump breasts is delicious eating. In the hands of a skilful cook they are made very attractive; generally we think they are most liked as boiled fowls. Anything like an approach to perfection cannot be reasonably expected at the outset. In this, as in most other things, it answers best to become first of all thoroughly acquainted with what is required, and what is possible, to take the highest possible standard of excellence for

our aim; and though our endeavour will at first, and for some time, fall short of it, by persistent effort, by grasping the reason of every failure, seeing what to avoid in the future, paying close attention to detail, we are bound to succeed sooner or later.

Of other table poultry early ducklings are much in request. To have them early there must be means of keeping them from going much into water and very damp grass; careful feeding and a dry floor keeps them going. If exposed to cold and damp they suffer from cramp, and there are losses. Of sorts we have found the small, plump pintail most liked; large, coarse breeds are avoided. A first brood should be ready for table by the third or fourth week in May, as ducklings are always in request with the first early Peas. Early Turkey poults and plenty of them are even more important. We do not allow Turkey hens to sit, but use any broody chicken hens.

WORK ON THE HOME FARM.

The value of our reminder early in October to clear and store root crops before there was risk of harm from, or hindrance to, the work, from heavy rain, was shown by the severe weather which set in on the 22nd of that month. Frequent snow storms, with 15° of frost after some heavy rainfall, not only hindered the work, but must have done harm to Mangolds and Potatoes still out on the land, many a farmer from mere habit being accustomed to leave the Mangolds out till November.

On Saturday, October 19th, we had a long round by road and rail in Nottinghamshire, and were agreeably impressed by the sight of much brisk work in progress on the land. Corn drills and harrows were in full activity; Mangolds were being pulled, topped, cleaned and carted—in one instance, at least, by the acre, for never have we seen better evidence of work being done with a will, the strenuous efforts of the men seemed as though they had some premonition of the change so soon to come. An noble crop of Potatoes was also being lifted on many a group of allotments, affording evidence that the men turned the golden opportunity of free Saturday afternoons to good account. On some farms an aftermath of marvellous abundance was being mowed and carted off the meadows.

On the following Saturday we came on a remarkable example—a simple and efficient silo in the Peak of Derbyshire. It was made of corrugated iron sheeting fastened to a timber frame, had just been filled with aftermath herbage similar to that on the Notts pastures. The silo had been in use for many years. It had been a success from the first, and was still preferred to the stack system because there is no waste, every particle of the silage being sweet and wholesome. The filling is gradual, extending over two or three weeks. Pressure by weighting is applied, the result being such nutritious silage that in some winters the dairy cows have been fed with it entirely for a time, all other food being withheld, without any falling off in the quantity or quality of the milk yield.

In one instance a decided improvement was perceptible. The cost of the construction of a silage with such materials is so little as to be soon repaid by the saving in silage, no musty outsides being possible. For districts with so heavy an annual rainfall as the Peak it must be invaluable.

METEOROLOGICAL OBSERVATIONS.

CAMDEN SQUARE, LONDON.

Lat. 51° 32' 40" N.; Long. 0° 8' 0" W.; Altitude 111 feet.

DATE.		9 A.M.				IN THE DAY.				Rain.
1895. October.	Barometer at 32°, and Sea Level.	Hygrometer.		Direc- tion of Wind.	Temp. of soil at 1 foot.	Shade Tem- perature.		Radiation Temperature		
		Dry.	Wet.			Max.	Min.	In Sun.	On Grass.	
	Inchs.	deg.	deg.		deg.	deg.	deg.	deg.	deg.	Inchs.
Sunday .. 20	31.267	48.8	46.0	N.	50.0	52.2	46.0	57.9	45.7	—
Monday .. 21	30.074	44.9	44.2	N.	49.2	51.9	38.3	63.2	34.6	0.036
Tuesday .. 22	29.728	43.2	41.6	N.E.	49.1	44.3	42.5	48.7	41.1	0.360
Wednesday 23	29.595	39.8	37.8	N.	47.9	44.4	38.7	51.3	38.1	—
Thursday .. 24	29.549	31.9	30.4	N.W.	46.0	46.1	27.2	70.1	24.9	—
Friday .. 25	29.546	33.7	32.4	W.	44.8	47.2	29.1	79.3	26.1	—
Saturday .. 26	29.575	32.6	32.0	W.	43.5	47.3	27.9	51.4	25.6	—
	29.761	39.3	37.9		47.2	46.6	35.7	60.3	33.7	0.396

REMARKS.

20th.—Fine, but almost sunless.
21st.—Fog early, gradually clearing, and fair after 11 A.M.; but no bright sunshine.
22nd.—A little snow about 5 A.M.; incessant rain from 9.30 A.M. to 8 P.M.
23rd.—Dull and damp early; fair day.
24th.—Bright sunshine almost throughout, but cloudy at times in afternoon.
25th.—Bright sunshine all day; clear night.
26th.—Cloudy morning; gleams of sun in afternoon.
A very cold week for October, and especially remarkable in contrast with the extremely hot week ending September 28th. The figures being as under:—

Week ending.	Mean at 9 A.M.	Mean Max.	Mean Min.
September 28th ..	61.6°	78.8°	51.9°
October 26th ..	39.3°	46.6°	35.7°
Decrease ..	22.3°	32.2°	16.2°

The one week had a mean temperature above the average for July, the other below the average for the first week in December.—G. J. SIMONS.

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Journal of Horticulture.

THURSDAY, NOVEMBER 7, 1895.

OLD CAMPAIGNERS.

THE time is now with us when some important contests of the year are being fought out. It is needless to say the engrossing Chrysanthemum is here alluded to, for perhaps in no other phases of exhibiting that precede it in the annual round is so wide a field presented for good generalship. It may be taken for granted that our exhibitor has step by step trained up his plants in the way they should go, and in the happy consciousness that all is well, nought remains but to pack his produce, mount the box seat, and ride to victory. Doubtless he has wisely discounted the fortunes of war, and if fate and the judges decree a temporary eclipse, and the coveted cup is propelled by one point to the stand of a brother in arms, he has, at least, an opportunity that the conqueror misses of the exercise of more virtues than need be recounted here.

Unconsciously, it may be, for such men—those who have "missed"—a feeling of respect is engendered falling but little short of that admiration we feel for the winner. From the conduct of both are equally valuable lessons to be extracted, which may be assimilated by those to whom wisdom and knowledge are amongst the necessities of life. From the various types of exhibitors two may for present purposes be selected—viz., the old campaigner and the young recruit. Examples of both, presented here, are studies from life, and an endeavour will be made to draw them life size without exceeding it.

My old campaigner I have watched during some years, and noted his bearing through many a tug of war. A strong man he is and has been, but it is a strength that is rather felt than seen. He is a most uncommunicative man, and it was by mere accident I made acquaintance with him. It was in this wise: In arranging my exhibits, ostentatiously perhaps, I inadvertently knocked against a stand, which, with some others, was scrupulously hidden by covers from view, when a courteous but peremptory demand that I would take care drew attention to the guardian angel of what proved to be the winning stand.

From this time interest commenced in my silent friend around whom a halo of mystery

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hung, for being the antithesis of fussiness, so common at a flower show, it was a riddle how he always came, oft conquered, and invariably went all but unperceived. After some drilling as a recruit on various field days, intervals of leisure were afforded and embraced to note exhibitors as well as exhibits prior to being belled out; and so the opportunity was afforded of unearthing my old campaigner in the act of marshalling his forces.

As far from the madding crowd as the limits of the building permitted had he retired, and there the fixing and the final touching went on. As fast as the stands were completed the blooms were hidden from prying eyes, in this case by sheets of tissue paper secured by a tack at the corners. Enthusiasm, in remarking special points of excellence amongst his blooms, was immediately nipped in the bud by a curt call to attention of such weak points as delicacy forbade expression of in voluntary criticism. Good wine needed no bush, and his strength lay in a knowledge of his weak points.

It was plain to see he knew his business, and not less obvious, though unexpressed verbally, that any intrusion on the privacy he sought was not welcome. Eventually, as each field day came round I found the veteran at his post, and whether that was or was not the winning post, the same stoical indifference was remarked. I thought he was, and I think he is, the coolest of the old campaigners I have fought with; but "still waters run deep."

As we came from distant and opposite points of the compass no further intimacy arose after my first approach and rebuff (as I took it) than a brief remark on the weather, and on this topic we were unanimous, mutually agreeing that it was wet or fine according to what prevailed. He came upon (his) business, did his business, and went about his business; offered no criticism nor courted any; and however elated or despondent over the decision which affected him, he showed as little evidence of it as an automatic chess player. On one occasion, which was, as this is, *Chrysanthemum* tide, a cursory glance revealed the fact that he was simply out of the running, owing to the show being late and his best blooms being early—over. This was apparent in those he was staging, but not less noticeable was the same phlegmatic bearing admitting no relaxation of the usual painstaking and care in arrangement.

In turning from my old showman to his antitype it is considerably easier, though less agreeable, to select a prominent example. He is, indeed, very much in evidence at all similar institutions of our country; at least, I have always found him, and that without the trouble of seeking, as in the illustration depicted above. He is a man of little faith in his own powers, and seeks counsel from the many who, alas! are too ready to give it, consequently his blooms (this is the "Mum" show) receive a good deal of handling from admiring friends, and judging from their condition, for some days prior to the exhibition, have their merits been similarly discussed.

He can't be beat. All his friends say so, and the more positively do they assure him of this the more does his mind oscillate 'twixt hope and fear. To make doubly sure, a last flying visit is made to competing stands, and a running fire of criticism is kept up. In one instance, so much was my young friend occupied with other people's business, that in the hurry to complete his own a stand of blooms was set up without water in the tubes. Unlike the old campaigner, he is conspicuously seen and heard, and is a very thorn in the secretarial flesh ere the judges relieve that functionary from the sting of his wrath, for in nine cases out of ten most of the officials come under his ban.

"Favouritism" has been shown. This verdict is arrived at during an afternoon spent in personal point judging between the stands. "Take them bloom by bloom, mine are as good as his, and better. Look at my Mrs. Alpheus and his Hairy Wonder. What were the judges thinking of? Tut! Call that fair judging?" Finally consolation is sought by an endeavour to enlist the sympathy of those whose stands bear no prize cards, and some, at least, of those

are ready to accord to him Crabbe's description of Mr. Justice Bolt—

"This ready man at every meeting rose,
Something to hint, determine, or propose,
And grew so fond of teaching that he taught
Those who instruction needed not, nor sought."

It is not his first field day, and it is only in a comparative sense that he is here styled a recruit. His methods and his manners seem to court those disasters from which perennial grievances arise. Truly, he is seldom far behind; and often the slip 'twixt the cup and his stand proceeds from a disdain of those trifling matters which shunt the prize to a neighbour's exhibit. On various occasions have I heard him declare that he has done with the Society for good and all in a tone which forebodes something like calamity to that body. At our last show I noted him ricocheting through the building in the usual conspicuous manner. I trust that he may yet note my old campaigner, and in the noting acquire some valuable lessons he has hitherto missed in the art of showing.

—OBSERVER.

KILLING CHRYSALIDS IN WINTER.

ALL is fair in love and war, so 'tis said, but yet it would hardly be thought the right thing for soldiers to kill their foes while they were sleeping, though it might be a painless way of removing them. We, in garden operations, have to contend with numerous enemies which we are glad to kill whenever we get a chance, and, if we can catch them in a torpid condition—well, we may prefer to destroy them then, probably without inflicting pain, even though we do not quite accept the Shakesperian assumption concerning the sensibilities of insects.

Winter, we know, is the time of sleep or unconsciousness with many, also a time when it is important for us to prevent the injuries of another season, by removing those species that would afterwards work mischief, whether they are accessible in their earliest stage of egg, or as larvæ (some of which are torpid, but others feed during part of the winter), or in the chrysalis stage, or occasionally we have instances of sleeping imagoes now amongst moths and flies. The chrysalis often awaits the spring hidden beneath the earth, sometimes it is on the surface, only slightly protected, and, during the work of the later months of the year we come upon various chrysalids by accident, while others may be discovered without much trouble.

Though we cannot say a chrysalis has no feeling (for if one is annoyed it will generally wriggle a little), still, in that state we shall not be inflicting much pain upon these insects by destroying them. A friend of ours, indeed, who has had some extensive acquaintance with the chrysalids of moths, thinks they wink their eyes sometimes, which would certainly imply sensitiveness; but this is only a fancy. Not long before the period of emergence, however, the eyes may be seen to shine very perceptibly through the envelope or case.

About this season it is customary to make use of various insect killers to dispose of surface or subterranean grubs and caterpillars, and I have been asked whether these, as a rule, take effect upon any chrysalids that may be in the soil. Much depends on the nature of the liquid or substance employed. The more powerful applications which we put upon ground where no plants are growing do frequently kill chrysalids; but they might escape unhurt from milder applications, which, without injuring the roots or stocks of plants, will kill many larvæ. The shell of a chrysalis is generally hard, and its surface not readily absorbent of moisture; some chrysalids are also protected by an outer covering. The caterpillar before changing forms a cocoon composed of a sort of silk, with which earth or vegetable fragments are mixed.

Apart, however, from the effects produced by the application to the soil of poisonous liquids, abundance of moisture is of itself injurious to the chrysalids of moths, also to those of some beetles and flies, in consequence a rainy winter destroys more of them than does a dry and frosty one. By such a winter, too, subterranean insects are rendered less accessible to birds, which hunt up those near the surface when the mild weather loosens the earth. Digging and turning over the ground brings chrysalids to the surface, putting them in reach of birds, and subjecting them to atmospheric influences likely to be prejudicial, but there is no advantage in digging deeply to get rid of them. Few of them are found far down in the earth, and, should we be digging amongst plants or shrubs, we run risk of injuring the fine fibres of roots. This has been tried, sometimes in winter, where Gooseberries have been infested with sawfly caterpillars previously, and the bushes have

suffered afterwards. Really, it is not needful, since the grubs descend but a few inches.

Removal of the surface soil may be advisable, which should be burnt, or treated with undiluted gas lime; in that way also during winter many eggs of the Gooseberry and Currant scale (*Lecanium ribis*) would be destroyed, for these often drop from the mother scale to the soil under the bushes, and the young scale begin to ascend as early as March. Indeed, by scraping off the surface to the depth of 2 or 3 inches we get away chrysalids of various species. The *Hybernia* group of moths, some of which are so troublesome to us, are generally but just buried in the earth, for instance the winter moth (*Cheimatobia brumata*); and killing the chrysalids saves all speculation about the methods of preventing the moth from depositing eggs. But after October is out it is commencing to emerge from the chrysalis if the weather is mild. Another foe to fruit trees is the caterpillar of the mottled umber (*Hybernia defoliaria*); the moth of this species appears about the same time as the preceding, and the chrysalis lies just under the surface of the ground.

When the soil has been either scraped or simply turned over an application of quicklime may be useful for killing chrysalids, and any solution or liquor containing soap as an ingredient, because this clogs the breathing pores. Of course, in some cases descending caterpillars take up their abode for the winter just under the plants or shrubs on which they have fed, where the chrysalids are guarded by the roots, unless it happens that the plants are dug up at this season. Hence, in operations amongst autumn Cabbages, it is very usual to bring to light numerous chrysalids of the abundant Cabbage moth (*Mamestra Brassicæ*), which are often allowed to escape, when they might be picked out of the earth. Amongst other chrysalids of stout-bodied moths we turn up now are those of the dot (*M. Persicariæ*), the heart and dart (*Agrotis exclamationis*), the dark arches (*Xylophasia polyodon*), and the pretty silver Y (*Plusia gamma*) in a cocoon on the ground or amongst the herbage. Its caterpillar occasionally makes a raid on *Chrysanthemums* in the spring.—ENTOMOLOGIST.

THE CLOSE OF THE SEASON.

WHEN we reach this somewhat saddening period of the year, with its alternating visitations of frost and snow; when the leaves are falling in myriads into our gardens from the envining trees, and making desolate the aspect of borders and bowers; I am sometimes disposed to sympathise with Othello, when he pathetically declared that his occupation was gone. Yet such, even for the horticulturist, is not the case, for, as a matter of fact, there is much to be done. His work for next year is only beginning; and if after this period there is little appearance of growth or activity, he can take comfort from the fruit buds already formed on the trees; he will remember amid the surrounding desolation the assurance of Tennyson:

"Long sleeps the summer in the seed."

Here, however, the floral season has not yet wholly vanished from the regions of vision into those of remembrance. Notwithstanding the somewhat exacting weather which has recently prevailed, I have at this date (November 1st) a *Lilium auratum* in flower, likewise several stately plants of *L. speciosum Kraetzeri*, a large number of Rose trees, and many *Chrysanthemums* in continuous bloom. This, no doubt, is largely owing to the fact that my garden is strongly sheltered from every wind that blows; being adequately protected by officehouses, tall trees, and high Hawthorn hedges—especially towards the north and east. The influence of the sea, which we have on all sides save one, is also favourable to the permanence of vegetable growth and adverse to the frost, which is also greatly mitigated by the dominating action of the beneficent Gulf Stream.

Of late-flowering Roses the brightest at present are Lorna Doone, whose chief value consists in its autumnal attractiveness; Mr. Cranston's Crimson Bedder, which should be universally cultivated, seeing that it blooms from June to November without intermission, has a fragrance which might be envied by Baroness Rothschild or Merveille de Lyon; Hon. Edith Gifford and Innocente Pirola, two of the hardiest, most prolific, and beautiful of Teas; and Mrs. John Laing, the grandest production of the late Mr. Henry Bennet, whose early death was to the world of horticulture an irreparable loss. Almost rivalling the last-mentioned Hybrid Perpetual are two recently originated Irish Roses of the highest merit and distinction, both of them gold medallists of the National Rose Society; I mean Mrs. Sharman Crawford and Marchioness of Downshire, of whose many splendid attributes I can speak from experience. They are very free-flowering; while in colour and form they are alike superb. Though of a different complexion, they are worthy successors of Margaret Dickson and Marchioness of Londonderry, of which the former succeeds admirably here, while the latter is only, under the most favourable conditions, a partial success. Mr. Paul's Clio, which I described at some length in previous contributions, is also a remarkably meritorious Rose. Prince Arthur, the finest existing derivation from Général Jacqueminot, raised by Mr. Benjamin R. Cant

of Colchester as far back as 1875, yet whose lustre and popularity are alike undimmed; Duke of Albany, Victor Hugo, and the immortal Duke of Edinburgh; also the imperially robed A. K. Williams, than which no nobler crimson Rose exists, have proved in my garden exceedingly precious autumnal acquisitions.

On the 12th of October I had the gratification of presenting to my friend Madame Adelina Patti at her Edinburgh concert, in recognition of her love for the art of horticulture, a bouquet of "home-grown" Roses, which included many of the varieties I have enumerated, also Madame Pernet Ducher, Souvenir de S. A. Prince, Perle des Jardins, and Madame Lambard, which, I may add, she accepted most gratefully, publicly, and most gracefully acknowledged on the platform, and held in her hand when singing "Home, Sweet Home." She told me that after receiving such a present she should certainly have sung the "Last Rose of Summer;" but this would have been a premature, however impressive, adieu to the fairest of flowers, seeing that I have gathered many bouquets of Roses since that memorable time.

But the atmosphere is becoming colder every day, growth and vitality can no longer be sustained; nor is this advisable, for every plant and every tree must have, in accordance with Nature's ordination, its period of repose, and ere long the reign of the Rose and its contemporaries will have become, like all things fair, a bright and abiding memory of the past. We shall have to bid our best-beloved companions, the flowers of the garden, a reluctant farewell.—DAVID R. WILLIAMSON.



FIG. 68.—MONS. E. CALVAT. (See page 438).

COOPER'S BLACK AND GROS MAROC GRAPES.

IN reply to the request for information about these Grapes, I have to remark that as we had them here they were quite distinct varieties. We had Gros Maroc on its own roots, grafted on Black Hamburgh, on Gros Colman, and on Lady Downe's. We, however, cut it out some time ago, as we had a poor opinion of its edible qualities.

We have several Vines of Cooper's Black still. They are grafted on Lady Downe's, and have done well, though we find that the fruit produces but a poor return when sent to market; in consequence we do not intend to increase our stock of it.

By parcels post I send to the Editor a small sample of our Cooper's Black. I am sorry we have not a sample of Gros Maroc to send for comparison, or the Editor would easily have seen the difference between the Grapes as we had them.

Cooper's Black shows its bunches at the sixth or seventh eye on the laterals on an average, and my recollection of Gros Maroc is that it showed its bunches much nearer the main stem.

Gros Maroc as grown by us produced a fully larger berry than Cooper's Black, and had a much thicker and stiffer stalk to the berry. The foliage also was thicker, and the wood as a rule stronger. Its edible qualities were of the poorest, though well grown and treated to a good temperature. The bloom was very intense, and the Grape looked well, making a handsome basket, but when tasted its charms vanished, at least in my opinion.

Cooper's Black as grown here colours well and early, and shows freely, but we also find its table qualities far from first-rate, and it, like Gros Maroc, has more the appearance of merit than the reality.

I cannot give the history of Cooper's Black, but doubtless some of the readers of the Journal can. I agree with what "Rusticus" says on page 408.

I cannot say anything about the Dundee case as I did not see the Grapes mentioned, but if the exhibitor had Cooper's Black and Gros

Maroc as we had them here, he certainly had two distinct varieties.—
JOHN THOMSON, *Clovenfords*.

SEVERAL years since Mr. Lees, then gardener to the Marquis of Downshire, Co. Down, Ireland, was in the habit—at least more than once—of showing fine samples of Cooper's Black at the September shows of the Royal Caledonian Society. This was my first acquaintance, or knowledge, of the existence of this Grape. Eleven years since, having a good number of Vines to plant, I got a cutting from the Co. Down Vine through Mr. Lees. I fruited it for several years, but, notwithstanding its grand appearance, I cut it out, as I also did Gros Maroc some years previously, because of their worthlessness in every respect except appearance. Cooper's Black is a very easily grown Grape, and, according to my judgment, perfectly distinct from Gros Maroc. I consider it a mistake to grow either variety for table purposes with so many available good Grapes at command.—D. THOMSON.

I HAD the honour to be one of the judges of Grapes at the Dundee Show last September, and my decision was given that Cooper's Black and Gros Maroc are not distinct varieties. If "Rusticus" calls here any day soon he will see the two Grapes grown side by side in the same house with bunches still on them. He will also see for himself that the second leaf from which his bunches show is a mistake, and not a point to go by. My experience teaches me that properly matured Vines will show their bunches from the second to the third and fourth leaf. Both of those Grapes named I have grown for many years, and have always taken care never to show them as distinct varieties. Turn up Dr. Hogg's Manual.—A. KIRK, *Norwood Gardens, Alloa, N.B.*

I CONSIDER the Grapes, Cooper's Black and Gros Maroc, distinct, but I also regard both varieties as inferior, in wanting flavour, and therefore unsuitable for my employer's table. Cooper's Black we turned out, and have only two Vines of Gros Maroc.—P. W. FAIRGRIEVE, *Dunkeld*.

I AM sending by this post samples of Vine leaves and growth of Cooper's Black and Gros Maroc, as I have them here grafted on Hamburgh stocks. Cooper's Black, as far as I have seen, rarely, if ever, has shoulders to the bunch; otherwise, I should reckon it resembles Gros Maroc in every other way—at least, not distinct enough to be exhibited in a collection of Grapes with Gros Maroc. Unfortunately, we used the last of our "Maroc" last week, otherwise I would have sent a sample with this.—J. H. GOODACRE, *Elvaston*.

[We have received bunches of Gros Maroc from Mr. T. F. Rivers, Sawbridgeworth, and Mr. G. Reynolds, Gunnersbury, the berries of which are identical in character. We have also received a bunch of Cooper's Black from Mr. John Thomson, Clovenfords. The berries are rounder than the others and similar in texture. Whatever difference there may be in the Vines when growing we should regard the bunches before us, though not identical, as too much alike for including in a collection of distinct varieties. We have seen nearly or quite as much difference in the berries of Black Hamburghs exhibited as in the samples referred to which have been obligingly sent for examination. We shall still be glad to learn the origin of Cooper's Black Grape.]

THE FLORISTS' TULIP.

[By JAS. W. BENTLEY, Hon. Secretary of the Royal National Tulip Society.]

DESCRIPTIVE CATALOGUE. (Continued from page 373.)

DANGEROUS (Dark).—Bizarre. Shape good; base pure, flamed with brown on a clear yellow ground. Raised in the south of England by Mr. Dark. This variety was, forty years ago, a good exhibition flower, but is "dangerous" no longer.

DAUNTLESS.—A syn. of BESSIE flamed.

DAVID (Dutch).—Bybloemen. Dwarf; shape fair, base pure; best in feathered state, when the feathering is almost black on a fine white ground. This variety, introduced about eighty years ago, was for nearly half a century in high favour as an exhibition flower on account of its constancy and the handsome contrast of its black and white, but being of delicate constitution has gradually gone out of cultivation. The Dutch growers still retain the name in their catalogues, but apparently have lost the real David, as they send for it an inferior kind called Habit de Noce.

DAVID JACKSON (Jackson).—Bybloemen. Shape good; base pure, white ground; clear petals, wide, and of good substance. As a breeder it is good, being rich dark purple in colour. When broken feathered the feathering is rich and dark; when well flamed the rich dark purple markings make it a fine exhibition flower. Unfortunately, however, it is generally too heavy in colour when broken, and this fault causes it to be seldom seen at exhibitions. It is early in bloom, and is, although not prolific in the way of offsets, a good grower. Raised by Mr. David Jackson of Middleton, Lanc., about thirty years ago from Ashmole's Emma, which latter is a seedling from the once famous Louis XVI.

DAWN (Horner).—Rose. A fine, promising rose breeder, still undistributed.

DEAN STANLEY (H. Goldham).—Bybloemen. Shape fair; base pure; petals too thin, flamed with purple, and of little value as an exhibition flower. A seedling from Musidora × Gipsy.

DEFIANCE (H. Goldham).—Bizarre. Shape good; base pure; a bold, rich feathered and flamed bizarre. No longer grown, but worthy of notice as one of the parents of the late Mr. Lloyd's fine red bizarre breeders. A seedling from Feu Devorant × Gloriosa.

DEMOCRAT (Dixon).—Bybloemen. Shape good; base pure. Much esteemed as a flamed flower forty years ago, but now discarded.

DEMOSTHENES (Headly).—Bizarre. Shape fair; base not strictly pure; best in feathered state, when its heavy brown feathering gave it a handsome appearance. This variety is so like Charles X., that many growers have maintained they are the same. It is not often seen now in good condition.

DESDEMONA (Horner).—Bybloemen. A fine purple breeder of excellent properties still entirely in the hands of the raiser, the Rev. F. D. Horner, of Burton-in-Lonsdale.

DOLITTLE (———).—Rose. Shape very long; base impure. A scarlet feathered rose, very popular during the first half of this century in the North of England for its correct marking, but now quite discarded. The southern growers used to deride the men of the north for their fondness for this and other long cupped impure flowers, quite overlooking that the northern growers, being mostly working men, were unable to pay the high prices asked for new varieties in those days, and consequently had to put up with sorts that were glaringly faulty, varieties that were willingly discarded when better ones could be got. Syn., Michael de Lisle.

DON COSSACK (Dark).—Bizarre. A flamed flower, resembling Polyphemus, which being excellently marked was a favourite forty years ago, although its want of purity told against its success as an exhibition variety.

DON JOHN (H. Goldham).—Bybloemen. Tall; shape long; base pure; a well marked flamed flower, the flaming being deep purple. A seedling from Musidora × Chancellor.

DORA (H. Goldham).—Rose. Dwarf; shape good and base pure, well flamed with bright rose. It is a promising flower, but seems to be a poor grower. A seedling from Claudiana × Pass-Lac.

DRAGON FLY (Horner).—Bizarre. Shape good; base pure. A promising variety; seen in public only as a breeder up to the present, and still entirely in the hands of the raiser.

DREADNOUGHT (Hepworth).—Bybloemen. A feathered flower, which has not justified its early promise or its pretentious name, being of little account nowadays. It broke from Hepworth's 233/64 breeder about twenty-five years ago.

DR. COLENZO (H. Goldham).—Bizarre. Dwarf; shape fair and base pure; flamed with brown on a good yellow ground, and sadly deficient in feathering. It is a seedling from Glory × Willison's King, and of no value as an exhibition flower.

DR. DALTON (Hardy).—Bizarre. Shape fair, and base pure. It is seen oftenest in breeder state, when it is dull brown in colour, and as the petals are somewhat flimsy of no particular value. It has never made a reputation as a broken flower.

DR. HARDY (Storer).—Bizarre. Shape excellent, purity undeniable, petals broad and stout. As a breeder it is excellent, and as a flamed flower it is, as yet, unsurpassed amongst red bizzarres. Its fine branching beam of dark scarlet, and its well defined feathering on a rich gold ground, combined with its stoutness of petal and excellence of form will, as it has an excellent constitution, keep it in the front rank for many years to come. Well might Dr. Hardy exclaim, "Then my name will live," when Mr. Thos. Haynes, who broke it from the breeder thirty-two years ago, announced his intention of calling the flower Dr. Hardy. It is cheap and plentiful, although a good strain is indispensable. As a feathered flower it is of little value. It is a seedling from Pilot × Shakespeare.

DR. HORNER (Groom).—Bizarre. Shape rather globular and base pure. A lightly feathered dark bizarre on a pale yellow ground; raised by Mr. Groom and named, about forty-five years ago, in honour of Dr. Horner of Hull, who was, in his day, an enthusiastic florist. This variety was figured and described in an early volume of the "Illustrated London News," and was a famous flower at the time, but is now scarcely grown at all.

DR. HUTCHEON (Storer).—Bizarre. Shape good; base pure. A well-marked flamed bizarre, the flaming being dark chocolate on a good yellow ground, but there is an objectionable tinge at the base of the beam. It is a seedling from Dr. Hardy, but inferior to that variety. Owing to the confusion into which the late Mr. Storer's seedlings had of late years fallen, a far superior variety has for a few seasons past been exhibited under the name of Dr. Hutcheon by some growers. With the assistance of the late Mr. Lakin, who knew Storer intimately, the matter was rectified, and it was decided to call the superior variety Samuel Barlow, after the well-known florist who was for so many years President of the Tulip Society.

DR. VERNON (Johnson).—Rose. Pure; shape good. This variety, although rather small in size, makes both a passable feathered and a flamed flower. It is, however, of no particular value as an exhibition flower, as the marking colour is weak and dull.

DUC D'AUMAË (H. Goldham).—Bizarre. Shape good; base pure; feathered with dark brown on a pale yellow ground; of no particular merit. A seedling from Polyphemus × Charles Brown.

DUC DE SAVOIE (Dutch).—Bizarre. Shape long; base greasy, and sometimes even green. A favourite feathered bizarre in the north fifty years ago, but now discarded. Syn. Spencer's Grand Duke.

DUCHESS OF CAMBRIDGE (Groom).—Rose. Tall; formerly esteemed a fine feathered rose.

DUCHESS OF NEWCASTLE (Sherwood).—A syn. of QUEEN BOADICEA.

DUCHESS OF SUTHERLAND (Gibbons).—Bybloemen. Shape fair; base pure; best when feathered, when the feathering is a rosy purple in colour. First broken in 1843, and not often seen now.

DUCHESS OF SUTHERLAND (Groom).—Rose. Shape long; pure; formerly esteemed as a feathered rose. It is still grown to a limited extent, but is now generally flamed.

DUCHESS OF SUTHERLAND (Walker).—Bybloemen. Shape inferior; base and filaments beautifully pure. This variety, raised near London about forty-five years ago, was brought into notice by Mr. Goldham as a feathered flower. Despite its "cocked hat" shape, its dazzling purity and bright purple markings caused it to become a general favourite, and, although a shy grower, it is still extensively grown as a flamed flower, although it cannot now be considered first rate. The late Mr. Norman of Woolwich used this variety largely to raise seedlings from, and raised some fine varieties, which have never yet got into general cultivation.

DUKE OF CAMBRIDGE (Norman).—Bizarre. Dwarf; shape good; base pure; heavily feathered with dark red. A fine variety, but very scarce.

DUKE OF DEVONSHIRE (Dickson).—Bizarre. Tall; shape fair; pure. A vigorous, strong-growing variety, coming early into bloom, and when feathered is still bad to beat. The yellow ground inside the flower is good, and shines as if varnished; it is, however, much paler outside. When flamed, in which state it is now generally seen, the flower, although well marked, has scarcely any base, and looks dingy outside, although inside the markings are well-nigh black. It was broken and named over fifty years ago by Mr. James Dickson of Brixton from one of Clark's breeders. Other growers also broke and named it. Syns., Milton, Sphinx, Gog, Lord Strathmore.

DUKE OF EDINBURGH (Haynes).—Bizarre. Shape good; base pure; best in feathered state, when the feathering is a chestnut brown, very even and beautiful; the ground colour is a deep rich golden yellow. It increases very slowly, and does not expand very freely. As a flamed flower it is worthless, having no base. It was certificated at the National Exhibition in 1875. A seedling from San José, and still very scarce.

DUKE OF HAMILTON (Slater).—Bizarre. Pure; an inferior variety, first broken flamed in 1843, and still to be found in some collections in the breeder state.

EDGAR (Naylor).—Bybloemen. Formerly much esteemed as a feathered flower; marking colour dark and constant, white ground very pure, but the filaments invariably stained.

ABOUT ANTI-BLIGHTS.

SEE pages 424 of last week's issue, where your reporter goes on to say, "an interesting discussion followed Mr. Sutton's lecture." At this Chrysanthemum-mad time doubtless you have more matter than you can manage to wedge in, but I think nevertheless the "discussion" was sufficiently important for me to ask you to try and crowd in a few remarks upon it. Mr. Sutton touched upon anti-blight powders doubtfully as to their freedom from poisonous qualities, but to clear his conscience in those respects, he recommended those kinds of Potatoes only to be grown that can maintain comparative freedom from disease. Yes, exactly so; but where are they to be found? With the exception of a very few coarse sorts, which I do not think the Messrs. Sutton would care particularly to countenance, I do not know of them. I well know the firm's more recent introductions, and others yet to come. I advised the late Mr. Clark how to cross. He was fond of his garden, and, like "Inspector" at that time of day (page 291), was wont to "devour" the matter from the columns of the old "Cottage Gardener." Myself and Mr. J. P. Jones, head of the Messrs. Sutton's Potato Department—to whom we are more indebted than 999 out of 1000 wot of, for the selected excellence of the esculent—paid a visit to Mr. Clark. I saw at once that he was too "sweet" on intercrosses with American sorts, and advised him to desist. "Well," he said, "what will you advise me to cross with?" I answered, "I began English crossing in 1860 with Fox's Seedling and the Cambridge Kidney, but as I think you must feel a greater interest in Magnum Bonum than any other man, you can cross it with Fox's, and depend upon it far better results will be likely to follow than you can ever expect by dabbling with those from the other side of the 'herring pond.'" "But," he rejoined, "where can I get the Fox?" I happened to know the Messrs. Sutton retained it amongst some choice reserves. Mr. Jones sent it to Mr. Clark. This is how the recent excellent Potatoes of the Reading found their way, and they constitute the blood, so to speak, of one of the best and oldest English Potatoes, blended with that providential variety alluded to, found in Mr. Clark's garden when we were almost in despair about losing our Potatoes from disease altogether.

With Messrs. Sutton's new and finer strains in my dark and fertile garden soil I should not feel safe with them if minus the powder or the spraying mixture, which amounts to the same thing wetted. I consider it in its powder form of a nicer method of application than the wet, sloppy plan. I should have felt satisfied with less than I have written to explain myself to you had I not been buttonholed as the audience were dispersing by two gentlemen, who assured me I was wrong and that Mr. Sutton was right about the anti-blights being poisonous. I answered them, I never said they were not; but that the secret from running any risk of being poisoned with them was to apply the powders properly—to begin by the puffings on to the infantile foliage or fruits, and by so

doing prevent the fungoids having the slightest chance of establishment; that it was too late when they had done so. I further explained to my antagonists, who from their language and look hailed from the other side of the silver streak, that the powder I use would not injure the most delicate foliage; but it would, as I have proved, produce health and strength to sickly plants in their young and tender stage and maintain them so, and so also free from aphids and other depredatory insects when used in time and as frequently as intelligent observation sees necessary.

I tried to impress upon my foreign friends that if they allowed mildews or what not to become established upon either foliage or fruit, crude and drastic eradicants must then be employed, which in most cases proved worse than the disease, plus a chance of poisoning people "around Paris" or anywhere else. I also explained how this idea worked upon me when first mooted. My Grapes were ripe. The Royal Muscadine—Chasselas Musqué "around Paris"—with the Malbec bellows I well powdered three bunches and partook of them, powder and all, to show that if it meant poisoning then was the time, and upon the right person. It will not be necessary for me to perform this feat again; I felt none the worse after it. As to my Potatoes, well, surely if any deleterious effects pertained to them after my operations above ground, both me and my family must have found our places underground long ago. Pray do not let the bugbear frighten good people any longer.—ROBT. FENN.

PLANTING WALL TREES.

I AM not surprised to find that the watchful eye of "A. D." has discovered a singular error in my recent article dealing with this subject, and I must thank him for being good enough to point it out in his note on page 415. What I really wrote was, "This ought to be trodden firmly, *unless it happens* to be heavy or wet." Unfortunately, however, the pen will sometimes indulge in rapid flights, which are not favourable to the production of true caligraphy. It is not surprising, therefore, to find that printers, like other mortals, sometimes make mistakes. I noticed the error when reading over the article, and was inclined to forward a correction, but in the end refrained from doing so because I thought every reader would see that it must be a typographical error, as in its printed form I was made to advocate a practice entirely opposed to everything I had previously written on the subject.

"A. D." also asks, "Would it not be wiser to get out the holes and fill right to the top with the new soil fully a fortnight before the trees came to hand, so that the soil would settle down naturally?" Perhaps it would from a theoretical, but I think not from a practical point of view. Good loam when cut from a heap such as is usually used for wall trees, is invariably in just the right condition, neither too wet nor too dry, for planting fruit trees in. Why, then, place it in the holes where perhaps it may become thoroughly sodden by the time the trees are in readiness for planting, and thus delay for days, or it may be weeks, the performance of an operation which if possible should not be delayed?

In regard to the query, "Is it not a mistake to advise the making of too deep holes and filling up with too rich soil?" I answer, Certainly it is. But did the article in question contain such advice? I trow not. Indeed, the depth I gave for the holes differs but little from that which "A. D." considers sufficient in ordinary soils. My advice was to dig holes 30 inches in depth on light soils, and 6 or 9 inches less on heavy ones. His criticism on this point therefore seems to me to be of a rather hair-splitting nature, and I think if "A. D." had to deal with the light hungry soil of this district he would regard the extra depth a decided advantage. By all means let us encourage surface roots as much as possible, but we want some to penetrate a good depth, as well to help the trees through hot seasons. Without them I fear we should have more numerous additions to our "ripened wood nuts to crack."

If my friendly critic considers turfy loam too rich for filling-in the holes, what does he consider a good substitute for it?—H. D.

RIPENED WOOD.

A REPLY to my critics was impossible last week, owing to pressure of work caused by the sudden and early advent of winter. There is, however, little for me to traverse in either communication, the writers' remarks, though professedly adverse to my contentions, being really confirmatory thereof. Both "Y. B. A. Z." and "D. I." agree that green wood will produce good Peaches—indeed, the former goes out of his way to support me by relating that story of the "coarse branch on an Apricot tree," which "had more fruit on it than all the rest of the tree put together." Moreover, while thus upholding my views he also incidentally shows that I am not the first nor the only sceptic who has scoffed at the ripened wood theory. Yet notwithstanding these awkward facts "Y. B. A. Z." is so perverse, and "D. I." appears to be the same, that he prefers red, roasted wood to green wood, presumably only because it looks prettier. That it is so I freely acknowledge; but being a practical man, and growing Peach and Nectarine trees for crop and not for ornament, I like verdant rather than rosy wood, and for the simple reason that I get better results therefrom.

"Y. B. A. Z." fancies I was disingenuous about the tree moved down to Somersetshire. This is a mistake on his part, as I can assure him of my complete mystification. His simple tale is, however, now quite explained by saying that both trees were moved. Doubtless native obtuseness was to some extent responsible for my blunder; but, at the

same time, your correspondent can hardly claim to have observed William Cobbett's never-to-be-forgotten maxim, "Write, not so that people can understand, but so that they cannot misunderstand."

Unfortunately I have lent the files of your Journal to a sick neighbour, and am therefore unable to refer back to his letter, in order to examine his precise words, but the sentence he now quotes respecting the moving of the under tree certainly did nothing, to my mind, to solve the enigma—rather the reverse, as it puzzled me all the more.

With regard to a tree not bearing fruit when grown in the shade of another; this is no new discovery, though the actual cause is hardly yet fully understood. Doubtless it is due to the fact that, owing to lack of sufficient sunshine, the chlorophyll in the leaves is unable properly to perform during growth its peculiar function of separating the carbon dioxide contained in the atmosphere into its constituent elements. The vital juices of plant life also probably circulate less rapidly in trees so placed. It has long been known that excessively slight electric currents cause the upward flow of the sap, and these are presumably generated by light and heat emanating from the sun, and correspondingly checked by overhanging trees. This, however, has little or nothing to do with the "ripened wood" controversy, which, briefly stated, is whether hot droughty summers like 1893 and 1895 are more beneficial to vegetation generally, and fruit trees in particular, than cold, wet, sunless seasons, such as 1894 was.

That, I must again insist, is the crux of the whole question. I must, therefore, again thank "Y. B. A. Z." for the unconscious support he gives to my heterodoxy in the last paragraph of his letter. He there somewhat triumphantly reminds your readers of last winter's frost. I cheerfully accept his test. Owing to the prevalence during last summer of low temperatures, wind, cloud, and rain, the wood of 1894 was "unripe"—indeed this was admitted in your columns at the time—yet it passed scatheless through one of the severest winters of the century, not a twig, to my knowledge, having been injured—a very unusual occurrence.

Striking facts such as these are, I suspect, responsible for the change of opinion of one of my strongest opponents a year ago, Mr. Raillem, now beginning to doubt, on page 412, whether it is not possible "that we may have too much of even such a good thing as ripened wood."—THE SCEPTIC.

P.S.—I regret having overlooked in my last "Y. B. A. Z.'s" remark concerning his Rose shoot, as he evidently considers it a clincher. Unfortunately I cannot now discuss it for reasons already given.

[We trust our correspondent's sick neighbour will have been benefited by the copies of the *Journal of Horticulture* which have been so kindly prescribed. We have received a little medicine for "The Sceptic," but it cannot be administered this week.]

MORDEN HALL, WIMBLEDON.

THIS essentially suburban residence of G. Hatfield, Esq., lies comparatively near London, yet does it seem in all its surroundings to be essentially rural. Travellers by the short branch line of rail that runs from Wimbledon to West Croydon can have hardly failed to notice the extensive park which the line skirts after leaving Morden Station, and especially have noted with surprise that a considerable herd of deer is running in it, an unusual feature in a private park anywhere, but specially so near to London. The estate, for it is a considerable one, is freely watered by the river Wandle, and within its bounds there is yet found an ancient snuff mill in constant use, where the ribs and stems of the tobacco leaves, so largely used in London for the making of popular tobacco brands, are converted into that powder which seems still to find users. The mill is worked by water power. The river also forms some few stillwater canals or streams, one of which flows through the middle of the kitchen garden, and another encloses the extensive lawn. Naturally an estate so placed is flat, but the soil seems to be very fertile when well cultivated.

Mr. C. Alderman, the intelligent and energetic gardener, belongs to the most useful order of all-round men. He has to do more or less with almost everything, and strives his utmost to do well. It seems, too, that he does so. The place when I called on him the other day was far from being at its best, as frosts had destroyed all tender plants, and leaves were falling thick and fast. The flower gardens just passing through a transition stage, furnished little for comment, but I noticed that in the kitchen gardens considerable provision had been made for a good supply of spring flowering plants, in Wallflowers, Violas, Polyanthus, a bed of some 600 of the latter from the famous Bedford strain giving, from a spring sowing, very strong plants, already blooming freely, and of all sorts of colours. These will be employed to furnish the flower garden so soon as all the leaves are down, and that desideratum the recent sharp frosts have greatly helped to bring about. A range of glass houses is full to repletion with useful materials. The first is full of all sorts of plants useful for indoor decoration, whilst along the front in a narrow bed are planted Telegraph Cucumbers that have already made strong growth, and are about to furnish fruits.

The next house is a projecting span, used as a greenhouse, but chiefly filled now with fine Maidenhair Ferns, all in robust health and a mass of matured fronds. Some ordinary flowering plants, however, give a gay face to the front; then follows a lean-to filled with table plants, of which a large quantity is needed. Crotons and Dracenas for this purpose are many, and could indeed be, for their dimensions, hardly excelled. Such Crotons as Mrs. Dorman, gracilis, Chelsoni, Superbum,

Countess, and angustifolia, and Dracenas nigra rubra and superba, with Cocos Weddelliana are beautiful for the uses to which put. The next house, a lean-to, is full of bedding plants and cuttings, whilst overhead a very good crop of Black Hamburgh Grapes is furnished. The Grapes have to become here comparatively secondary consideration, but still they are excellent. Along the back of the house are numerous strong Chrysanthemums to furnish flowers for cutting. Necessity renders the utilisation of every inch of room needful. Following is a lean-to Peach house, occupied by a very old tree, beneath which are fine Chrysanthemums in pots now showing blooms of excellent promise.

Mr. Alderman does not attempt great things in this way because of lack of space and want of time to give full attention. Still he will have many fine flowers. A Muscat of Alexandria house comes next, giving a capital crop of well-finished Grapes, though the bunches are not large. Here, again, the floor is used to house Chrysanthemums, and there is a good collection of Chinese Primulas on the front stages. Last of all is the early vinery planted with Black Hamburgh Vines, from which a heavy crop of bunches has been taken, and beneath is a capital group of Chrysanthemums, that include most of the best ordinary varieties in fine bloom. The kitchen gardens are some 3½ acres in area, enclosed by a high wall, and in addition about 1½ acre used as fruit and vegetable gardens are outside. The walls are fairly well furnished, but as many trees are very old they are being gradually removed and their places occupied by young ones, and so far as possible of better sorts. That is, however, a slow process, as only a few are planted yearly; but what is done in this direction is done well. The main fruit trees in the quarters are old, and also are being gradually removed, being replaced by bush trees of the best varieties.

In the orchard, planted several years since, chiefly with standards—these replacing old and almost worthless varieties—very fine crops of Apples and Pears have been produced. A peep into the fruit room affords just now a delightful spectacle, as not only are the average samples very fine and clean, but selected fruits placed prominently form quite a respectable exhibition. How enjoyable would be—at this time of the year in any considerable garden—a roomy, cool fruit room, where the best samples alone could be displayed for inspection! Of kitchen varieties, Peasgood's Nonesuch, Lewis's Incomparable, a very handsome Apple; Alfriston, Gloria Mundi, Lord Derby, Waltham Abbey Seedling, Wellington, and Warner's King; of desserts, Ribston Pippin, Cox's Orange Pippin, King of the Pippins, Blenheim Pippin, and Court of Wick, Golden Russet are all first-rate. Of Pears—Marie Louise, singularly russety and golden; Gansel's Bergamot, Doyenné du Comice, Chaumontel, and Easter Beurré show that the best flavoured varieties are grown.

Vegetables here are abundant and fine; Carrots, both New Intermediate, or Matchless, and Model are superb samples. Mr. Alderman stated that only one piece of ground, made up largely of old hedge loam and road trimmings, would grow Carrots, and he had cropped that piece for seven years in succession, getting very superior roots. Potatoes come of great size, varieties like Beauty of Hebron, Colossal, The Bruce, and Reading Giant giving immense crops and huge tubers. The Ashleaf Kidney is, however, much preferred for eating. Beets, too, especially Pragnell's Exhibition and Nutting's Dwarf, are handsome and good. All Brassicas are fine and abundant. Seakale, Rhubarb, and Asparagus are largely forced, and Mushrooms well done. Everything, however, is the product of hard work, and reflects on the esteemed gardener the highest credit.—A. D.

SEEDLING FRUITS.

SEEDLING fruits may be divided into three classes. First, those of purely accidental origin; second, those whose origin is the result of some purpose or intent; and third, fruits which have originated from careful and systematic hybridising with a specific purpose. Almost every fruit grower has raised some fruit under this first class, and, without a doubt, vast numbers of these "accidental seedlings" have been propagated and placed on the market, when they should never have been known outside of their particular birthplace. It is the delight of the orchardist to believe that the Peach or Plum which had its origin on his place is a little better than any other. He will persuade the local nurseryman to take it up, propagate it, and offer it for sale, while it may not be as good as others well known, or at least it is so similar that its propagation would only lead to confusion in nomenclature. Accidental or chance seedlings which are believed to be distinct, and of superior merit, should be tested for at least three years, and then submitted to the State Horticultural Society, or some organised body, for approval or rejection, and, if approved, for a name also. Some of our most valued fruits have their origin in this way as mere chance seedlings, notable among which are Marshall's Red Apple, Muir Peach, Clyman Plum, Tennant Prune, McDevitt Peach, and many others.

The production of good fruits under my second heading is simply a practical illustration of the law of natural selection. The seeds from specimens of the finest fruits from the finest trees are carefully planted and cultivated. From the plants resulting, wood is selected from the most promising, and, to hasten maturity, grafted on an older tree. From this method often are produced fruits noticeably finer than their maternal parent. The late B. S. Fox of San Jose, California, introduced some fine Pears in this way, such as P. Barry, Wilder, B. S. Fox. Some of the finest Cherries now generally propagated were originated in this way by W. H. Chapman of Napa, California, such as Centennial, seedling of Napoleon Bigarreau; Chapman, seedling of Black Tartarian, ripening much earlier; California Advance, seedling of Purple Guigne.

Mr. Seth Lewelling of Milwaukee, Oregon, has introduced several well-known Cherries, as Black Republican, Lewelling, and Bing; also a seedling of Italian Prune which he called Golden, an enormous bearer and valuable in many ways. There is much room for further experiment in this direction. The method is so simple that any careful grower can apply it, and thereby probably improve many varieties, or produce some that are entirely distinct.

New varieties artificially produced by hybridisation are much less numerous, but it is a work which should be encouraged, not only amongst private individuals, but under State patronage and support. Many old varieties need to be weeded out from the nursery catalogues, and the indiscriminate propagation of everybody's fine seedling discouraged. Mr. Luther Burbank of California has, perhaps, done more than any other to really improve on old established varieties by hybridising. In order to do this intelligently it is necessary to devote one's whole time to it, and even then one must be prepared for many failures and disappointments. Amongst the most valuable varieties thus produced and recently introduced are Giant and Splendour Prunes and Wickson Plum. The two former are crosses between Pond's Seedling and Petite d'Agen, and the latter a Japanese cross between Kelsey and Burbank. The Giant and Wickson will be two of the finest and largest Plums, and most valuable for long shipments in a fresh state. The Splendour bids fair to revolutionise the Prune industry, having the good qualities of both parents. I wish every success to the Oregon Association of nurserymen, it has commenced a good work, and it can be of incalculable benefit, not only to the nurserymen of the Pacific coast, but to the whole fruit industry.—LEONARD COATES, *Napa, California.*
—(Read at a meeting of the Oregon Association of Nurserymen.)



EVENTS OF THE WEEK.—In addition to the numerous Chrysanthemum shows to be held during the forthcoming week, and of which a list is given on page 437, the Royal Horticultural Society will hold a meeting at the Drill Hall on Tuesday, the 12th inst.

— **WEATHER IN LONDON.**—During the past week the weather in London has been very changeable. Heavy showers have fallen on several days and nights, while gleams of bright sunshine have come between. On Wednesday, at the time of going to press, the weather was warm, and the sun shone brightly.

— **WEATHER IN THE NORTH.**—The frost has for the present given way. On the morning of the 1st inst. 7° were registered, and 5° on the morning of Saturday. Sunday and Monday were good dullish days, rather cold, but fair. Rain fell between Monday night and Tuesday, the morning of the latter being drizzly, with the thermometer at 43°.—B. D., *S. Perthshire.*

— **ROYAL HORTICULTURAL SOCIETY.**—The next Fruit and Floral Meeting of the Royal Horticultural Society will be held on Tuesday, Nov. 12th, in the Drill Hall, James Street, Westminster. The Committees will meet as usual at twelve o'clock; and at 3 P.M. a lecture on "Substitutes for Larch" will be delivered by Dr. Maxwell T. Masters, F.R.S.

— **THE GARDENERS' ROYAL BENEVOLENT INSTITUTION.**—The inauguration of the Worcester branch of this Society will take place at the Guildhall, Worcester, on Monday, November 18th, and the chair will be taken by the President (Earl Beauchamp, Mayor elect of Worcester) at 3 P.M. Several influential gentlemen have promised to support the chair and address the meeting, whilst every effort is being made by the Committee to secure a thoroughly representative and successful gathering. All friends of the cause, and patrons of horticulture, are cordially invited to be present.

— **NOTES FROM GREECE.**—My daughter is now in Athens. In a letter we have just received she says:—"We have had two storms here lately. Such lightning you never saw. The whole sky seems to open, and the rain comes down so that it is quite impossible to go out in it. Since the rain all the fruit, flowers, and vegetables have grown wonderfully. Everything grows very quickly here, as they get four crops a year. We are having new Potatoes now. I had an English tea here the other day—cake and Grape jam, Quince jelly, and Melons. When next you get a Melon don't eat sugar with it, but pepper; you can't think how good it is. We get Melons every day."—ROBT. FENN.

— **FASCIATED BRIAR.**—Mr. H. V. Machin sends us a fasciated Briar sucker. Similar examples are not very rare, though the fasciation is very pronounced in this case—the growth quite flat, and nearly 2 inches in diameter.

— **ANTHRACITE COAL.**—I should deem it a favour if one of your correspondents who has had experience with anthracite coal, in comparison with coke for heating hot-water boilers, would give me his experience of it, and if he considers that it has advantages over coke would he kindly state what they are?—W. S.

— **LARGE APPLES.**—Mr. C. Herrin has sent us an Apple of Gloria Mundi weighing 26½ ozs.—a perfectly shaped fruit grown on a large tree in an orchard. So far as we remember this is the largest outdoor grown Apple we have received, but Mr. Salcombe sent us Peasgood's Nonesuch a few years ago from Ticehurst weighing 26 ozs. Have these weights been exceeded by garden or orchard-grown fruit?

— **THE HESSLE GARDENERS' MUTUAL IMPROVEMENT SOCIETY.**—A meeting of the above Society was held in the Parish Schoolroom on October 29th, when a paper was read on "The Cultivation of Caladiums" by Mr. Hathaway, The Gardens, Tranby Croft. For a junior member Mr. Hathaway's paper was excellent, containing some useful hints based on the practice of good cultivation, and was the means of opening a good discussion, on which the essayist is to be congratulated.—F. L. T.

— **THE Rev. David R. Williamson writes:**—"The Edinburgh Royal Botanic Gardens have been of late exceedingly attractive, the conservatories being especially beautiful with Allamandas, Bignonias, high towering Palms, Lapagerias, Passifloras, various species of tropical Convolvuluses, Clerodendrons, and other magnificent plants of a highly decorative description. Since last I visited these famous gardens, which are superintended by that accomplished naturalist, Professor Balfour, great improvements have been made. For these highly artistic and effective alterations the Curator, Mr. Lindsay, deserves great praise. It is to be hoped that these gardens are adequately appreciated and patronised by the people of Edinburgh."

— **NATIONAL AURICULA AND PRIMULA SOCIETY.**—The annual general meeting of this Society was held in the rooms of the Horticultural Club, Hotel Windsor, October 30th. The expenditure for the year was £77 14s. 4d., against receipts from subscriptions £68 13s. 6d. The deficiency of £9 10s. was taken from the reserve fund, which now stands at £11 8s. 6d. The exhibition will, with the permission of the Council of the R.H.S., be held in the Drill Hall, James Street, Westminster, as heretofore. A full statement of accounts and schedule of prizes will shortly be published.—J. DOUGLAS, *Hon. Sec.*

— **THE DRILL HALL LECTURES.**—The most interesting and beautifully illustrated lecture, which Mr. A. H. Sutton gave at the Drill Hall on the 29th ult., rather serves to take the edge off from one's appetite for ordinary papers or lectures, and those who follow with only such papers may find it difficult to excite interest. Perhaps the Council of the R.H.S. may be able to see its way in the coming year to furnish now and then—it is hardly worth while to do so during the dull winter months—a series of specially furnished and illustrated lectures by able speakers, so that what attraction in that direction is provided may be of the best. Papers of the ordinary cultural-essay type may do very well as padding for the Society's Journal, but they become rather an infliction when they have to be listened to for some thirty to forty minutes. Having shown how finely the magic lantern can be utilised twice we shall like to see it employed often.—D.

— **THE total rainfall at Abbot's Leigh, Hayward's Heath, Sussex, for October was 4.73 inches, being 0.78 above the average. The heaviest fall was 1.09 inch on the 8th. Rain fell on fourteen days. The maximum temperature in the shade was 70° on the 1st; the minimum 24° on the 26th and 28th. Mean maximum temperature, 54.05°; mean minimum, 37.06°; mean temperature, 45.55°, which is 2.32° below the average. After a hot September we have had an unusually cold end of October. The last week of the former month gave a mean temperature of 63.5°; that of the week ending Saturday, the 26th October, 40.3°, a difference of 23° in a month. No frosts occurred till the third week, and the rains, after the hot September, have kept many plants, usually going to rest, growing as they do in the early summer. The consequence is that the sharp frosts have killed the late growths of such as Ampelopsis Veitchi, considerably spoiling their autumn glory. Many shoots of Apples and Pears, ripened up to terminal fruit buds, have burst into bloom, and there was quite a full bloom on many Hollies in September.**—R. I.

— **NATIONAL CARNATION AND PICOTEE SOCIETY.**—The annual general meeting of the Southern Section of the above Society was held in the rooms of the Horticultural Club, Hotel Windsor, on Oct. 30th, 1895, by kind permission of the members. Mr. Martin Rowan presided, in the unavoidable absence of Martin Smith, Esq., the President. The financial statement showed a balance in hand from last year of £159 13s. 7d.; subscriptions, £241 15s. 6d., inclusive of special prizes; entrance fees, 7s. 6d.; total, £401 16s. 7d. The expenditure was £205 17s. 6d., leaving a balance in hand of £195 19s. 1d. Twenty-six members have been lost during the year by death and withdrawal. Against this fifty-eight new members are added. It was decided to hold the next exhibition at the Crystal Palace about the third week in July.—JAS. DOUGLAS, *Hon. Sec., Ilford, Essex.*

— **THE ROYAL GARDENERS' ORPHAN FUND.**—The usual monthly meeting of the Committee took place at the Horticultural Club on the 25th ult., Mr. William Marshall presiding. The following special receipts were announced as having been received during the past three months:—Legacy from Mr. J. Taplin, Havant, £5 5s.; the Rev. A. Lowe, proceeds of collection at harvest thanksgiving, per Mr. J. Bennett, Burton-on-Trent, £6 6s.; Messrs. J. Crispin & Sons, Show Rooms, Bristol, per Mr. J. H. Vallance, £5 5s.; Mr. Arthur Miles, Dudley Villas, Southampton, £2 3s.; collected at Woodford flower show, per Mr. W. D. Willoughby, £2; Bradford Paxton Society, per Mr. R. Scott, £1 10s.; Mr. J. Burn, Abbey Park, Leicester, £1 5s.; the Misses Evans, Wimbledon, 17s.; Mr. H. Burbidge, Westgate, 10s. 6d.; and collected by Mr. W. G. Head, Crystal Palace, Sydenham, £3 15s. 8d. By means of boxes the following sums were obtained:—Mr. J. Selway, Betteshanger, Dover, £4 5s.; Mr. J. McIndoe, Hutton Hall, Guisborough, £5; Mr. C. Sutton, Chevening, Sevenoaks, £1 12s.; Mrs. H. B. Smith, Ealing, 7s. 5d.; and Miss McDonald, Chichester, 7s. In small sums, per the editor of the "Gardeners' Chronicle," from October, 1894, to October, 1895, £2 4s. The remainder of the business was of a purely formal character, and the proceedings closed with a vote of thanks to the Chairman.

— **VISITORS TO KEW.**—The number of visitors to these famous Gardens during September, 1895, was unusually large, owing to the beautiful weather that prevailed throughout the month. Kew, in common with other parts of the country, experienced fine warm weather during the latter part of the month. The lawns and borders were in excellent order, and visitors came in large numbers. The highest attendance, we learn from the "Kew Bulletin," was on Sunday, September 22nd, when it reached 21,427. The week-day attendance was also large, and ranged from 2619 to 3750 per day. The days were singularly bright and sunny. The effect on the plants is likely to be most beneficial, as the growth made during the rainy days of August was ripened before the arrival of frost. The highest shade temperature recorded during the month was 84° Fahr. on the 24th. This was the highest of any at Kew during recent years. It was remarkable as following a minimum temperature on the grass of 31° Fahr. on the preceding night. This gives a range of temperature during the twenty-four hours of 53°. The hot weather lasted exactly a week, the maximum temperature never falling below 76° from the 23rd to the 30th.

— **DULWICH SHOW.**—The second annual show of the Dulwich Chrysanthemum Society was held in the Dulwich Baths, on Monday, November 4th, the buildings being admirably adapted to such a purpose. Last year the exhibition was held in a small hall that proved totally inadequate for the proper arrangement of the exhibits, so it was evident that at any future show a migration would have to be made to other premises. The number of exhibits was larger and the quality ranged high throughout, though Japanese were decidedly superior to the incurved. Other sections were well though not extensively represented, and plants other than Chrysanthemums were seen in highly creditable condition. For a group of Chrysanthemums, arranged in a space of 60 square feet, there were only two competitors for the prize value 5 guineas. Mr. Payton, nurseryman, Grove Vale, was first with a well arranged group; Mr. G. Smith, Hindman's Road, Dulwich, being a very creditable second. In the cut bloom classes Messrs. Smith, Payton, and Bennett were the chief prizewinners. The amateurs' classes were well filled. For a group of Chrysanthemums, arranged in a space of 30 square feet, brought out five competitors. Mr. A. M. Falkner took the first prize with an exceedingly well arranged plant of heavy blooms. Mr. H. Wells was second, and Mr. Holdway third. For cut blooms Messrs. Falkner, Bennett, Smith, and Wells were the chief prizewinners. The miscellaneous exhibits included a grand group of Chrysanthemums from Mr. Witty, and some splendid fruit from Mr. Nutting, gardener to Sir John Blundel Maple.

— **BIRMINGHAM GARDENERS' ASSOCIATION.**—At the usual fortnightly meeting of the Birmingham Gardeners' Mutual Improvement Association, held at the Athletic Institute, John Bright Street, Mr. W. B. Latham in the chair, Mr. John Pope, F.R.H.S., gave a most interesting essay on "Bulb Culture." The essayist, in addition to his interesting references relative to the history of particularly the Hyacinth, Tulip, and Amaryllis, adverted to the culture of the same in Holland, and of which he had gained some considerable knowledge during occasional visits there. The discussion which followed proved to be of a very interesting and instructive character, especially with respect to the root economy of the Japanese Lilies.

— **BRUISED FRUIT.**—In passing through fruit markets at this season, says the "Rural World," it is seen that three-fourths of the English Apples exposed for sale are so bruised as to be only fit for immediate use. Even for present use a bruised Apple is far inferior to an unbruised one, as a portion of the sap is lost in the former. The damage to the fruit is mostly done in gathering, but carelessness in storing or conveying to market further adds to the damage. Unbruised fruit makes about double the price of bruised, hence Apple growers, to make their business pay, must handle the fruit more carefully. Americans set an example, for although their Apples have to travel so far scarcely a bruise is seen.

— **ABSTRACT OF CLIMATOLOGICAL OBSERVATIONS AT DRIFIELD, OCTOBER, 1895.**—Lat., 54° 0' 30" N.; Lon., 0° 27' 15" W.; Alt., 76 feet. Barometric pressure at 9 A.M. (at 32° and sea level). Highest, 30.53 inches on 18th; lowest, 29.10 inches on 9th. Mean temperature at 9 A.M. (corrected), 44.62°. Wet bulb, 42.86°. Mean maximum, 50.97°; mean minimum, 37.24°. Highest, 69.6° on 1st; lowest, 24.0° on 28th. Mean of maxima and minima, 46.8°. Mean radiation temperature on grass, 31.60°; lowest, 16.8° on 28th. Rainfall, 3.88 inches. Number of rainy days, twenty-three. Greatest amount on one day, 0.85 inch on 8th. Mean amount of cloud at 9 A.M. (estimated), 5.4.—W. E. LOVEL, *Observer, York Road, Driffield.*

— **WEATHER IN FORFARSHIRE.**—After the mild weather of September, October came in cold, and the first three days wet. On the 9th the wind shifted from S.W. to north, and has continued northerly during the rest of the month. But though cold, still clear and dry from the 16th to the end of the month. The thermometer went below freezing point every night with the exception of two, the lowest being on the morning of the 28th, when it indicated 11° of frost on the ground. The mean temperature of the month was 42.7°, which is the lowest for October of which I have any note, the average of the last twenty years being 47.3°. The rainfall for the month was 1.43 inch, which is only about half the average rainfall for October.—JOHN MACHER, *Corona Gardens, Broughty Ferry.*

— **WEATHER IN SOUTH WALES.**—The following is a summary of the weather here for the last month. Rain fell on fourteen days; snow on six days; clear snow on three days without rain. Greatest amount of snow, 0.21 on the 28th. Maximum rainfall, 0.70 on the 5th; minimum, 0.01 on the 9th. Total amount of sunshine, 87½ hours; sunless days, four. The wind was in the N. and N.W. on seventeen days, and in the east on eight days. Very rough and wet the beginning of the month, but only one wet day from the 9th until the 21st, when there was a very sudden lowering of the temperature, accompanied with rain and snow in the daytime, and very sharp frosts at night, leaving the roads in the morning sheets of ice. The frost broke up on the 30th, since which it has been much milder.—W. MABBOTT, *Gwernllwyn House, Dowlais.*

— **SUMMARY OF METEOROLOGICAL OBSERVATIONS AT HODSOCK PRIORY WORKSOP, NOTTS, FOR OCTOBER.**—Mean temperature of month, 45.3°. Maximum on the 1st, 72.7°; minimum on the 26th, 22.4°. Maximum in the sun on the 1st, 116.3°; minimum on the grass on the 28th, 12.9°. Mean temperature of air at 9 A.M., 44°. Mean temperature of soil 1 foot deep, 49.4°. Nights below 32°, in shade, ten; on grass, eighteen. Total duration of sunshine, eighty-eight hours, or 27 per cent. of possible. We had six sunless days. Total rainfall, 2.62 inches. Rain fell on eighteen days. Average velocity of wind, 7.5 miles per hour; exceeded 400 miles on one day, fell short of 100 miles on eight days. Approximate averages for October:—Mean temperature, 48.1°; sunshine, eighty-three hours; rainfall, 2.73 inches. The hot weather of September broke up on the 1st, and the last week of the month was marked by most unusually sharp frosts, the intervening period being of a normal character. Both maximum and minimum temperatures are records for October.—J. MALLENDER.



CHRYSANTHEMUM SHOWS.

AS is usual at this time of the year we have received numerous intimations of Chrysanthemum shows which are to be held during the coming season. Space, however, can only be found for mentioning those which have been advertised in our columns. If any have been omitted we shall be glad to add them to the following list. We append the names and addresses of the respective secretaries.

- Nov. 7th.—BROMLEY (Kent).—W. Weeks, 29, Widmore Road, Bromley, Kent.
- „ 7th.—BIRKENHEAD AND WIRRAL.—W. Bassett, 23, Grove Road, Rock Ferry.
- „ 7th and 8th.—HARROGATE.—L. Hobkinson, 40, Cold Bath Road, Harrogate.
- „ 8th.—WINDSOR.—Mr. Finch, High Street, Eton.
- „ 12th and 13th.—KINGSTON-ON-THAMES.—F. J. Hayward, High Street, Kingston-on-Thames.
- „ 12th and 13th.—LIVERPOOL.—W. Dickson, 7, Victoria Street, Liverpool.
- „ 12th and 13th.—PLYMOUTH (West of England).—C. Wilson, 4, North Hill, Plymouth.
- „ 13th and 14th.—BIRMINGHAM.—J. Hughes, High Street, Harborne, Birmingham.
- „ 13th and 14th.—BOURNEMOUTH.—J. Spong, Landisfarne Gardens, Bournemouth.
- „ 13th and 14th.—BRISTOL.—E. G. Cooper, Mervyn Road, Bishopston, Bristol.
- „ 13th and 14th.—HERTFORD.—Jason Fears, Hertford.
- „ 13th and 14th.—HULL.—E. Harland and J. Dixon, Manor Street, Hull.
- „ 13th and 14th.—RUGBY.—William Bayant, 8, Barby Road, Rugby.
- „ 14th and 15th.—WINCHESTER.—Chaloner Shenton, Westgate Chambers, Winchester.
- „ 15th and 16th.—BOLTON.—J. Hicks, Markland Hill Lane, Heaton, Bolton.
- „ 15th and 16th.—ECCLES AND PATRICROFT.—H. Huber, Hazeldene, Winton, Patricroft, Manchester.
- „ 15th and 16th.—SHEFFIELD.—W. Houseley, 177, Cemetery Road, Sheffield.
- „ 15th and 16th.—BRADFORD.—J. Collier, 51, Midland Road, Frizinghall, Bradford.
- „ 19th and 20th.—LEEDS PAXTON.—J. Campbell, Methley Park Gardens, Leeds.
- „ 20th and 21st.—SOUTH SHIELDS.—Bernard Cowan, Harton, South Shields.
- „ 20th, 21st, and 22nd.—YORK.—J. Lazenby, 13, Feasegate, York.
- „ 29th and 30th.—ALDERLEY EDGE.—G. Leadbetter, jun, Fern Bank, Trafford Road, Alderley Edge.

NATIONAL CHRYSANTHEMUM SOCIETY.

ON October 30th the Floral Committee of this Society held a meeting at the Royal Aquarium, Westminster, when Mr. T. Bevan occupied the chair. There was a good display of novelties, and among the exhibits were contributions from Messrs. H. Cannell & Sons, H. Briscoe Ironside, H. J. Jones, C. E. Shea, Ernest Calvat, W. Seward, and R. Owen. First-class certificates were awarded as under:—

Yellow Source d'Or.—A fine golden yellow sport, from the well-known decorative variety, *Source d'Or*. Shown by Messrs. H. Cannell and Sons.

Kentish White.—A fine globular Japanese, with grooved florets of medium width ribbed or veined on the outer surface; colour creamy white, faintly tinted yellow in the centre. Also from Messrs. Cannell and Sons.

Australian Gold.—A monster Japanese of great size and substance, long pointed petals, which are curly, somewhat incurving, and of medium width; colour pale canary yellow, reverse silvery yellow. A fine seedling, raised and exhibited by M. Ernest Calvat of Grenoble.

Mrs. Briscoe Ironside.—Another very fine Japanese of the incurved type, with curly sharp pointed florets very neatly arranged; colour a delicate shade of salmon blush; very deep round flower. Raised and shown by Mr. H. Briscoe Ironside.

There were several varieties the Committee desired to see again, and among the most striking novelties which were not the subject of awards were Mrs. E. Seward, Japanese incurved, pale carmine or terra cotta, with golden buff reverse; Master Jas. Epps, a good sized Japanese and well built, rich golden yellow; Mr. Jas. Murray, a fine incurved of the old show type, very perfect in form, colour deep rose; Duchess of Fife, large white Japanese; Miss Clara Walker, a large loosely built Japanese with long tubular florets, colour pure white; Queen of the Buffs, Japanese incurved, colour salmon gold and buff; George Haigh, a sport from Robert Petfield, colour rich golden buff; Rose Owen, another incurved with broad florets, colour white streaked deep rosy purple; Mrs. J. G. Whildin, a Japanese incurved, globular in form, and of a deep golden yellow; Lord of Lorne, a large yellow Japanese with broad curly florets.

The exhibits, which were less numerous than on the former occasion, appeared to be of a higher quality, and there was an improvement in the shade of colour in most of the stands. The Committee exercised a rigid selection, and many varieties were passed over that would a few years ago have secured high honours.

A FINE EARLY FLOWERING CHRYSANTHEMUM.

As a new September-flowering variety of the Japanese section M. Backmann, one of Delaux's novelties for this year, will I think take a high place. In size it is much larger than most of the earlies, with fine foliage, and judging by the sprays sent me by Mr. Jones of Lewisham very free. The florets are long, and of good breadth. The colour is a delicious, warm, golden buff, shaded rosy bronze, with a golden reverse.

ITALIAN CHRYSANTHEMUMS.

The above heading might suggest some reference to the seedlings raised by that enthusiastic amateur Mr. H. Briscoe Ironside, of Burgess Hill; but although I believe his seed was raised while he was resident on the banks of Lake Maggiore, the plants themselves have been grown and flowered in England. What may be properly termed Italian Chrysanthemums are such as have been raised and sent out by native Italian growers, and several instalments have been imported into this country of late. The only one I have met with is M. Thos. Hallyar, a large Japanese incurved of the *Pride of Madford* type, but less massive. It has broad florets, and of a similar shade of colour, with just a shade of violet in it.

AUSTRALIAN CHRYSANTHEMUMS.

On more than one occasion I have referred to these in the columns of the Journal. A few were seen at one of the trade displays last year, but it is doubtful whether any have yet been sent up to the Floral Committee meetings at the Aquarium. At the meeting held on the 23rd October there were two. The first, *Pride of Madford*, is a large Japanese with broad pointed florets, inside colour a bright vinous amaranth with a reverse of silver streaked amaranth. This the Committee wished to see again. It is very highly thought of in Australia, and occupies a prominent position with Antipodean exhibitors. The other was named after a well-known Sydney enthusiast, Mr. S. B. Levick. It was a Japanese, inside colour chestnut crimson with a golden reverse, the inner florets incurving, and forming a golden ball in the centre. It was, however, only of medium size, and this the Committee wished to have before them on a future occasion.

NEW INCURVED CHRYSANTHEMUMS.

These are never numerous compared with the Japanese, but scarcely a year goes by without seeing a few more or less good being added to our collections. George Haigh, a golden buff, with an inside colouring of rosy carmine; a sport from Robert Petfield. Although not certificated by the N.C.S. when shown at the last floral meeting in October, will be heard of again. Rose Owen, which was a rounder looking bloom, colour white, streaked deep rose, is a novelty obtained by Mr. Owen of Maidenhead. Mr. James Murray, one of Mr. Jones' novelties, is finely incurved, very perfect in form and build, colour deep rose. D. B. Crane, a rich shade of golden amber, of good size, and petals of good substance, is excellent in several collections. *Globe d'Or* and Charles H. Curtis were seen in good condition last season; they are both yellow varieties. Philip Mann, although small, is very regular in form, and of a good colour—a rich chestnut bronze. Mrs. R. C. Kingston, an American novelty, colour lilac pink; certificated last season at the N.C.S., is also of approved merit.—P.

CHRYSANTHEMUM PALLANZA.

FROM the manner of growth, as well as in the formation of the blooms, this Japanese Chrysanthemum bears a remarkable resemblance to that old favourite Sunflower. The distinctive features are broader florets, more intensity of colouring, and a remarkable freedom of production. Small weakly grown plants give three and more really good blooms. Even plants in 5-inch pots produce exceedingly good decorative flowers, so easy is the variety in its growth. Not only as a decorative variety, but as an exhibition bloom Pallanza will surely oust Sunflower, which has reigned as one of the best of yellow flowered Chrysanthemums for seven years. Although thoroughly distinct to those conversant with the points of detail I would not advise cultivators to stage both in one stand. The Sunflower type, in my opinion, represents a capital form of Japanese blooms, and is one well worthy of much attention being paid to it by raisers of new varieties. This type of flower possesses all the points of a perfectly formed Japanese Chrysanthemum.—E. MOLYNEUX.

MONS. ERNEST CALVAT.

THE gentleman whose portrait accompanies this notice (see page 431) is known, at least by name, to every lover of the Chrysanthemum in this country, and his popularity is all the more deserving when we remember that up to the year 1891 our new Continental Chrysanthemums were annually received from various raisers who had long been engaged in the work, whose names were widely known, but whose products were unhappily beginning to show many signs of deterioration. At one time it seemed as if the American raisers were likely to have the monopoly of supplying us with high-class novelties in future, but just at the critical moment Mons. Ernest Calvat stepped into the breach and saved the long earned honour of his native land.

Four years ago his name was unknown here, but fortunately for all parties concerned he was discovered by a gentleman well known in English Chrysanthemum circles, with the result that the new raiser's seedlings were brought into prominence, and they being recognised by our growers and exhibitors as being of a high standard of excellence, success followed almost immediately.

The subject of our present article is the son of Mons. Ernest Calvat, at one time Mayor of Grenoble, and was born there forty-three years ago, so that he is still a comparatively young man. He was educated in France until he was about seventeen years of age, when his father, who had important business relations with this country and with our Australian colonies, sent him to a boarding school at Highgate in the North of London to improve and complete his study of the English language, which he speaks most perfectly. After spending some time there he returned home to France and was placed in the glove-making establishment of his father, there to learn the business. In 1880 M. Calvat, senior, retired, leaving his son head of the firm, and, like many other men deeply engaged in commercial pursuits, he found a relaxation from the cares of business in attending to his garden, his chief hobby perhaps being Roses.

About eight years ago he was deeply smitten with the Queen of Autumn, and forthwith renounced his former favourites entirely. In 1889 the climate and situation of his garden favouring the process he raised his first seedling Chrysanthemums, and became so enthusiastic in the work that he resolved to cultivate a race of novelties remarkable for their dimensions, in which he has succeeded to a greater extent no doubt than his early expectations could warrant.

It would be difficult to give a list of all his seedlings of the past few years, but taking a few of the leading ones as shown in the audit of the N.C.S. (November, 1894) show, and which appears in the "Chrysanthemum Year Book" for 1895, the following may be taken to be the greatest favourites with English exhibitors:—Mrs. C. Harman Payne, Mdle. Thérèse Rey, President Borel, Van den Heede, Madame Charles Capitant, Commandant Blusset, Louise, Préfet Robert, Vice-President Calvat, Mons. Panckoucke, Madame Calvat, Madame Carnot, Madame Ad. Chatin, Madame Ad. Giroud, and Madame M. Ricoud.

Last year eighteen of M. Calvat's seedlings received first-class certificates and awards of merit at the N.C.S. and R.H.S. Floral Committee meetings, and this year, as early as the end of October, three others have been similarly honoured—viz., Pres. Armand, Mons. C. Molin, and Boule d'Or by the N.C.S., and the latter by the R.H.S. also. The total number of certificates awarded for his seedlings of 1892, 1893, and 1894, without taking into account the possibility of his 1895 novelties, is something like thirty, or three times as many as all the other French novelties put together in the same period. Mons. Calvat is a regular exhibitor at the meetings of the N.C.S. Floral Committee, where his novelties generally excite much interest, and the year before last he was awarded a silver medal of the Society for an unusually fine collection of twenty-four cat blooms, a distinction never previously conferred on any foreign exhibitor at the Society's meetings.

On the Continent similar high honours have been awarded him, not only at the numerous shows in his own country, but in Belgium and in Austria. It seems scarcely necessary to add that the great majority of Mons. Calvat's seedlings belong to the Japanese section. Here and there an incurved variety may be found, but the greatest triumphs of his cultural skill are to be found in that class to which the French seem to delight in limiting their energies.

In conclusion, we can only say that we hope he will long be spared to carry on his interesting work, and with the same degree of success as heretofore; but the French must never lose sight of the fact that they have strong competitors on the other side of the Atlantic, and that the greatest danger to a raiser's reputation is the sending out of too many varieties. A rigid system of selection is a *sine qua non* to maintain pre-eminence as a Chrysanthemum raiser.

Mons. Calvat is a member of several important horticultural societies in France, Vice-President of the Horticultural Society of the Dauphiny, a member of the National Chrysanthemum Society, and Chevalier of the Mérite Agricole.—P.

DUCHESS OF YORK.

KINDLY allow me to thank Mr. Molyneux for his timely note on the above variety (page 416). No doubt over-propagation has much to answer for, but strong looking plants received in the spring have not given quite the results one could have wished, and we in our district have had more inferior blooms than good ones, hence the complaint. But we are content to wait and try again for better results. I fully agree with your correspondent as to the beauty and refinement of a good bloom of this variety, and admit it as an ideal type, with everything rough and coarse entirely eliminated.—R. P. R.

CHRYSANTHEMUM CHAS. H. CURTIS.

AMONG recent introductions to the Chrysanthemum family the Japanese section is more largely represented than that of the incurved. In Chas. H. Curtis, however, which is well portrayed in the engraving (fig. 69), we have a beautiful flower, raised from a seedling by Mr. H. J. Jones of Lewisham. The colour is a deep rich yellow; the blooms are large, well incurved, with the florets slightly pointed, as in Madame Darrier. It is a free grower, of medium habit, and said to be good from any buds. We have heard remarks passed respecting this variety that the flowers are too flat, and not of sufficient depth. Any such arguments were, however, completely refuted at the Crystal Palace show on Saturday last, where in several of the winning stands superb flowers were noticed. The bloom sent to our artist was not a perfect one, as it is really more globe shaped than it is shown.

THIS new incurved Chrysanthemum will be well exhibited this season I prognosticate. For some time we have been searching for a yellow variety to take its position in the back row amongst the "Queen" family. A rich yellow is not common amongst incurved varieties, now that we so seldom meet with Jardin des Plantes. The subject of this note just meets the requirements alluded to. Well-developed blooms measure 5 inches in diameter, and from 3 inches to 4 inches deep. The florets are somewhat narrow, incurving perfectly toward the centre. The colour is intensely yellow. In height the plants do not go beyond 5 feet, except in a very few instances. Those who do not already possess this incurved Chrysanthemum should lose no time in adding it to their list.—E. M.

HAVANT SHOW.

Table decorations at the late Havant Chrysanthemum Show were a distinct feature, so well were they done. For a table 6 feet by 3 feet to be dressed with any kind of flowers there were but three entries, but as they possessed much taste in arrangement the display was a pleasing one. Mrs. Conway gained the premier award for an arrangement, in her best style, of suitable flowers not too heavily disposed. Miss Newman second, and Mrs. Horn third.

CHRYSANTHEMUM MONS. R. BAHUANT.

I SEE in the Journal for October 26th your correspondent "M." in answer to Mr. Osborne's note of the week previous, says of the above, "I do not consider this variety worth the trouble entailed in growing it; seldom do we meet with a perfect bloom, nearly all lack the two essentials—depth and solidity." My experience is the opposite to this, as with us it makes a perfect flower, combining all the points necessary in a good incurved flower. Our buds were taken this season about August 14th, and the flowers are now at their best. Perhaps "M.'s" experience of this is in the south; if so, it is not the only variety amongst the incurved section which it is possible to have in better condition in the north than in the south. As our plants are all grown for home use, and not for exhibition, there is nothing special in their treatment, and feeding is never resorted to until after the buds are taken.—J. TUNNINGTON, Ripley Castle Gardens.

CHRYSANTHEMUMS AT WOODHATCH.

THE Reigate district of Surrey has many fine growers of the autumn queen, but none excel Mr. Salter, or the superb collection which he annually produces for the satisfaction of his employer, Mr. T. B. Haywood. The collection, some 600 plants strong, is displayed in two long lean-to houses, where fine banks are formed, and the characteristics of each variety can be seen. Mr. Salter is not one of the omnivorous exhibitors, but he both grows and shows well. Many of the best new Japanese, as well as older ones, are here, and special interest attaches to a new white from Australia named T. B. Haywood that is very fine. Florence Emma is another charming white from the same source. Mr. Richard Dean, Charles Davis, Col. Commandant Blusset, Lady E. Saunders, Mons. Grayer, Deuil de Jules Ferry, Madame P. H. Dewolfs, Beauty of Exmouth, Souvenir la Petite Amie, are but a few of the very fine flowers here.

Incurveds are all very fine, and Mr. Salter is specially strong in Anemones, for which section he has a strong penchant. Delaware, Mrs. Luke Benedict, W. W. Astor, Minnie Chate, Thorpe, jun., Sir W. Raleigh, Owen's Perfection, and Nouvelle Alveole are but a few of the finest; and, indeed, beautiful they are. The new reflexed Clara Leal is charming; so too, is the straw yellow Sabine. Pompons are remarkably well done too, and are here highly favoured. Elsie Walker, golden buff; Prince of Orange, golden red; Pygmalion, red chestnut; Maid of Kent, Toussaint Mauriset, Black Douglas, Golden Mdle. Marthe, St. Michael, Eynsford Gem, maroon magenta, are a few that stand out as first-rate in this section. It will thus be seen that the Woodhatch collection is a thoroughly representative one.

CHRYSANTHEMUMS AT HILL HOUSE, LANGPORT.

FOR several years there have been grand displays of Chrysanthemums at Hill House, the Langport residence of Vincent Stuckey, Esq., and Mr. J. Lloyd, the gardener in charge, has been most successful as an exhibitor. This season the blooms are opening somewhat early, and that, too, in spite of none of the buds having been taken before the end of August. Fortunately they are keeping better than they have done in any previous year, and the quality throughout is most satisfactory—they have, in fact, never been so fine before at Hill House. Somewhere

about 400 plants are grown, and these are now arranged on each side of a back flagstone walk in a long range of vineries.

Here they are seen to advantage, the effect being enhanced, in some instances, by a heavy crop of well-grown late Grapes hanging almost among the blooms. The plants are rather tall, but the wood is very stout and hard, while the leaves are large, bronzed, and free from mildew—conditions that point to a perfect flowering period. Mr. Lloyd appears to have used sound judgment in his selection of newer varieties.

Nearly all are of the Japanese section, and of these one of the most striking is Madame Carnot, rightly considered one of the grandest whites

extra good this season, and will be seen in many winning stands. So also will Col. W. B. Smith and Duke of York, at any rate if grown elsewhere so fine as they are at Hill House. Mr. Lloyd also speaks highly of Mr. J. G. Iles, ivory white, recurved, and massive; and Rose Wynne, a grand incurving flower, delicate blush colour, and plant of medium height.—W. I.

ALEXANDRA PARK, HASTINGS.

WHEN at Hastings the other day an advertisement upon the omnibuses—a grand show of Chrysanthemums in the above Park, I



FIG. 69.—CHRYSANTHEMUM CHAS. H. CURTIS.

in cultivation. It is of great breadth and depth, without being coarse, while the plant is only moderately tall. The next best at Hill House is Souvenir de Petite Ami, this having massive recurved blooms, ivory white in colour, the plant being of a comparatively dwarf habit of growth. In Madame C. Molin we have another grand white, the blooms of great depth and breadth, and the petals forked and drooping. Mons. Panckouke should supplant Sunflower. The blooms of this are large, the florets gracefully drooping, and the colour a bright yellow. Pallanza is another very promising yellow, the blooms being both large and refined. Louise is of a sturdy habit of growth, and the blooms are large and handsome; petals broad, incurving somewhat, and white tinted with lilac in colour. Mrs. C. Harman Payne and John Aplin are both

wended my way thither, and was fortunate in meeting the courteous and able Superintendent, Mr. George C. Lyon, who very kindly accompanied me to the show house. I was most agreeably surprised to find so fine a display, about 700 plants arranged in a bank artistically, the colours well-blended. Some magnificent flowers are to be seen of the most popular varieties in cultivation; conspicuously I notice the following:—Souvenir de Petite Ami, F. Davis, F. L. Ames, W. Seward, Mons. Chas. Molin, Avalanche, Philip de Wolf, W. H. Lincoln, J. Stanborough Dibben, J. Shrimpton, Amos Perry, Ed. Molyneux, Col. W. B. Smith, Madame Carnot, Edith Rowbottom, Amos Perry, Dr. Ward, President Borrel, Charles Davis, Vivian Morel, Baron Hirsch, and Lord Brooke. These are only a few amongst the many exhibited.

I need not say this exhibition is well patronised by the inhabitants as well as the many visitors in this favourite watering place, the credit of which is due to the able Superintendent, and who is to be congratulated on the magnificent display mentioned. Like many other collections I have seen, the flowers have not the freedom of expanding and keeping as one would desire this season.—ALFRED OUTRAM, F.R.H.S.

VICTORIA PARK.

WITH the advent of frost, and the consequent ending of the bedding display in London parks, any casual observer would naturally suppose that there would be little or nothing there to attract attention till the spring again comes round. So well, however, does the London County Council cater for the public that in all the principal parks Chrysanthemum shows are annually opened, where visitors can, without any cost, see the perfection to which these favourite flowers are grown—perfections which many who see them would have no conception of were it not for the privileges referred to. As might be expected from such a well known and efficient cultivator as Mr. J. W. Moorman, the show at Victoria Park is this season a superb one—equal, in spite of some climatic drawbacks, to any of its predecessors. The main portion of the plants, numbering about 2000, are tastefully arranged on both sides of a large span-roofed house, 100 feet long, with a straight path through the centre, the flatness of surface that would otherwise occur being effectively dispensed with by raising some of the plants, and thus forming a pleasing and undulating surface. By standing at one end of the house, and looking down the long range of variously coloured blooms, an effect is given which only needs to be seen to be appreciated.

Mr. Moorman is well known as a successful Chrysanthemum grower, and therefore keeps pace with the times, his collection including many of the best and most recent introductions. At the same time old varieties are not disregarded, and many fine flowers of such kinds as Mrs. George Rundle, Mrs. George Glenny, Golden Beverley, White Beverley, Jardin des Plantes, and Mr. Bunn all add their share, and no small one, to the floral display. One cannot help remarking, in spite of the many recent and beautiful introductions, how indispensable these old forms are to the Chrysanthemum world. Very striking in the Victoria Park collection are numerous plants of the bright yellow Ryecroft Glory dotted here and there. This variety is grown in bush form, well covered with showy flowers, and fully illustrating its usefulness for decorative purposes. That effective Pompon Elise Dordan is extensively grown, and contrasts pleasingly with the huge Japanese flowers alongside. Exceptionally fine are the flowers of Louise, which is of dwarf habit, and is hard to beat as a white incurved variety.

In the choice of kinds and subsequent management much care has been exercised, for while the show now is in every way creditable, there are many plants only just forming their flowers, which means that the display will be prolonged over a considerably long period, an important point in a Park collection.

Amongst the yellows none is more striking for size and brilliancy than Sunflower, with its bright golden flowers. Many plants of William Tricker are conspicuous, as also is Miss Dorothy Shea, with its magnificent terra-cotta flowers and long drooping petals. The large, rosy, blush blooms of Mrs. C. Harman Payne are equally effective, while Madame Edouard Rey could not well be dispensed with, its pleasing rose-coloured flowers being of perfect form. Baron Hirsch, Colonel W. B. Smith, Boule d'Or, and Gloire du Rocher are all conspicuous and largely grown, the bronze incurved blooms of the first-named being very showy. Lord Wolseley, a bronze-red sport from Prince Alfred, is very promising, and numerous flowers of Avalanche leave little to be desired both as regards size and formation. Mr. Moorman's experience of Charles Davies is that it does not come well from the early bud, though from subsequent ones there are numerous fine flowers showing.

Mrs. E. G. Hill is very promising with its large white slightly incurving blooms. Many others are well worthy of mention as grown at Victoria Park, including Mrs. F. Jameson, G. W. Childs, G. C. Schwabe, Mrs. J. Laing, Florence Davis, W. Seward, Bouquet des Dames, and J. Shrimpton. In short, the plants throughout give unmistakeable signs that their culture is thoroughly understood and properly carried out, and the large masses of people who are daily visiting the show prove that the efforts of the L.C.C. are appreciated, at any rate in this—the public playground of East London.

BATTERSEA PARK.

BATTERSEA, one of the most important of the first-class parks of London, so well known for its carpet beds, its tropical plants, and the abundance of its summer flowers, is now dull and dreary so far as that department is concerned, and one can hardly help experiencing a feeling of depression when perambulating the broad walks with dead leaves rustling all round, beds empty and cheerless that but a few weeks ago were bright and glorious, with nothing left to remind one of the recent summer excepting, perhaps, a few early flowering Chrysanthemums dotted here and there on the borders. One feels glad to get away from these associations, and turns for relief to something fresher and brighter, and indeed it may be found in the large Chrysanthemum house, now filled and gay with the queen of autumn flowers.

Mainly for the purpose of variety some little changes have this year been made in the arrangement of the plants, the pathway being made to run along the front, with the plants staged in bank-like form to the

back. Another excellent idea introduced by Mr. Coppin, the able Superintendent, is that of clothing the bare ends and part of the roof of the house with tall elegantly growing varieties, such as Margot. The effect caused by these is very pleasing, and does away with any approach to formality. In this large bank of flowers the varieties are pleasingly discriminated, so that the colours do not clash, and are well spread, so that in no case do two of the same shade come together—a most important item when staging a large collection of plants. Though the show has already been open several weeks, it cannot yet be termed perfect, as many of the varieties are only just building up their flowers, so that the public will have the benefit of the show for several weeks to come.

A decided feature in the show is the large number of the old varieties grown. These are very effective, and amongst others were noticed good flowers of Elaine and Avalanche, Louis Boehmer, Empress of India, Mr. Bunn, W. H. Lincoln, and superb specimens of Edwin Molyneux. Many of the more recent introductions are also included, and in all cases stems well clothed to the base with leathery green leaves prove that the plants have lacked nothing requisite during their growing period, and reflect great credit on Mr. Coppin and his growers—Messrs. Wheeler and Sharman. Fine flowers of Miss Dorothy Shea are most effective, and Vivian Morel with its long drooping florets form a pleasing contrast. Baron Hirsch is flowering very creditably; and amongst the whites Eda Prass and Mdle. Thérèse Rey were noted and being well worthy of mention. Mdle. Elise Dordan, a pretty Pompon, is pleasingly conspicuous and a great favourite with visitors, who are not long in choosing out a few and terming them favourites.

Included in the yellows were noticed good examples of Sunflower, one of the best of its class; Col. W. B. Smith, a great favourite; and Madame Edouard Rey, an incurved Japanese of splendid proportions and form with soft yellow shade. Bronzes are also represented in quantity and variety, amongst others being that fine incurved, Baron Hirsch; Gloire du Rocher, with its large orange amber flowers and strong sturdy habit. Vice-President Calvat is very good at Battersea, having large bronze flowers and vigorous habit. Very attractive are examples of Paritan, fine large blooms with long slightly incurved petals and white, as the name implies, though as the flower develops it acquires a slight lilac tint. Though the majority of the plants are grown for producing large blooms, there are many dwarf decorative specimens along the front, and amongst these Bouquet des Dames is very effective with its pure white flowers. Viscountess Hambleton, a handsome incurved Jap with blooms of blush pink is also effective, forming a pleasing contrast to its neighbour, William Tricker. A large handsome flower is President Borel, of bright carmine rose with yellow reverse, and as seen in this collection is exceptionally fine. Lack of space forbids the mention of but a few of the most attractive in this large public show, which includes, in addition to those already enumerated, Condor, International, Mrs. Walters, G. W. Childs, Ami Hoste, J. R. Pearson, John Shrimpton, and many others. Large numbers of people are daily visiting the exhibition, and judging from casual remarks dropped at the time of our visit, the beautiful flowers are much appreciated. Can we wonder at the popularity of the autumn queen, knowing as we do the great amount of pleasure they bring, even to the masses of London?

OLDFIELD NURSERIES, ALTRINCHAM.

A VISIT to Messrs. Clibran's at Chrysanthemum time is particularly interesting. This firm has for many years made the cultivation of the "Queen of Autumn" one of their leading specialities, and the announcement of the opening of their annual display is gladly hailed by all the leading growers in this part of the country. Their collection is most complete, and it would be difficult for anyone not acquainted with their nurseries to form an idea of its magnitude. Several thousand plants are grown solely for the production of large blooms, and in addition the early flowering, single and Pompons, occupy a considerable amount of space. The leading novelties of last season are very numerous, but space will only allow for a few names. Amongst the Japanese, Madame Carnot, Madame Ad. Moulin, Col. C. T. Browne (beautiful blood red seedling from Mrs. F. Jameson, just opening), Mrs. C. E. Shea, Mrs. E. S. Trafford (rosy buff sport from Wm. Tricker), A. H. Fewkes, King of Chrysanthemums (an enormous full deep bloom of the Molyneux type), H. L. Sunderbruck (yellow), and Inter-Ocean were excellent in every way. Eiderdown and Hairy Wonder were very conspicuous. Calvat's new set of last season, thirty-five varieties in all, are being tested, but only one or two of them were fully open at the time of my visit.

Messrs. Clibran have several new seedlings of their own raising, amongst which three were selected—viz., Lord Lisburne, a magnificent Japanese variety of sterling merit, the result of a cross between G. C. Schwabe and Edwin Molyneux. The colour is rich orange red with clear yellow reverse, petals broad and irregularly incurved and reflexed, forming a massive globular-shaped bloom. It is totally distinct from all others in colour, and will undoubtedly find its way into all the best collections and exhibition stands. Col. Page, a Japanese reflexed variety, colour rich buttercup yellow, with a distinct bronzy red centre, flower large and well formed. Lady Dartmouth, a beautiful true incurved variety, creamy white, the points of the petals being distinctly tipped with primrose yellow, faultless in form, plant dwarf, and a good grower. The above were a few of the many good things noted, and visitors cannot fail to be pleased with so excellent a collection.—A VISITOR.

CHRYSANTHEMUM SHOWS.

ROYAL AQUARIUM.—NOVEMBER 5TH, 6TH, AND 7TH.

THE annual exhibition of Chrysanthemums, held under the auspices of the National Chrysanthemum Society, was opened on Tuesday last, during the prevalence of rather unfavourable weather. The number of exhibitors was very large, and the blooms staged were in many instances magnificent. Those who feared the show would not be such a success floriculturally as was the case last year found themselves agreeably disappointed, for in the opinion of several experts it was certainly superior to its immediate predecessor, if not the best that had been held. As usual, Japanese varieties were most extensively represented, and the quality was superb. The form, the substance, and the colour were alike perfect in many of the specimens, though some very faulty blooms were noticed. The incurved section was fairly well filled, and some grand specimens were observed, as also were numbers that should never have been put on the stages. All other sections were represented more or less extensively, and the prizewinners in the chief classes will be found below. It is a matter for regret that some more systematic and straightforward method of staging cannot be adopted, and it is hoped that future shows will bring with them marked improvements in this respect.

OPEN CLASSES.

The Southgate and District Society was awarded the premier position in the class for twenty-four incurved, distinct, and twenty-four Japanese, of which the blooms could be contributed by members of the Society. Mr. W. H. Lees, Trent Park, New Barnet, supplied all the blooms in this exhibit. Size, symmetry, with splendid colour, were the prevailing features. The Japanese were—Back row: Mrs. W. H. Lees, Miss Dorothy Shea, Thos. Wilkins, Mrs. C. Harman Payne, E. Molyneux, Mons. Panckoucke, Van den Heede, and Madame Carnot. Middle row: Chas. Shrimpton, H. L. Sunderbruck, Vivian Morel, Mons. C. Molin, Madame Ad. Moulin, Mons. Geo. Biron, Louise and Chas. Davis. Front row: Mdlle. Thérèse Rey, Miss Rita Shroeter, Mdlle. M. A. de Galbert, Phœbus, Col. W. B. Smith, Mutual Friend, Eva Knowles, and Sunflower. The incurved comprised—Back row: Empress of India, Prince Alfred, Lord Alcester, Mons. R. Bahuant, J. Agate, Globe d'Or, Robert Petfield, and John Lambert. Middle row: Madame Darrier, Golden Empress, Lucy Kendall, Chas. H. Curtis, Baron Hirsch, Queen of England, Mrs. Coleman, and Lord Wolseley. Front row: Lady Hardinge, Hero of Stoke Newington, Mrs. Shipman, Madame Mistral, Mrs. Heale, Violet Tomlin, Brookleigh Gem, and Jeanne d'Arc. The second position was accorded to the Bromley and District Society, several growers contributing flowers. This exhibit contained many good blooms, and was a creditable second. The Brighton and Sussex Society secured the third place, the Japanese being rather packed on the board and many of the incurved loose.

There were only two exhibitors in the class for thirty-six incurved, distinct, Mr. W. H. Lees securing the coveted position with a stand of almost perfect blooms. The varieties were—Back row: J. Agate, Globe d'Or, Mons. R. Bahuant, Empress of India, Prince Alfred, Chas. H. Curtis, Lord Wolseley, Queen of England, Baron Hirsch, Miss Haggas, Wm. Tunnington, and John Lambert. Middle row: Lord Rosebery, Robt. Petfield, Lord Alcester, Alfred Salter, Mrs. Heale, Violet Tomlin, Empress Eugénie, John Salter, Golden Empress, John Doughty, Princess of Wales, and Lady Hardinge. Front row: Madame Mistral, Jardin des Plantes, Nil Desperandum, Mrs. Coleman, Princess Beatrice, Madame Darrier, Chas. Gibson, M. P. Martignac, Lucy Kendall, Hero of Stoke Newington, Refulgens, and Jeanne d'Arc. Mr. Mease, gardener to H. Tate, Esq., Leatherhead, was a creditable second.

In the class for forty-eight Japanese, distinct, Mr. W. H. Lees was a splendid first with a grand collection of blooms, in which colour, combined with size and form, were the chief characteristics. The exhibit contained—Back row: Madame Carnot, Mrs. C. Harman Payne, Thos. Wilkins, Chas. Shrimpton, W. G. Newitt, Vivian Morel, E. Molyneux, Madame Ad. Moulin, Van den Heede, Mons. Panckoucke, Chas. Davis, International, Miss Dorothy Shea, Phœbus, Reine d'Angleterre, and Mrs. W. H. Lees. Middle row: Wm. Seward, Louise, Madame M. Ricard, Mephisto, Wm. Tricker, Mons. G. Biron, H. L. Sunderbruck, G. C. Schwabe, Madame Ad. Chatin, Mons. Ad. Giroud, Mutual Friend, Beauty of Castlewood, Viscountess Hambleton, Richard Dean, Rose Wynne, and Deuil de Jules Ferry. Front row: Mdlle. Thérèse Rey, Henri Jacotot fils, Puritan, G. W. Childs, Hairy Wonder, Souvenir de Petite Amie, Mons. Chas. Molin, Miss Rita Schroeter, John Shrimpton, Sunflower, Mrs. Falconer Jameson, Mdlle. M. A. de Galbert, Eva Knowles, Guirlande, President Borel, and Colonel W. B. Smith. Mr. W. Mease was a good second. His best blooms were Mrs. W. H. Lees, International, Sunflower, Mdlle. Thérèse Rey, E. Molyneux, Duke of York, and Viscountess Hambleton. Mr. W. Wells, Earlswood, was a close third with fresh blooms of good colour and form, Mr. G. Foster, gardener to H. Spencer, Esq., Teignmouth, being fourth. There were eight competitors in this class.

Mr. B. Calvert, gardener to Col. Archer Howblon, Bishops Stortford, was first for twenty-four distinct incurved with—Back row: Alfred Salter, Baron Hirsch, Princess of Wales, Lord Alcester, Violet Tomlin, Miss Haggas, Mrs. Heale, and John Doughty. Middle row: Lord Wolseley, Jeanne d'Arc, Golden Empress, Prince Alfred, Empress of India, Matthew Russell, Empress Eugénie, and John Lambert. Front row: Lady Hardinge, Refulgens, Sir Titus, Jardin des Plantes, Princess Beatrice, C. B. Whitnall, Mrs. W. Shipman, and Lord Rosebery. Mr. T. Robinson, gardener to W. Lawrence, Esq., Hollingbourne, was second;

Mr. W. E. Tidy, Brockhampton Nurseries, Havant, third; and Mr. H. A. Page, gardener to F. Crisp, Esq., New Southgate, fourth. Mr. T. H. Walker, gardener to the Exors. of the late J. Marshall, Esq., Mill Hill, N.W., was an easy first for twelve distinct incurved with good examples of J. Agate, Alfred Lyne, Madame Darrier, Baron Hirsch, Jeanne d'Arc, Brookleigh Gem, Lord Alcester, John Doughty, Empress of India, John Lambert, Golden Empress, and Novelty. Mr. R. Ridge, gardener at Oatlands Lodge, Weybridge, was second; Mr. R. Jones, gardener to C. A. Smith Ryland, Esq., Warwick, third; and Mr. A. Jones, gardener to Miss Wyburn, Barnet, fourth. Mr. J. H. Walker with Jeanne d'Arc was first for six incurved, one variety; Mr. R. Calvert being second with Alfred Salter; Mr. H. A. Page third with Madame Darrier; and Mr. J. Wyatt, gardener to J. Perry, Esq., Caterham Valley, with Baron Hirsch.

For twenty-four distinct Japanese, Mr. W. Messenger, gardener to H. Berners, Esq., Ipswich, was a splendid first. The varieties were—Back row: Madame Carnot, Miss Dorothy Shea, International, Mons. Panckoucke, Van den Heede, Etoile de Lyon, L'Isère, and Mrs. C. Harman Payne. Middle row: Charles Shrimpton, H. L. Sunderbruck, Violetta, G. C. Schwabe, Waban, W. G. Newitt, E. Molyneux, and Col. W. B. Smith. Front row: Eda Prass, Mons. Gruyer, Mrs. G. J. Beer, Madame Ad. Moulin, Lord Brooke, Violet Rose, W. Marshall, and Mdlle. Thérèse Rey. Mr. G. W. Drake, Cardiff, was second, and Mr. Allan, Gunton Park Gardens, Norwich, third.

For six vases of Japanese blooms, containing three blooms each, one variety only to be used in a vase, Mr. D. M. Hayler, gardener to W. Hannaford, Esq., Hendon, was first with an excellent arrangement; Mr. C. H. Martin, gardener to R. H. Langton, Esq., Hendon, was second; and Mr. P. Waterer, Fawkham, third. Mr. R. C. Notcutt, Ipswich, was first with twelve large-flowered reflexed, his stand including good examples of King of Crimson, Cloth of Gold, Cullingfordi, Pink and White Christines, and Phydias. Mr. J. H. Walker took the second place; and Mr. C. Brown, gardener to R. Henty, Esq., Abbots Langley, the third. Mr. W. Skeggs, gardener to A. Moseley, Esq., was first with twenty-four large-flowered Anemones, in whose stand were noticed good flowers of W. W. Astor, John Bunyan, Sir Walter Raleigh, Delaware, Fleur de Marie, and Enterprise. Mr. A. Ives, gardener to G. C. Jukes, Esq., High Barnet, was second; and Mr. T. Milner, gardener to Mrs. W. A. Higgs, Barnet, followed with the third. Mr. W. Skeggs was to the front with twelve large Anemone blooms, showing a stand of compact flowers. Mr. A. Ives was a close second; and Mr. Jas. Maule, gardener to H. J. Matthews, Esq., Hadley, followed with the third. For twelve Anemone Pompons, three flowers of each, Mr. C. Brown was first with a good stand; Mr. J. Myers, gardener to the Earl of Sandwich, Huntingdon, followed with the second place.

In the class for twelve Japanese, distinct, Mr. James Agate, Havant, was first with superb examples of Beauty of Teignmouth, Mrs. W. H. Lees, Mons. Chas. Molin, Chas. Davis, E. Molyneux, Mutual Friend, Madame Carnot, T. Wilkins, Vivian Morel, Col. W. B. Smith, Miss Ethel Addison, and Mons. A. de Galbert. Mr. H. A. Page, gardener to F. Crisp, Esq., New Southgate, was a creditable second; and Mr. J. Sandford, North Finchley, third. For six Japanese of one variety Mr. R. Jones was first with fine Mdlle. Thérèse Rey; Mr. J. Sandford was second with Mdlle. Marie Hoste; and Mr. B. Calvert third with Mdlle. Thérèse Rey. For six Japanese of any colour except white, Mr. R. C. Notcutt was first with G. C. Schwabe; Mr. B. Calvert second with Col. W. B. Smith; and Mr. J. Sandford third with Vivian Morel. For six Japanese, incurved blooms, Mr. R. Jones, gardener to C. A. Smith Ryland, Esq., Barford Hill, Warwick, was first with superb examples of Miss Ethel Addison, Louise, Lord Brooke, Col. W. B. Smith, Encendie, and Prefet Robert. Mr. T. Craye was a good second. For twelve Japanese, Anemone blooms, Mr. W. Skeggs was again first, followed by Mr. J. Justice, gardener to Sir Richard Temple, Worcester, and Mr. J. Milner, gardener to Messrs. W. & A. Higgs, Barnet, second and third.

Mr. J. Myers was a good first with twelve singles in bunches, showing fine flowers; Mr. W. C. Pagram, gardener to J. Courtenay, Esq., Weybridge, followed with second; and Mr. W. Wells, Redhill, third. Excellent flowers, shown by Mr. C. Brown, gained the highest award for twelve distinct Pompons; the second prize fell to Mr. T. Carger, Weybridge; and the third to Mr. J. Myers.

The first prize for six blooms of Chrysanthemum Philadelphia was won by Mr. W. King, Reigate; Mr. W. Mease, Leatherhead, was second; and Mr. N. Davis, Camberwell, third. For three blooms of the same variety Mr. Davis was again first.

AMATEURS' CLASSES.

Mr. W. Amies, Ashford, Kent, was first with twelve incurved blooms which were only fair, Mr. G. R. Crowne, Long Ditton, followed with the second award. For six distinct incurved blooms, Mr. C. E. Wilkins, Swanley, was first with good blooms; Mr. G. D. Willis, East Finchley, second; and Mr. G. R. Crowne, Long Ditton, third. Mr. F. Bingham, Stoke Newington, was the only exhibitor in the class for twelve incurved, distinct, and was therefore awarded the first prize.

Mr. J. Brooks was first with six incurved flowers; Mr. F. Bingham, Stoke Newington, was second; and Mr. W. Noble, gardener to H. T. Pitt, Esq., Stamford Hill, third. Mr. J. Brooks was first with twelve Japanese, distinct, showing fairly good blooms; Mr. W. Davies was second; and Mr. W. Noble followed with the third. Mr. W. Davies was first with six distinct Japanese, showing well-formed blooms of Vivian Morel, Miss D. Shea, Col. W. B. Smith, Chas. Davies, J. Shrimpton, and Mdlle. Thérèse Rey. Mr. J. Brooks was second; and Mr. G. Tolton, Hammersmith, third.

Mr. W. Farrow was first with six Japanese of one variety, showing fine examples of Charles Davis; Mr. W. Davies, gardener to W. F. Darnell, Esq., Stamford Hill, was second with Col. W. B. Smith; and Mr. J. Brooks, gardener to N. Reynolds, Esq., Highgate, was third with the same variety. Mr. D. Donald was also first with six trained specimens of large-flowered varieties, showing Christine White, William Tricker, Gloriosum, Chinaman, Dr. Sharpe and Pink Christine.

Mr. H. J. Jones, Lewisham, was first with a group of plants arranged for effect, and intermixed with foliage plants. The group contained many magnificent blooms intermixed with Crotons and Ferns, the whole being arranged with taste. Mr. Norman Davis, Camberwell, was a good second, though his blooms were somewhat smaller than those of the former. For six standard trained specimens of large-flowered varieties Mr. D. Donald, gardener to J. G. Barclay, Esq., Leyton, was first with fine plants of Stanstead Surprise, La Triomphant, William Tricker, Cleopatra, Chinaman, and M. B. Rendatler.

Mr. W. Davy, gardener to W. C. Paine, Esq., Stamford Hill, was first with four trained plants, showing well-flowered specimens. The same exhibitor also gained premier honours for four standard trained specimens of more than ordinary merit. Mr. D. Donald was first with six specimen Pompons, showing well-shaped plants of Duport de Lurie, Yellow Martha, White Martha, Black Douglas, and William Kennedy. For one specimen plant Mr. D. Donald was first with a finely trained Margot, Mr. W. Davy being second with Elsie.

For six distinct Japanese Mr. H. Love, Sandown, I. of Wight, was a good first with Vivian Morel, Madame Carnot, Golden Gate, Duke of York, Mrs. F. Jameson, and G. C. Schwabe. Miss A. L. Gaunt, Tottenham, was a close second, and Mr. G. W. Forbes, gardener to D. Nicols, Esq., Surbiton Hill Park, third. Mr. H. Love was first in the class for six Japanese of one variety with splendid Sunflowers; Mr. Jas. Streadwick, St. Leonards-on-Sea, was second with Vivian Morel, and Mr. W. Amies third with Chas. Davis. Mr. C. A. Martin, gardener to R. H. Langton, Esq., Hendon, was first for six distinct Japanese blooms; Mr. W. Perrin, gardener to L. W. Richards, Esq., Sawbridgeworth, was second, and Mr. J. Knapp, gardener to F. W. Amsden, Esq., Croydon, third. Mr. Jas. Streadwick was first for twelve Japanese, distinct, in whose stand were noticed fine flowers of Charles Davis, International, Avalanche, W. H. Lincoln, and Puritan. Mr. H. Love was a good second, and Mr. A. Stammer, Malden, third. Mr. Jas. Streadwick was a good first for twenty-four Japanese of not less than eighteen varieties with a good stand, containing G. W. Childs, International, Vivian Morel, Eda Prass, Chas. Davis, Avalanche, and others in good form. Mr. C. A. Jessop, Mildenhall, Suffolk, was a close second, and Mr. H. Love third.

DECORATIONS.

Mr. H. J. Jones was an undoubted first for a table of exhibition blooms with a most elaborate arrangement, composed of fine flowers and coloured foliage. For three vases of Chrysanthemum blooms, each to contain twelve blooms, Mr. D. M. Hayler, gardener to W. Hannaford, Esq., Hendon, was first; Mr. J. Prewett, Hammersmith, second; and Mr. J. R. Chard, third. Mr. J. Prewett was first for three epergnes of Chrysanthemums; Mr. C. J. Gatehouse, Lewisham, second; and Mr. A. Meridew, gardener to Dr. Paul, Camberwell, third. Mr. J. M. Webster, gardener to E. J. Preston, Esq., Beckenham, was first with two vases of Pompon Chrysanthemums; Mr. A. Meridew second; and Mr. S. Burgess, Romford, third. Mr. A. Felgate, gardener to the Duchess of Wellington, Walton-on-Thames, was first with a vase of Japanese Chrysanthemums of one variety. Mr. S. J. Cook, gardener to J. H. Hartridge, Esq., Hendon, second; and Mr. S. Burgess, third.

The first prize for a basket of autumn foliage and berries was won by Mr. J. Mansey, gardener to S. H. Smith, Esq., Islington; Mrs. W. Green, jun., was second, and Mrs. W. Mole third. For a vase containing six blooms of one variety, Mr. E. Jones, Hornsey, was first, Mr. R. E. Wilson, West Kensington, second, and Mr. J. Tolton, Hammersmith, third. Mr. M. Webster was first with two handsome bouquets of Chrysanthemums, followed by Mr. A. Newell and Mr. D. Gibson, Norwood, second and third.

Mr. S. J. Cook was first with twelve incurved blooms in the class open only to single-handed gardeners. In a similar class for twelve Japanese, Mr. W. Perrin, Sawbridgeworth, was first with fine examples. Mr. W. C. Pagram was a good second, and Mr. C. H. Martin third. Mr. W. C. Pagram was first with six incurved blooms, Mr. C. E. Wilkins second, and Mr. C. H. Martin third.

Mrs. A. Newell, Wimbledon Park, was first with a basket of Chrysanthemums, showing a pleasing arrangement; second, Mrs. W. Green, jun., Harold Wood; and third, Mrs. Walter Mole, Hemel Hempstead.

FRUIT AND VEGETABLES.

There were several classes confined exclusively to these products, and many of the exhibits were of more than ordinary merit. There were large numbers of Grapes, Apples, Pears and other fruits, with examples of almost all vegetables in season. It is, however, impossible for us, in the limited space at command, to give details of the prizewinners in this section of the Show, all the available space being occupied by the Chrysanthemums and miscellaneous exhibits.

MISCELLANEOUS.

The miscellaneous exhibits of nurserymen formed an important feature in the show, Chrysanthemums and fruit being shown in quantity. Messrs. Jas. Veitch & Sons, Chelsea, were represented by a fine group of plants, arranged with taste, and containing many superb

blooms of the up-to-date varieties. Mr. W. E. Tidy, Havant, occupied a large space with Chrysanthemum flowers in vases and designs. From Messrs. H. Cannell & Sons, Swanley, came superb Chrysanthemum blooms, Cannas, and Zonal Pelargoniums in great variety. Mr. T. S. Ware, Tottenham, was represented by a large and tastefully arranged group of well-flowered plants. The two large fountains were pleasingly decorated by Mr. J. R. Chard, Stoke Newington. Messrs. Sutton and Sons, Reading, staged a grand display of Potatoes, comprising about eighty varieties, the quality of which was of the best. From Messrs. E. Spooner & Sons, Hounslow Nurseries, came a superb collection of Apples, in which perfect fruits were displayed. Apples and Pears were also well shown by Messrs. Charles Lee & Son, Ealing. From the Jadoo Company, Exeter, came fine examples of Chrysanthemums grown with the Jadoo fibre. Messrs. W. & D. Buchanan, Stirling, sent Grapes and samples of coloured Vine leaves. Messrs. B. S. Williams & Son, Holloway, staged a fine collection of Orchids and other plants. Chrysanthemums in great variety and of good quality came from Mr. W. J. Godfrey, Exmouth. Mr. H. Shoesmith also staged fine blooms, as did Mr. Robt. Owen, Maidenhead, who showed a number of new varieties. Messrs. W. Cutbush & Son, Highgate, had a large collection of Apples, Pears, and flowers in great variety.

TORQUAY.—OCTOBER 30TH.

ON the above date the members of the Torquay and District Gardeners' Association took their first step towards filling the blank caused by the demise of the Torquay Horticultural Society, by holding a Chrysanthemum show at the Bath Saloons. Although an infantile organisation as compared with the Horticultural Society, which had an existence of nearly half a century, the Gardeners' Association by adopting up-to-date methods to make their exhibition popular achieved a great success, and are to be heartily congratulated on their enterprise and the delightful display which they were instrumental in presenting. The cut blooms especially were charming. In the majority of cases they possessed considerable substance, were of immense size, and great brilliancy of colour. There were ten classes open for competition, and no fewer than four of the first prizes were awarded to the Rev. Talbot Greaves, whose stand of six incurved blooms was greatly admired. His half a dozen Japanese yellows—Charles Davis—were not quite so well shown, three of them being a shade too much in advance of the others. Florence Davis, the rev. gentleman's exhibit in the class for white Japanese, possessed great merit, and the gems in his winning collection of twenty-four Japanese blooms included Beauté Toulousaine, Prefet Robert, and G. W. Childs, a very handsome bloom. Dr. W. Ford Edgelow was awarded first prizes in the classes for twelve and six Japanese, and also gained premier honours in large groups. The Rt. Hon. W. H. Long, M.P., in addition to other prizes, carried off the first award for a centrepiece for table decoration.

The groups generally were very tastefully arranged, and contained some massive blooms on sturdy, strong-looking plants. The interesting features of the exhibition, however, did not wholly consist of the Chrysanthemums. Honorary exhibitors and nurserymen contributed greatly to the success of the show by sending collections of plants, fruit, and vegetables. A very fine collection of Ferns and foliage plants was sent by the Committee of Erith House Institution; Mrs. Rawson, Bramhope, contributed a number of choice Carnation plants in bloom and a quantity of cut Chrysanthemums. The collection of Orchids sent by Miss Lavers, Upton Leigh, was generally admired, and a number of dishes of fruit grown by Mr. P. W. Bushby gave evidence of very careful cultivation of the best varieties. Mrs. C. W. Kitson, Mr. Dymond, Mr. Bundock, and Mr. Masters also sent fruit, and Mrs. Wilson, of Lunelville, some weighty, well-coloured bunches of Grapes. Dr. Edgelow showed some clean, well-grown Onions, Mr. Mallock and Mr. Walton Thomson choice collections of Chrysanthemums, and Mr. G. Pearse a miscellaneous collection of vegetables. An extremely interesting exhibit was the collection of vegetables raised by the pupils of the Technical Class for gardening, which has as its instructor Mr. R. H. Jones.

The nurserymen supported the show right loyally. Messrs. Veitch and Son, of the Royal Nursery, Exeter, displayed fifty dishes of Apples and some brilliantly coloured Cannas. Mr. W. B. Smale showed Chrysanthemums surrounded by a charming collection of Ferns and foliage plants. Messrs. Curtis, Sanford & Co., Limited, had a very large exhibit, comprising Chrysanthemums and other plants, and a large collection of fruit. Messrs. Jarman & Co., Chard, displayed a quantity of well-grown Onions and many dishes of Apples; Mr. W. J. Godfrey boxes of Carnations; and Messrs. Tuplin, Newton; Beachey, Jenkins and Co., Kingskerswell; H. Horn, St. Marychurch; and W. Allward, Torquay, staged miscellaneous collections possessing considerable merit.

A most interesting paper on Chrysanthemums and entitled "The Golden Flower," was read by Mr. F. C. Smale, the able Secretary of the Society, before a large and appreciative audience. Lack of space prevents the publishing of the paper, which contained many interesting facts regarding the origin, history, and growth in popularity of the queen of autumn flowers. Propagation, culture, and raising new varieties was also exhaustively dealt with, and at the close of the lecture a hearty vote of thanks was accorded to Mr. Smale.

RYDE (I.W.).—OCTOBER 30TH AND 31ST.

THE annual exhibition of the Ryde Chrysanthemum and Horticultural Society was held on the above dates. The exhibits were the best ever seen in the island by Isle of Wight growers. The Town Hall is a

spacious lofty building, light, and well adapted for a show of this character. The large hall was devoted to groups, plants, and cut flowers; the front of the orchestra to the exhibits for the prizes offered by Messrs. H. Cannell & Sons, Swanley—viz., forty-five blooms, three blooms each. The arrangements were well carried out by the able Secretary (Mr. Eley), assisted by a good hardworking Committee.

The principal class was for thirty-six blooms, twenty-four Japanese and twelve incurved, distinct varieties, open to the Isle of Wight only. Mr. Prismall, gardener to Mrs. Morrett, Ryde, succeeded in carrying off the challenge cup with a capital collection of incurved and Japanese well set up. Noticeable amongst the latter were—Col. W. B. Smith, Robert Owen, Mdle. Thérèse Rey, Edwin Molyneux, Gloire du Rocher, President Borrell, G. W. Childs, Madame Carnot, W. Seward. Incurves—Mrs. Heale, best bloom in the show; Jeanne d'Arc, M. Darrier, Brooklyn Gem, Violet Tomlin, Novelty, and Robert Petfield. Mr. F. Orchard, gardener to H. Mitchell, Esq., Undermount, Bonchurch, was a good second, his Japanese being slightly superior to the incurved; of the former the best were—W. Seward, Gloire du Rocher, Miss Goschen, and E. Molyneux, good. For twenty-four Japanese, open, Mr. E. V. Mathews was first, having grand coloured Vivand Morel, E. Molyneux, W. Seward. Second, Mr. F. Orchard, who had Mons. Panckoucke and Sunflower, good. Mr. Lipscombe was first for twelve Japanese. Second, Mr. Mathews.

For a collection of cut blooms, Mr. G. Spragg, gardener to J. O. Brook, Esq., C.C., was an easy first, his flowers being well set up. For forty-five cut blooms, three of any fifteen varieties, with Ferns or foliage, first, Mr. J. Coffin, gardener to Lady Daly, who had fine C. Davis, Madame Hoste, Eda Prass, and Avalanche; second, J. O. Brook, A. H. Neave, Silver Cloud, Beauty of Exmouth. There was a keen competition for groups, Mr. F. Francis, gardener to Lieut. Garside, Tippange, first, having good Hairy Wonder, Chas. Davis, and E. Molyneux; second, Mr. G. Duncan, gardener to Snowden Henry, Esq., Bonchurch; third, Mr. E. Brett, gardener to the Rev. J. Shearme, Vicar of Ryde. Baskets of cut Chrysanthemums, with or without foliage, were shown in quantity, together with epergnes of berries, autumn foliage, and Ferns, and good collections of Apples, Pears, and Grapes.

CRYSTAL PALACE.—NOVEMBER 2ND.

THE last of the Crystal Palace Company's shows for this year was held on Saturday last in the large centre transept, and took the form of a Chrysanthemum show entirely. The cut bloom section was the pre-eminent feature, the groups and plants in pots generally being only indifferent. In the majority of the former classes, more especially the Japanese, the competition was exceedingly keen, and the quality of the best, so that the Judges experienced some difficulty in making their awards. Incurved were fair in form, but, generally speaking, rather small. Among recent novelties, however, some fine examples were staged, including superb flowers of Chas. H. Curtis, which is depicted in fig. 69. These were large, of rich colour, and good depth, showing well the true character of this charming variety. Taken as a whole, however, the show was a good one, giving a capital idea of the excellence of this year's blooms.

Miscellaneous exhibits were not largely represented. H. Briscoe Ironside, Esq., showed his revolving Chrysanthemum stands and several fine blooms; Messrs. J. Laing & Sons, Forest Hill, exhibited a group of foliage plants; Mr. T. S. Ware, Tottenham, a group of Chrysanthemums; and Messrs. D. & W. Buchanan, Stirling, samples of coloured Vine leaves, and baskets of Grapes.

CUT FLOWERS—JAPANESE.

The premier class in this section was for thirty-six blooms of not less than twenty-four varieties. Six stands competed, and highest honours fell to Mr. W. H. Lees, gardener to F. A. Bevan, Esq., Trent Park, Barnett, for magnificent blooms, consisting of Mrs. W. H. Lees, Col. W. B. Smith, Mdle. Thérèse Rey, Reine d'Angleterre, Miss Dorothy Shea, Mons. Panckoucke, Pallanza, Mutual Friend, Mons. Chas. Molin, International, Chas. Shrimpton, Mdle. M. A. de Galbert, Louise, Thos. Wilkins, Madame Carnot, Chas. Davis, Edwin Molyneux, Mrs. C. Harman Payne, Madame Ad. Molin, Sunflower, M. Georges Biron, Miss Rita Schroeter, Vivand Morel, H. L. Sunderbruck, G. W. Childs, and Phœbus. The colours throughout were pleasingly blended, whilst the flowers were large, even, and of excellent form—the result of superior cultivation. After much consideration the Judges awarded the second prize to Mr. J. W. McHattie, gardener to His Grace the Duke of Wellington, Strathfieldsaye, for a fine stand containing good flowers of Mrs. Dorothy Shea, Puritan, Mons. Chas. Molin, Pallanza, Madame Carnot, W. H. Lincoln, and others. The third place was taken by Mr. C. J. Salter, gardener to T. B. Haywood, Esq., Reigate, for a stand of but little less merit, in which were noticed fine examples of Col. W. B. Smith, Madame Carnot, Mrs. C. Harman Payne, and Charles Davis.

In the class for eighteen distinct varieties the Judges had much difficulty in making the awards, there being nineteen stands shown, and the majority of them of no mean order of merit. Mr. Charles Cox, gardener to J. Trotter, Esq., Brickendon Grange, Hertford, was an excellent first, staging perfect examples of International, Duke of York, H. L. Sunderbruck, Commandant Blusset, Col. W. B. Smith, Mrs. C. Harman Payne, Mons. Panckoucke, Edwin Molyneux, Louise, Miss C. Addenson, Thomas Walkins, Florence Davis, Mrs. Falconer Jameson, Viscountess Hambledon, Mrs. Dr. Ward, Eda Prass, William Seward, and Stanstead White. Mr. W. Collins occupied the second place, showing good flowers of Mrs. W. H. Lees, Mrs. C. Harman Payne, International, W. Seward, Miss Dorothy Shea, Sunflower, and Puritan. Mr. R. Jones, gardener to Miss Wyburn, Barnet, took the third place.

In his stand were noticed Excelsior, W. H. Lincoln, Sunflower, and W. G. Newitt in excellent form.

The first prize for twelve distinct blooms was awarded to Mr. G. Smith, gardener to R. W. Inglis, Esq., Reigate Hill, who staged good fresh blooms of Chas. Davis, Ethel Addison, Lady Saunders, Edwin Molyneux, Mrs. E. G. Hill, Chas. Shrimpton, Sunflower, Wm. Seward, Falstaff, Vivand Morel, Col. W. B. Smith, and Mdle. Thérèse Rey. Mr. H. Butcher was a good second, showing Mrs. W. H. Fowler, Miss A. Hartshorn, and Vivand Morel in good form; and the third place was taken by Mr. L. Budworth, gardener to C. Hill, Esq., West Hoathley, Sussex.

Mr. W. Robinson, gardener to Right Hon. Lord Justice Lopes, Westbury, Wilts, was first amongst seventeen competitors, with six blooms of one variety, showing fine examples of Vivand Morel. Mr. Charles Cox, gardener to J. Trotter, Esq., Brickendon Grange, was second with Col. W. B. Smith; and Mr. Geo. Smith was third with Edwin Molyneux.

INCURVED.

Mr. W. H. Lees was again a decided first in the class for twenty-four incurved of not less than eighteen varieties. The stand was composed of exceptionally fine flowers of Globe d'Or, Chas. H. Curtis, Violet Tomlin, J. Agate, Prince Alfred, Jeanne d'Arc, Mons. Bahuant, Golden Empress of India, Robt. Petfield, John Lambert, Lord Wolseley, Miss Haggas, Princess of Wales, John Salter, Empress of India, Baron Hirsch, Lord Alcester, Madame Darrier, and John Doughty. Mr. J. Dumble, gardener to Sir Charles Phillips, Bart., Picton Castle, Haverfordwest, was a good second, having amongst others creditable flowers of Empress of India, Nil Desperandum, Baron Hirsch, Jeanne d'Arc, and Prince Alfred. Mr. C. J. Salter, gardener to T. B. Haywood, Esq., Reigate, followed with the third place, his blooms not being so even as in the former cases.

Mr. Thos. Robinson, gardener to W. Lawrence, Esq., M.P., Hollingbourne, was first with eighteen incurved blooms, staging somewhat small but well-shaped flowers of Mrs. Heale, Mrs. S. Coleman, Brookleigh Gem, Lord Rosebery, Miss Haggas, Princess of Wales, Lord Alcester, D. B. Crane (very fine), Mary Tomlin, Lucy Keudal, John Lambert, White Venus, Queen of England, John Salter, Sir Titus, Camille Flammarion, Empress of India, and Madame Darrier. Mr. J. Wyatt, gardener to J. Perry, Esq., Caterham Valley, was second with blooms rather coarser than the former; and Mr. T. Carger, gardener to A. G. Meissner, Esq., Weybridge, followed with the third.

A stand shown by Mr. H. Butcher, gardener to C. Buss, Esq., Ashford, claimed first honours in the class for twelve distinct incurved. The flowers throughout were even and good in form, the varieties being Jeanne d'Arc, Lord Alcester, Madame Darrier, Baron Hirsch, Refulgens, Miss M. A. Haggas, Prince Alfred, Golden Empress of India, Mdle. Hoste, Empress of India, Brookleigh Gem, and M. P. Martignac. Mr. A. Sturt, gardener to W. L. Cohen, Esq., Englefield Green, was second, showing Baron Hirsch and Violet Tomlin in good form, and the third prize went to Mr. W. Collins, gardener to J. W. Carlile, Esq., Ponsbourne Park, Hertford.

Mr. H. Butcher was a good first with six incurved flowers of one variety, showing superb examples of Baron Hirsch, the flowers being large, well built, and of good colour. Mr. J. Wyatt was second with the same variety, and Mr. W. Robinson was third with Jeanne d'Arc. Out of fifteen entries in this class no less than seven were formed of Baron Hirsch.

REFLEXED, ANEMONES, AND SINGLES.

In the class for eighteen Japanese, reflexed, the whole of the stands were disqualified, as they contained distinct Japanese flowers. Extra prizes were, however, awarded to Mr. R. C. Notcutt, Ipswich; Mr. W. Robinson, and Mr. C. J. Salter. Mr. H. Prickett, gardener to J. Harvey, Esq., East Barnet, was first with eighteen Anemone-flowered, showing Judge Benedict, Delaware, Duchess of Westminster, Dame Blanche, Sir Walter Raleigh, Gladys Spaulding, Miss Annie Love, John Bunyan, W. W. Astor, Ernest Caille, and Acquisition very creditably. The second prize fell to Mr. J. Milner, gardener to Mrs. W. A. Higgs, Barnet; and the third to Mr. G. Steer, gardener to A. Martin, Esq., Stone House, Reigate.

Mr. C. J. Salter was first with twelve Pompons amongst seven competitors, the flowers were tastefully arranged, and consisted of Elsie Walker, Toussaint Maurisot, Mdle. Marthe, Pygmalion, W. Westlake, Eynsford Gem, Golden Madame Marthe, Black Douglas, Souvenir de Jersey, Prince of Orange, Maid of Kent, and Adele Presette. Mr. H. Harris, gardener to Mrs. Eversfield, Dene Park, Horsham, was a creditable second; and the third place was taken by Mr. J. Knapp, gardener to F. W. Amsden, Esq., Croydon.

Mr. C. J. Salter was also first with twelve Pompon Anemones, showing good flowers of Sidonie, Aglaie, Perle, Mr. Astie, Bessie Flight, Emily Rowbottom, Marguerite de Cor, Antonius, Madame Montels, and Briolus. Mr. H. Harris was second with a pretty stand, and Mr. J. Knapp followed with third. For twelve Japanese Anemone-flowered, Mr. J. Milner was first with Madame Lawson, Nelson, Sir Walter Raleigh, Descartes, Mons. Levin, W. W. Astor, Le Deuil, Queen Elizabeth, John Bunyan, Rodolpho Ragioneri, and Thermidor. Mr. H. Prickett was second, and Mr. J. Justice, gardener to Sir Richard Temple, Bart., Worcester, third. Mr. W. Wills, Redhill, was first with twelve singles, showing Salmon, Virgin Queen, D. Windsor, Rose Pink, Geraldine, Miss Mary Anderson, Ethel Sargent, Edwin Weller, Bertha, Bertha Jinks, Lizzie Mainwaring, Miss M. Wilde, and Jane. Mr. W. C. Pagram, gardener to J. Courtney, Esq., Weybridge, took

the second award, and Mr. H. Harris the third. A pleasing arrangement shown by Mr. W. D. Aspland, Crystal Palace, was awarded first prize in the class for cut blooms arranged for effect. The exhibit consisted of wreaths, crosses, and stands of flowers interspersed with *Asparagus plumosus* and other elegant foliage. Mr. G. Mobsley, Thornton Heath, was awarded third prize in this class.

GROUPS OF PLANTS.

Mr. W. Wells, Redhill, had the best group of plants, occupying a space of not less than 100 square feet. The group included several good dwarf examples of *Souvenir de Petite Amie*, *Reine d'Angleterre*, *Surprise*, though there was nothing particularly striking about the arrangement. Mr. W. E. Tidy, Havant, occupied the second place, and Mr. G. Bond, gardener to S. T. Fisher, Esq., Streatham, third. Mr. G. H. Cooper, Croydon, was first with twelve trained standard specimens, showing *White Cedo Nulli*, *Charles Davis*, *Mrs. G. Rundle*, *Vivian Morel*, *Lord Alcester*, *Black Douglas*, *Antonius*, and several others. Mr. J. Carpenter, Lower Tooting, was awarded the second prize.

Mr. W. Leakey, gardener to J. M. Douglas, Esq., Norwood, was first with a single trained specimen of *W. H. Lincoln*; Mr. G. H. Cooper was second with the same variety, and Mr. F. Cooper, Croydon, third with *Bouquet des Dames*.

AMATEURS.

The first prize from a group of plants occupying a space of not less than 50 feet, was awarded to Mr. W. Webster, gardener to W. Higgs, Esq., Clapham, the plants being arranged in bank-like form, and somewhat stiff. Mr. W. Howe, gardener to H. Tate, Esq., Streatham Common, was first with a group of Japanese arranged tastefully with *Palms*, *Dracenas*, and *Crotons*, and occupying an oval space of 14 feet by 10. Many of the flowers were good, and the arrangement pleasing. Mr. T. W. Wilks, gardener to Mr. C. Ralph, Upper Norwood, followed with second.

ST. NEOTS.—NOVEMBER 4TH.

SITUATED in a good horticultural district, St. Neots has for some years been making steady advance in the character of its autumn exhibitions, and that held on Monday, the twelfth since the foundation of the Society, may be fairly considered as one of the best yet seen in the town, both as regards number and quality of exhibits. *Chrysanthemums*, either as cut blooms, specimen plants, or groups, constituted the main feature; but miscellaneous cut flowers, plants, fruits, and vegetables were all largely contributed by the numerous skilful growers in the neighbourhood. The Corn Exchange was, in fact, filled to overflowing, and all connected with the Society have every reason to be satisfied with the results of their efforts in the promotion of local horticulture. A strong Committee and an enthusiastic Secretary (Mr. W. Ratchelous) have indeed developed the show into a most creditable gathering.

In the cut bloom classes the chief interest centred in that for thirty-six blooms, eighteen incurved and eighteen Japanese, distinct. A silver challenge cup, value 10 guineas, with £3 in cash, form the leading prize, but the cup has to be won twice in succession, or three times altogether, to become the property of the winner. In 1892 Mr. Myers, gardener to the Right Hon. Earl of Sandwich, Hitchenbroke, Huntingdon, was successful; in 1893 Mr. R. Petfield, gardener to H. J. Thornhill, Esq., Diddington, Huntingdon, was the winner; in 1894 Mr. Myers repeated his former success; and this year, amongst three competitors, Mr. Lockie, gardener to A. J. Thornhill, Esq., was accorded first honours for an excellent collection. Mr. Myers did his best, but was fairly beaten by Mr. Lockie, and the competition may thus be considerably prolonged. In the first prize stand the Japanese were extremely good, large, fresh, and bright, the incurved being fairly even and of good substance. Mr. Myers was a close second, and Mr. Redman, gardener to J. H. Goodgames, Esq., Eynesbury, St. Neots, was third for fresh and even but smaller blooms. In other cut flower classes Messrs. Myers, Lockie, Allis, Gordon, Thomas, and Redman were the prizetakers, all showing extremely well.

The best groups and specimen plants came from Mr. Redman, A. C. Sweeting, Esq., Miss Squires, Mr. Tebbutt. Collections of fruit were shown by Mr. T. Stone, gardener to R. H. Cochrane, Esq.; Mr. Carter, gardener to Captain W. H. Duncombe, who were first and second respectively. Excellent black and white Grapes were staged by Mr. G. R. Allis, gardener to Major Shuttleworth, Old Warden Park, Biggleswade, who was first in both classes. The leading collections of dessert and kitchen Apples also came from Messrs. Allis and Carter.

Miscellaneous exhibits included tables of *Chrysanthemum* blooms, baskets, bouquets, sprays, buttonholes, and cut blooms arranged with foliage, all of which furnished features of interest. Vegetables are always good in this district, and this year was no exception to the rule, Messrs. Lockie, Carter, Johnson and others securing the chief prizes. The weather unfortunately proved very unfavourable, heavy rain falling throughout the afternoon.

BATTERSEA.—NOVEMBER 4TH AND 5TH.

THE *Chrysanthemum* show, held in the Town Hall, Battersea, on the above dates, was a thorough success as regards quality of blooms, and it reflects the highest credit on its promoters—the Battersea *Chrysanthemum* and Horticultural Society. Comparing it with that held last year, we found it to be distinctly superior, both in respect of quality and quantity. The cut blooms, particularly of the Japanese section, were very fine, those of Mr. Hermann Kloss being especially worthy of note. All the arrangements, in the hands of Mr. J. O. Langrish and the Committee, were well carried out. We append the names of the

winners in the principal classes. Amongst the miscellaneous exhibits were noticed *Palms* from Mr. Fischer, Clapham Road; and various plants from Mr. R. Neal, Wandsworth Common.

For thirty-six blooms, Japanese, not less than eighteen varieties, open to all, Mr. John Monro, Langley Court, Beckenham, was placed first with an excellent exhibit. The most notable blooms were *W. Seward*, *Val d'Andorre*, *Sunflower*, *Mr. A. H. Neve*, *President Borel*, and *Vivian Morel*. Mr. C. Payne, Elmshurst, Bickley, was second, staging fine examples of *Duke of York*, *Edwin Molyneux*, *Lady E. Saunders*, *Sunflower*, and *W. Sparkes*; and Mr. R. Filkins, Oaklands, Chislehurst, Kent, third.

For twelve Japanese, distinct, Mr. C. Payne won the first prize with a heavy stand, comprised of good blooms of *Col. Smith*, *Van den Heede*, and *Duke of York*. Mr. T. Osman, Ottershaw Park, Chertsey, second; Mr. A. A. Rofe third.

In the amateur classes Mr. Hermann Kloss, Wandsworth, was most successful, and secured several prizes. For six Japanese this exhibitor secured the chief place with a splendid exhibit, in which *Mdlle. Thérèse Rey* (finest bloom in the show), *W. Seward*, and *G. C. Schwabe* were particularly prominent. Mr. J. O. Langrish was an excellent second, and Mr. A. E. Nixon third. For six blooms, any one variety, Mr. A. E. Nixon was first with a superb stand of *Charles Davies*. Mr. Kloss was second, and M. A. Hart third. There were eight exhibitors in this class.

Four groups were staged, Mr. A. Hart being easily first with a fine arrangement, Mr. J. Hemstead second, Mr. J. W. Smith third. For a basket of *Chrysanthemums* with *Ferns* Mrs. Hermann Kloss was first with a light arrangement, Mr. J. Youl second, and Mr. W. G. Bond third. For a vase of *Chrysanthemums* Mrs. Kloss was well again first, Mr. A. W. Bolton second, and Mr. Awberry third.

BRIGHTON AND SUSSEX.—NOV. 5TH AND 6TH.

A CHARMING show was again seen in The Dome and Corn Exchange, and although not quite so good or so numerous in exhibits as formerly, was still a creditable gathering. With so many other large exhibitions clashing, there was even a better show than several looked for. A new arrangement of circular instead of semicircular groups occupied the centre of the Corn Exchange, and was a pleasing departure. All of them were well finished, much more art of arrangement being needed when compared with half-circular groups. The cut blooms of Japanese varieties were grand in many classes, but some few fell off in numbers of competitors.

Of course the groups were the chief feature in effectiveness, and here Mr. G. Miles, Victoria Nursery, Dyke Road, Brighton, won from Mr. H. Head, The Drive Nursery, Brighton. Mr. Miles' group was too dense and heavy, but this was a general fault with all of the larger groups. The prettiest group was one of 9 feet in diameter, and set up by Mr. J. Thorpe, 20, West Hill Road, Brighton. There were no formal lines here, and yet all seemed well proportioned. Other pretty groups were made in a class for twelve plants of *Chrysanthemums*, arranged in a circle of 9 feet in diameter, but aided by *Ferns* or other green for effect. Mr. G. Miles, Dyke Road, was first; and Mr. J. Turner, gardener to Sir Greville Smythe, Bart., Wick Hall, Hove, second.

In a class for four standards Mr. E. Meachen, gardener to Mrs. Armstrong, Woodslee, Withdean, was first; Mr. J. Hill, gardener to M. Wallis, Esq., following him closely. Mr. J. Hill was again second for four pyramids, being just beaten by Mr. T. Fairs, gardener to R. Clowes, Esq., Clayton Wickham, Hassocks. In a class for four dwarfs, however, Mr. J. Hills won, although closely run by Mr. E. Meachen, gardener to Mrs. Armstrong.

Naturally enough a prize of a silver cup and £5 as first brought out a strong lot of thirty-six Japanese. The cup has now been finally secured by Mr. M. Standing, gardener to Mrs. Joad, Patching, near Worthing, who was in grand form. His best blooms were *E. Molyneux*, *Sunflower*, *C. Davis*, *Miss D. Shea*, and *W. G. Newett*. Mr. J. Hart, gardener to H. Head, Esq., Shoreham, and Mr. Slaughter, Jarvis Villa, Steyning, following. Mr. Standing was also well to the fore in a class for twenty-four Japanese; Mr. M. Tourle, gardener to F. Barchard, Esq., Little Horsted, near Uckfield, being second. Mr. J. R. Heasman, gardener to Mrs. Oxley, Fen Place, Turner's Hill, beat Mr. Standing in a class of twelve incurved, putting up a well finished exhibit.

Some of the strongest and keenest competition was in a class for twelve Japanese; in the end Mr. G. Duncan, gardener to C. T. Lucas, Esq., Warnham Court, Horsham, succeeded in beating Mr. C. Sayers, gardener to the Misses Cook, Nutley. In the winning stand *Colonel Chase*, *Mrs. Payne*, *Mons. Carnot*, and *W. H. Lincoln* were superb. *Madame Carnot* won for Mr. J. Coles, Balcombe, in a class for six white, and a grand half a dozen of *Sunflower* did the same for Mr. Standing in a class for yellows.

Apples were especially good, but Grapes not so numerous as usual. For three bunches of white Grapes, Mr. G. Duncan beat Mr. W. Taylor, gardener to C. Bayer, Esq., Tewkesbury Lodge, Forest Hill, with better finished fruit; but Mr. Taylor was well in front for three bunches of black Grapes. In a strong competition for four dishes of dessert Pears Mr. Goldsmith won, followed by Mr. Heasman, gardener to Mrs. Oxley, Fen Place, Turner's Hill. The competition was also very keen for four dishes of dessert Apples, Mr. A. Kemp, gardener to C. R. Scrase-Dickens, Esq., Coolhurst, Horsham, just beating Mr. Goldsmith here; but Mr. Goldsmith was in front for four dishes of culinary varieties. Vegetables were good, with the exception of *Celery* and *Brussels Sprouts*. Messrs. J. Cheal & Sons, Crawley; and Messrs. W. Balchin & Sons, Brighton and Hassocks, put up grand fruit not for competition.

WATFORD.—NOVEMBER 5TH AND 6TH.

ONE of the best and brightest exhibitions held around the metropolis is that produced by the Watford Chrysanthemum Society, and the ten years' experience gained has been turned to excellent account. The Society is honoured by the presidency of the Earl of Clarendon, and it was, therefore, fitting that the show should be held in the Clarendon Hall, which is a spacious handsome building admirably adapted to a show of this kind, and the officials know full well how to take advantage of the facilities afforded for arranging the exhibits to produce the best effect. The centre portion of the hall was devoted to the tables of cut blooms, stands of flowers and wreaths; around the sides were placed the groups of Chrysanthemums and miscellaneous plants, fruit and vegetables occupying a wide gallery extending round the hall.

Very seldom are exhibits at local shows of such exceptionally high quality as distinguished those at Watford, and the judges had an unusually onerous duty to perform in determining the order of the awards. This was equally the case in the classes for cut flower groups, fruit, and vegetables, and we regret that we cannot find space for more than a record of the principal winners, there was ample material for a long, critical report.

Most conspicuous was an extensive group of Chrysanthemums, foliage and miscellaneous plants from the Earl of Clarendon's gardens, which occupied the end of the hall, covering a semicircular space 30 feet by nearly 60 feet, and included a large number of well grown plants tastefully arranged. For a miscellaneous group of plants the prizes were adjudged to Mr. Tidy, gardener to W. K. D'Arcy, Esq., Stanmore Hall, for a bright arrangement, in which Cattleyas predominated, Mr. Brown, gardener to the Right Hon. Lord Esher, Heath Farm, Watford, being second for a well furnished group, *Oncidiums* and *Crotons* forming the chief features.

Mr. Gleeson won chief honours for a group of Chrysanthemums, the plants well grown, and the blooms fine. Mr. Tidy was placed second for an effective group, but somewhat crowded. In the smaller classes for groups the prizetakers were Mr. Wearing, gardener to C. Braithwaite, Esq., Overbury, Watford; Mr. Horner, gardener to C. R. Lambert, Esq., Dell Field, Watford; and Mr. Brown, gardener to Lord Esher, Heath Farm, Watford. Mr. Pammell, gardener to C. J. Mott, Esq., Harrow Weald, and Dr. A. J. Brett, Watford House, were also prizetakers.

The classes for cut blooms were arranged in four divisions, the first open to all England, the second to members only, and the others to members employing a limited number of gardeners. Incurved blooms were generally good, even, solid, and fresh, with some falling off in the smaller classes, but Japanese were remarkably good throughout, some blooms of unusual excellence being staged. In the open class for twenty-four incurved blooms, distinct, Mr. Gleeson, gardener to C. E. Keyser, Esq., Warren House, Stanmore, was first with excellent blooms as follows—Back row: *Empress of India*, John Lambert, John Doughty, *Golden Empress*, Queen of England, Lord Alcester, Alfred Salter, and C. H. Curtis. Middle row: *Baron Hirsch*, Camille Flammarion, Mrs. Heale, *Brookleigh Gem*, Jeanne d'Arc, Miss M. A. Haggas, J. Agate, Madame Darrier. Front row: Mr. Bunn, *Violet Tomlin*, Princess Beatrice, Mrs. Shipman, *Refulgens*, Prince Alfred, M. P. Martignac, and Princess Teck. Mr. Brown, gardener to R. Henty, Esq., Langley House, Abbots Langley, was second, and Mr. Tidy was third. The remaining exhibit from Mr. Turk, gardener to P. Bosanquet, Esq., Little Berkhamstead, being highly commended.

In the corresponding open class for twenty-four Japanese Mr. Gleeson again won first honours, showing very large, bright, and excellent blooms of the following:—Back row: Mrs. Harman Payne, *International*, Col. W. B. Smith, E. W. Clark, C. Davis, Miss E. Addison, E. G. Hill, and E. Molyneux. Middle row: *Marquise de Paris*, Lady E. Saunders, *Duke of York*, Eda Prass, *Commandant Blusset*, Mdle. Marie Hoste, *Duchess of Devonshire*, and Cecil Wray. Front row: Wm. Seward, Madame Chas. Capitant, W. H. Lincoln, G. W. Childs, *Souvenir de Petite Amie*, W. L. Sunderbrück, President Borel, and Eva Knowles; Mr. Turk being awarded the second prize. Mr. Lowe, gardener to the Right Hon. Earl Brownlow, Ashridge, was a good third; and the stand from Mr. Dinsmore, gardener to T. F. Blackwell, Esq., The Cedars, Harrow Weald, was recommended for a fourth prize. In other cut bloom classes prizes were taken by Messrs. Fowler, Lingwood, Wooster, Lowe, Davis, Cox, Dinsmore, Fortnum, Gilbert, Tidy, and Brown.

In the Apple classes the chief prizes were taken by Mr. Turk, Mr. Dormer, gardener to A. Rowlands, Esq., Elstree, and Mr. Bone, gardener to the Dowager Duchess of Bedford, Latimer, Chesham. The best Pears came from R. F. Todhunter, Esq., Campions, Shenley, and Mr. E. Beckett. In the class for twelve varieties of vegetables Mr. E. Beckett was first with excellent examples of *Ailsa Craig Onions*, *Lyon Leeks*, *New Intermediate Carrots*, *Autumn Giant Cauliflowers*, *Snowdrop Potatoes*, *Polegate Tomatoes*, *Student Parsnips*, *Standard Bearer Celery*, *Pragnell's Exhibition Beet*, *Exhibition Sprouts*, *Victory Cucumbers*, and *Snowball Turnips*. Mr. Brown was second, and Mr. Burt third. In other classes Messrs. Beckett, Brown, Gentle, Fowler, and Dormer were the prizetakers.

Bouquets, stands of flowers, miscellaneous plants, and non-competing exhibits were numerous, Messrs. Cutbush & Sons, Highgate, having a large group of plants amongst the latter.

The Hon. Secretary (Mr. C. R. Humbert) is well supported by working Committee, and all are to be congratulated on the results of their efforts.

READING.—NOVEMBER 6TH.

THE above Chrysanthemum Society held its twelfth annual exhibition in the Queen's Hall on Wednesday. The cut flower classes were well filled with creditable blooms; groups also being a feature. In addition to the Chrysanthemums, fruit in the shape of Apples, Pears, and Grapes was well represented. We append a list of the prizewinners in the principal classes.

The premier class in this section was for a group of plants occupying a space of 50 square feet. Mr. Dockerill, gardener to G. W. Palmer, Esq., Reading, was first with a good collection arranged in conical form, and including many fine blooms. Mr. Perkins, gardener to Hon. W. F. D. Smith, M.P., Henley, was a good second; and Mr. Chamberlain, gardener to F. W. Lonergan, Esq., Cressingham, third. For a small group occupying 30 square feet, Mr. Goddard, gardener to J. W. Hounslow, Esq., Reading, was first with good plants; Mr. Hinton, gardener to Major Battiscombe, Reading, was a fair second; and Mr. Mayne, gardener to Miss Wallis, Reading, third.

Mr. Wilson, gardener to Mrs. Bland Garland, Lower Redlands, was first with three Pompons, showing *Golden Cedo Nulli*, President, and *Rosinante*. Mr. Booker, gardener to W. B. Monk, Esq., Reading, followed with the second. Mr. Booker was a good first with four trained specimens, showing *Vivian Morel*, *Source d'Or*, *Madame Bacco*, and *William Holmes*. Mr. Russell, Coley Park, was first with a single specimen plant, showing President; and second Mr. French. Mr. Wilson was first with two trained specimens, showing *Vivian Morel* and *Wm. Seward*.

Mr. Tomlin, gardener to Mrs. Goldingham, Chertsey, was first with twenty-four incurved, distinct varieties, showing good even blooms of *Baron Hirsch*, Mr. Bunn, *Princess of Wales*, *Empress of India*, Prince Alfred, *Nil Desperandum*, Robert Petfield, Mrs. Coleman, *Brookleigh Gem*, Madame Darrier, Alfred Salter, Mrs. Heale, Miss M. A. Haggas, *Violet Tomlin*, Lord Rosebery, Lord Wolseley, *Golden Empress of India*, Jeanne d'Arc, Queen of England, Alfred Lyne, C. B. Whitnall, Mrs. Robinson King, Robt. Cannell, and Mrs. Dickson. The second place was taken by Mr. Paddon, gardener to Col. Ricardo, Bromley Park, who also staged fine flowers, and the third prize fell to Mr. Cole, gardener to Sir Geo. Russell, Bart., Swallowfield Park.

The prizes offered for twenty-four Japanese brought ten competitors. The first prize went to Mr. Gleeson, gardener to C. E. Keyser, Esq., Aldermaston Court, who staged in good form *Madame Carnot*, W. H. Lincoln, *Vivian Morel*, *Duke of York*, G. C. Schwabe, *Phœbus*, Chas. Davis, Mrs. G. M. Clarke, Louise, *International*, *Deuil de Jules Ferry*, Mrs. Lees, Col. W. B. Smith, Mdle. Thérèse Rey, *Pallanza*, Mrs. C. Harman Payne, *Commandant Blusset*, Mons. Gruyer, Lady Smith, Lady E. Saunders, Mr. A. Hartshorn, Edwin Molyneux, *Souvenir de Petite Amie* and Miss Ethel Addison. The second prize went to Mr. McHattie, gardener to His Grace The Duke of Wellington, Strathfieldsaye, for a good fresh stand of blooms, and the third to Mr. Paddon.

Mr. Lane, gardener to Miss J. D. Smith, Ascot, was the only exhibitor in the class for twelve incurved, and was therefore awarded first prize. The varieties were *Empress of India*, *Golden Empress*, *Brookleigh Gem*, Lord Alcester, *Princess of Wales*, Madame Darrier, Mrs. R. C. Kingston, *Violet Tomlin*, Jeanne d'Arc, Queen of England, Miss M. A. Haggas, and Lord Wolseley. Mr. Knowles, gardener to F. Crisp, Esq., Friar Park, was a good first with twelve Japanese blooms, staging *Duke of York*, *Commandant Blusset*, Eda Prass, Col. W. B. Smith, *Rose Wynne*, Chas. Davis, *Vivian Morel*, Edwin Molyneux, *Prefet Robert*, Mrs. C. Harman Payne, *Stanstead White*, and Thomas Wilkins. Mr. Lane was a good second; and Mr. Smith, gardener to Q. Overy, Esq., Badgemore, third.

Mr. Paddon was to the front with twelve reflexed, showing good flowers of *Cloth of Gold*, *Pink Christine*, *King of Crimson*, *Peach Christine*, *Golden Christine*, *Cullingfordi*, and others. Mr. Robinson, gardener to Right Hon. Lord Justice Lopes, Westbury, was second; and Mr. Perkins third. Mr. Perkins was first with six Japanese of one variety, showing creditable flowers of *Col. Chase*; Mr. Robinson was a close second with *Vivian Morel*; and Mr. McHattie third with G. C. Schwabe.

Mr. Robinson was to the front with six incurved of one variety, showing *Jeanne d'Arc* in good form. Mr. Cole was second with Lord Wolseley, and Mr. Perkins third with *Baron Hirsch*. Mr. Paddon was a good first with six *Anemone* flowered, showing *Owen's Perfection*, Gladys Spalding, *Duchess of Edinburgh*, W. W. Astor, Gluck, and M. Panckoucke. Messrs. Robinson and Perkins followed with the second and third in the order named.

Mr. McHattie was a capital first for a vase of cut Chrysanthemum blooms with a most tasteful arrangement of yellow; Mr. Goddard was second; and Mr. Abery, Tylehurst, third. For cut Chrysanthemum blooms, arranged with foliage and Ferns, Mr. Bright, gardener to J. B. Karslake, Esq., Whiteknight, was first with an elegant arrangement; second, Mr. Dennes, gardener to W. R. Cookson, Esq., Benfield Park; and third, Mr. Abery. Miss L. Phillips, Abbot's Walk, was first with a basket of autumn leaves, flowers, and berries; and for an *epergne* of Chrysanthemums, Mrs. Walker, Reading, took the coveted place.

FRUIT.—Mr. Smith was first for two bunches of *Black Alicante* and Mr. Cole second. Mr. Smith was first with two bunches of *Lady Downe's*; Mr. Bright followed with second. For two bunches of *Muscat of Alexandria* Mr. Smith was first and Mr. Dockerill second. Mr. Dennes was first with two bunches of *Gros Colman*. Mr. Goldsmith was a good first with twelve dishes of Apples, kitchen and dessert, showing good samples, and for six dishes of dessert Apples Mr. Chamberlain was awarded the first prize.

BROMLEY.—NOVEMBER 6TH.

In the neighbourhood of Bromley in Kent there are several good Chrysanthemum growers, and as a consequence the show held on the above date brought together some fine flowers. This exhibition was the fourteenth that has been held under the management of the Bromley Chrysanthemum Society, and it has come to be regarded as an annual event of more than local interest. The blooms shown were fairly numerous and of good quality. The arrangements of the show were well carried out under the direction of Mr. W. Weeks, the energetic Hon. Secretary.

In the class for forty-eight blooms, twenty-four Japanese and twenty-four incurved, the first prize was a silver cup value 10 guineas, there were only two competitors. Mr. R. Leadbetter, gardener to A. G. Hubbuck, Esq., Elmstead Lodge, was an easy first. The incurved were John Lambert, Alfred Salter, Empress of India, Guernsey Nugget, Prince Alfred, Golden Empress, Queen of England, M. P. Martignac, Jeanne d'Arc, Mrs. Coleman, Brookleigh Gem, Novelty, Mrs. Heale, Alfred Lyne, Violet Tomlin, Lord Wolesley, Princess of Wales, Lucy Kendall, Miss B. Wilson, and R. Petfield. Japanese—International, Vivian Morel, Mrs. W. H. Lees, Charles Davis, Charles Shrimpton, Mrs. C. H. Payne, Edwin Molyneux, Col. W. B. Smith, Mons. Panckoucke, Lady E. Saunders, Miss Dorothy Shea, Gloire de Lyon, H. L. Sunderbruck, Mdle. M. Hoste, Souvenir de Toulon, Mdle. Thérèse Rey, Jules Ferry, Lord Brooke, Niveus, Hairy Wonder, Ethel Addison, Mons. George Biron, Pearl Beauty, and Sunflower. Mr. T. B. Wheedon, gardener to R. J. Collier, Esq., Hawthorns, Bickley, was second. Duke of York, Sunflower, Mrs. H. Payne, Eda Prass, and Colonel W. B. Smith were the best Japanese, and Lord Wolesley, Princess of Wales, Prince Alfred the best incurved.

For twenty-four varieties, twelve incurved and twelve Japanese, Mr. C. Payne, gardener to C. J. Whittington, Esq., Elmhurst, Bickley Park, took the first prize. Superb blooms of Princess of Wales, Lucy Kendall, Mrs. S. Coleman, Charles H. Curtis, G. C. Schwabe, Duke of York, and Mrs. W. H. Lees were noticeable. Mr. S. B. Wheadon was second; and Mr. R. Filkins, gardener to Miss Alexander, Oakbank, Chislehurst, third.

Mr. J. Lyne, gardener to H. F. Tiarks, Esq., Foxbury, Chislehurst, was first for twelve distinct incurved with an almost perfect stand. Mr. W. Pascoe, gardener to Captain Torrens, Baston Manor, Hayes, was second; and Mr. Thomas, gardener to J. Greig, Esq., Inglewood, Chislehurst, third. For twelve Japanese, distinct, Mr. J. Blackburn, gardener to J. Scott, jun., Esq., Elmstead Grange, Chislehurst, first with a grand stand. Mr. C. Twinn, gardener to G. W. Bird, Esq., Manor House, West Wickham, was second; and Mr. J. Lyne third. There were eight exhibitors in this class.

For six Japanese, distinct, Mr. J. W. Blackburn took first prize with a grand exhibit; Mr. M. G. Mill, gardener to Frank Lloyd, Esq., Coombe House, Croydon, was second; and P. Waterer, Esq., Fawkham, third. For twelve Pompons, Mr. E. Mills was first; Mr. J. Knapp, gardener to F. W. Amesden, Esq., Croydon, second; and Mr. Pascoe, third.

In the class for six Japanese in one variety Mr. C. Payne was first with Vivian Morel, Mr. J. Blackburn second, and Mr. E. Legg third with the same variety. For six incurved, one variety, Mr. C. Payne again took the lead with Violet Tomlin, Mr. Thomas being second with Baron Hirsch, and Mr. J. Lyne third with Queen of England.

For a group of flowering foliage plants Mr. J. Lyne was first with a beautiful light arrangement, Mr. Pascoe being second, and J. Amery third. Only two groups of Chrysanthemums were staged, and Mr. J. W. Stint, gardener to J. Scott, Esq., Abbyfield, Bickley, Kent, was first with a splendid exhibit; and Mr. C. Gordon, gardener to H. Hoskins, Esq., Hayes, second.



HARDY FRUIT GARDEN.

Transplanting Fruit Trees.—Trees planted too thickly in former years should be moved to fresh positions before either they or adjoining trees touch one another. The present is an excellent time to carry out the operation, and if the trees are growing strongly so that numerous fruitless shoots are being produced, or if they exhibit that tendency, the lifting and replanting will prove equal to root-pruning. Attention must be paid to carefully pruning smooth any broken roots before replanting. In lifting preserve all the fibres possible with soil adhering to them, forming a ball-like mass of roots and soil. This is quite possible when the trees have not to be removed far, say from one position in a garden to another. Dig a trench round the trees at such a distance from the bole that will form a portable mass of soil and roots according to the size of the trees. This can usually be calculated on to a nicety with young specimens, but with older trees the trench should be commenced further away, working the ball smaller by carefully picking away the soil from the outsides, retaining unshortened for the time all the fibrous roots, and securing them out of the way of injury during the process of reducing the ball. The less reduction of the latter, however, the better; but

much depends on the number of fibres. When numerous they hold the soil together; if scanty there is a difficulty in retaining sufficient.

The soil for the reception of the trees must be well prepared previously, and the holes excavated wide enough to admit of the ball and its probable fringe of loose roots—these being spread out at full length—and, like those of newly planted trees, placed horizontally between layers of soil near the surface. When well furnished with fibrous roots near the bole many of the longest outside roots can be shortened back, fresh ones being speedily formed in good soil in the case of vigorous trees. Plant the trees no deeper than before; stake, if necessary, to keep them steady, and finish with mulching over the roots.

Wall Trees.—Thinning Branches.—This is a good opportunity to examine trees that are crowded with growths and ascertain which of the main branches can be dispensed with without making large gaps. It frequently happens that the trees are fruitless from overcrowding. Horizontally trained trees ought not to have the branches nearer than a foot asunder. Crowding of the branches rapidly causes the spurs to lengthen, and as they extend outwards from the wall the base becomes bare. This must of necessity occur, because of the absence of light as well as a due circulation of air. Thin branch-training to a large extent mitigates the disadvantages thus arising, and cannot be too early adopted.

In the case of fan-trained trees, cutting out large branches necessitates re-arranging the remaining, and this gives an opportunity to train them at ample distances apart, so that crowding does not so readily afterwards occur. Apples and Pears have each branch treated similarly with regard to pruning as cordon and espalier trained trees. Plums and Sweet Cherries may be grown in the same way, though it is often found of advantage to train in young wood when there is sufficient space for admitting it without crowding the spurred branches. Peaches, Nectarines, and Apricots in a general way produce the best fruit on comparatively young wood; therefore a constant renewal must be carried on, in order that old exhausted branches are not permitted to remain. Frequent light renovations are better than severe removals of a quantity at once, which often produces gum and the death of branches.

Shortening Long Spurs.—Old trees frequently have their branches clothed with abnormally extended clusters of spurs. These should be thinned out, and gradually reduced back to better placed buds nearer the wall. This is a work of time. In very bad cases, when there are but few buds to shorten back to, the drastic remedy is adopted of cutting the whole spur away to within an inch of its origin with the main stem. The following season growths will be emitted from dormant eyes. An early selection of these will be necessary by the process of disbudding, while the growths can be rubbed off. The selected shoots afterwards grow strongly, and their vigour must be regulated by summer pruning. They must have also the full benefit of thin disposal, whereby light and air can act beneficially on the leaves.

Planting Fruit Trees.—Take every favourable opportunity of planting young trees and bushes. No work pays better for being carefully carried out than this important matter of establishing young trees. Those that are destitute of an ample mass of fibrous roots need more than ordinary care in spreading out those they have. The ends ought first to be pruned smoothly, as fibres cannot be originated from injured or bruised parts. Lay out the roots horizontally at the various levels from which they start, stretching them out to their full extent, covering with soil spread on them from the stem outwards. Firm the soil about them, and avoid planting too deeply, the uppermost layer only needing a few inches covering. The roots must not be allowed to dry previously to planting the trees. Should they become dry thoroughly soak them in water for some hours before planting.

Labelling.—All fruit trees should be conspicuously and permanently labelled with their proper names. There are several labels suitable for the purpose, but in addition each tree ought to be entered on a plan, with its name and date of planting.

FRUIT FORCING.

Vines.—Earliest.—For affording ripe Grapes at the close of March or early in April, the Vines, whether in pots or planted out, must now be started. Bottom heat in neither case is indispensable, though in all forcing operations it hastens growth considerably, therefore for forcing Vines in pots place fermenting materials in the pit in which they are placed on pedestals of loose brickwork, being careful not to allow the heat about the pots to exceed 65° at the commencement. Suspend the Vines in a horizontal position over the fermenting material to ensure a regular break. Syringe twice or thrice a day, keeping every part of the house moist by sprinklings in bright weather. Vines started at this season require a higher temperature to excite the buds than those started later. A temperature of 50° to 55° at night, and 60° to 65° by day, will not be too much to start with. Where no fermenting materials are used sprinkle the floor, but not the Vines, with guano water, 1 lb. to 20 gallons of water, or the drainings of stables diluted with five times the quantity of water at closing time about twice a week.

Early Forced Planted-out Vines.—These may have the benefit of a hotbed formed on the floor of the house, about 2 feet in depth of leaves and litter in a state of fermentation, and occasionally turned for giving off ammonia and maintaining a moist genial heat with regularity. The inside border should have a proper supply of water or liquid manure at a temperature of 65° to 70°, but avoid making it sodden and sour by needless watering. Outside borders must be attended to, and

if fermenting materials are not used, cover with a good thickness of leaves, with lights over to throw off rain or snow.

Houses for Starting in December.—The pruning ought to have been attended to as soon as the leaves were all down, and it must not be further delayed, as it induces rest, and the Vines are not so liable to bleed. Dress the cuts with styptic or knotting as a safeguard. In pruning, two buds are ample for affording useful bunches, but Vines that do not afford bunches as large or so freely as desired should be allowed more eyes, three to six, according to their vigour. Yet with the wood stout and short-jointed the close pruning will afford the most satisfactory results, as what is gained in size of bunches by long pruning is frequently lost in size of berry, compactness of bunch, and good finish. A medium sized bunch of well-coloured thoroughly ripened Grapes is always appreciated. Dress the Vines, cleanse the house, having all in readiness and good order for a start at the proper time.

Figs.—*Early Forced Trees in Pots.*—There is this great advantage in Figs in pots—namely, that their fruits can be had at a time when choice kinds are not plentiful. Trees started now will ripen the first crop late in March or early in April. Success depends on suitable varieties, the thorough ripening of the wood, and their not having carried late crops. St. John's and Pingo de Mel are two good Figs for hard forcing in pots, as they do not cast the young fruit like many other varieties, and make sturdy short-jointed shoots, so that they are compact in habit, bear freely in a comparatively small space, and ripen quickly. Well prepared trees in 10 or 12-inch pots afford a good supply of fruit. Ripened wood is imperative. They succeed well in low pits on a mild hotbed of fresh leaves, the chief points being to place the trees close to the glass, but not touching, and force slowly. When Fig trees in pots are forced year by year they start with little excitement at the usual time, and bear excellent crops. The trees should be sprinkled twice a day in bright weather, employing fire heat to maintain a temperature of 50° at night, 55° by day, and with sun heat 60° to 65°. The heat about the pots should not exceed the latter temperatures at the commencement, and during the early forcing stages supply but little moisture at the roots. The growths should be pinched at about the fourth leaf, as this concentrates the nutriment on the fruits and they swell correspondingly.

For affording fruit in late April or early in May and from that time to September no variety is more useful than Brown Turkey. It is still the best all-round Fig for pots or planting in restricted borders, and its second crop is better than the first. It should not be started before December—about a month later than St. John's and Pingo de Mel, as it will not bear the hard forcing of those varieties, which are also better for not being started till December, when they will ripen the fruit in April, and the quality is better. White Marseilles is an excellent Fig, and a good white companion to Brown Turkey, but it does better planted in restricted borders than in pots, therefore the small White Ischia may be grown, as it forces well and the flavour is delicious. Black Ischia also forces well, but it is comparatively inferior in quality to the white.

Early Forced Planted-out Trees.—Brown Turkey and White Marseilles are unrivalled for restricted borders. Negro Largo is also an excellent Fig when cramped at the roots, and in its second crop perhaps the best of all. Untie the trees from the trellis and prune them. This consists in cutting back those shoots that have reached the extremity of the trellis, or limit, to where the succeeding shoots start. Remove any elongated spurs, reserving such as are short-jointed and fruitful, thinning the growths where too crowded, retaining a proper amount of fruitful wood on every part of the tree. The house should be thoroughly cleansed, washing the woodwork with soft soap and a brush, limewashing the walls with quicklime and sulphur, washing the trees with soapy water, and afterwards dressing with an insecticide. In securing the trees to the trellis, allow room for the growth of the branches. Fork the surface of the border slightly, remove the loose material, and apply a top-dressing of turfy loam, with a fourth of well-decayed manure intermixed, and a similar amount of old mortar rubbish, not supplying more than a couple of inches thickness. Ventilate freely at all times, except when frost prevails, which is best excluded, or employing no more artificial heat than is absolutely necessary.

Pines.—At this time of year young plants are apt to become drawn and weak through the moisture so prevalent during the autumn months. As growth advances in young plants they should be placed so as to obtain all the light possible, the growth then becomes sturdy and solidified. To effect this the plants should be placed near the glass, which must be kept clean. Owing to decomposition the beds of fermenting material subside considerably; fresh-made beds of leaves, even when well trodden, are apt to settle rapidly. Tan does not sink to anything like the same extent, but in either case attention must be promptly given to raising the plants, so that they may have the full benefit of light, and in doing this take care not to chill them, or allow them to become overheated at the roots. This is important, for chilled plants start into fruit prematurely, and those burned at the roots become sickly. More injury arises from the plants being carelessly shifted than many are aware. Prepare new beds when necessary. Tan is the best material for affording bottom heat to Pines, but Oak and Beech leaves are durable, and the heat from them is milder and lasts longer.

Arranging Pine Plants.—It is a good practice to assist the plants at this time of year according to their requirements respectively for the winter. Fruiting plants need the best places for swelling their fruits properly at a time when the natural means will not afford much assistance. The fruiting plants must have a night temperature of 65°, and 70° to 75° by day from artificial means, losing no opportunity of

admitting air at 80°, closing at that temperature. Successional plants require a night temperature of 60° to 65° in the daytime from fire heat, advancing from sun heat to 75° or more, but air must be admitted between 70° and 75°. Suckers or stock not in fruiting pots must not be brought forward too rapidly, as they are not prepared to make growth until well rooted and have formed a sturdy base. They will progress satisfactorily in a night temperature of 55° to 60°, and 60° to 65° in the daytime, but avoid chills or anything likely to cause a stunted growth.

As regards moisture, fruiting plants require a genial atmosphere at all times, therefore sprinkle such surfaces as paths and walls when they become dry, and the plants will need syringing in a light house two or three times a week during bright weather. Succession plants will only require sprinkling occasionally, as they will derive moisture from the fermenting beds. Suckers will have sufficient moisture in pits without recourse to syringing.

PLANT HOUSES.

Chrysanthemums.—Where large blooms are grown they need unremitting attention to prevent the blooms from damping. Several methods have been tried to prevent this evil, which quickly destroys a season's work. We have tried light tiffany over the blooms inside, and then outside the house, but in spite of these efforts damping took place. For some years past a different system has been followed, with the greatest immunity from damping. The plants are given a light airy structure, and the ventilators at the top and bottom are never closed, not even during frost. A little heat is maintained in the pipes during dull, sunless days, as well as at night, and with this treatment we rarely have a bloom spoiled from damping. The gentle warmth is an advantage rather than otherwise, for it appears to assist the Japanese varieties to lengthen out their petals and thus build up large bold flowers. There is one drawback, the flowers scarcely last so long, and aphides are liable to make their appearance in the blooms. These can, however, be readily destroyed by slight fumigations. Mildew made its appearance while the plants were outside to a greater extent than has been the case for many years past. If not stamped out this increases rapidly after housing, the energy of the plants being soon used up and the flowers are only poor in consequence. A cheap and reliable remedy is to use just as much soft-soap as renders the water soft, say 1 oz. in four gallons of water, and a 3-inch potful of flowers of sulphur. The plants should be laid on their side and thoroughly syringed. It should be left on for three or four bright days, then syringed off with clean water, and all trace of mildew will disappear.

Carnations.—Heat certainly destroys Carnations, but if blooms are needed during the months of November, December, and January, when we have little sun, the plants must be gently forced. They need a light airy house, and gentle warmth in the pipes must be given if the blooms are to open. Conditions nearly approaching those when they bloom outside must be maintained. Very often if the temperature is too low Margaret Carnations will not open; a low temperature brings the roots to a standstill, and the flower buds go blind in consequence. To prevent this gentle warmth is necessary to maintain root activity and induce the flowers to open. Even if the plants are spoiled by such forcing there is but little loss, as they are easily raised and grown. When brought forward in batches the plants continue to grow and flower, the latter being most useful for cutting purposes. Miss Joliffe will bear gentle forcing, only the blooms come somewhat lighter in colour. They are nevertheless acceptable and much admired. The constitution of the plant by forcing is somewhat weakened, and it is not wise to obtain stock from those subjected to this treatment. They should be thrown out after they cease flowering, and young stock should be grown to replace them. Souvenir de la Malmaison that were layered early will be sturdy plants in 4-inch pots full of roots. These should not be checked, but placed at once into 6-inch pots. Drain liberally and pot firmly. These do well in good fibry loam, one-fourth leaf mould and coarse silver sand. They must be watered with care, and allowed to grow under cool, airy treatment. Such kinds as Uriah Pike that were layered early in frames and are now well established in 6-inch pots may be subjected to gentle warmth, when they will spindle and produce flowers. All later plants of these and other kinds that are wanted for forcing into bloom may, if well established in 3 or 4-inch pots, be placed in 6-inch and plunged in cool pits. All young stock of Miss Joliffe that has been raised by layering outside for another season should be lifted and potted without further delay.

Freelias.—The earliest plants should be dwarf and sturdy, and if they have been well looked after will be showing their flower spikes. When these are visible the plants will bear gentle forcing without injury, and will soon come forward into bloom. All later plants, as they come out of the plunging material and turn green, should be arranged close to the glass on shelves, where a little ashes or other moisture-holding material has been placed. If given cool airy treatment they will grow strong, and in due time flower profusely. Few plants are more highly appreciated in rooms when well done or the flowers in a cut state.

Pelargoniums.—The earliest of these should be sturdy little plants, well rooted, with three or four shoots, just starting from where they were pinched. They should be placed in 5-inch pots, and arranged on a shelf close to the glass in a cool airy house. If needed for early flowering the shoots should not be pinched again. Old cut-back plants potted some time ago need careful watering. Those not yet repotted should be done at once. These plants must be kept perfectly cool, carefully watered, and potted firmly in a compost of good fibry loam, one-seventh of decayed manure and sand.

THE BEE-KEEPER.

APIARIAN NOTES.

STRAW HIVES.

It is a recognised fact that since the modern, or moveable frame hive was introduced, more particularly during the past ten years, great headway has been made in the production of honey. And in a general way a greater weight of honey of a superior quality can be obtained from a given number of moveable frame hives than can be produced from straw skeps or other fixed comb hives. But still the fact remains that there are a great number of bee-keepers throughout the country whose ideal hive is the straw skep, and who prefer it to any other. Go where you will, east, west, north or south, in many country villages are still to be found the primitive straw skep, the majority of them being dome-shaped, and much too small. Occasionally bees may be found in ordinary boxes or packing cases in which the swarms were put for want of a better makeshift hive, and if these are kept dry it is surprising how well they sometimes do. I have on several occasions driven bees from makeshift hives of this description, but the bees do not run up as readily from these boxes as from skeps.

But how is it that so many cottagers still favour the straw skep? I think the reason is not far to seek, as from conversations I have had with them on the subject in various parts of the country, I find it is partly through not understanding the working of the frame hive, and imagine there is some mystery in the manipulating and handling of bees in frame hives, a part of the business many of them are not fond of; and as a frame hive costs more than a straw skep, they do not take into consideration the extra quantity and superior quality of honey, freed from all pollen and other refuse that may be obtained under the modern system of bee-keeping; consequently the bees are allowed to swarm, and are placed in whatever is most convenient to hand, and in the autumn the honey is taken by placing the hive over the sulphur pits (a system which I hope will soon be a thing of the past), and killing the bees, or some bee-keeping friend in the neighbourhood will drive the bees, and by placing two or more lots together, will save their lives by providing them with sufficient stores to tide them over the winter.

Straw skeps should be flat-topped, and from 15 inches to 20 inches in diameter. The advantage of having them this shape will at once be seen, as a crate or more of sections or shallow frames can be worked on the top of a hive of this description, and honey may be obtained equal to the best quality procured from a frame hive, and are much to be preferred to the dome-shaped hive. Bees invariably winter well in them; still they are not to be compared to the modern moveable frame hive, which the novice may soon learn to manipulate, and will find a far greater pleasure and profit arising from it than can be obtained from straw skeps.—AN ENGLISH BEE-KEEPER.

TO CORRESPONDENTS

* * All correspondence should be directed either to "THE EDITOR" or to "THE PUBLISHER." Letters addressed to Dr. Hogg or members of the staff often remain unopened unavoidably. We request that no one will write privately to any of our correspondents, as doing so subjects them to unjustifiable trouble and expense.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Bee subjects, and should never send more than two or three questions at once. All articles intended for insertion should be written on one side of the paper only. We cannot reply to questions through the post, and we do not undertake to return rejected communications.

Book on Roses (Subscriber).—"Rose Growing (Gilmour), 1s. 1d., from this office, compact and useful; and the "Book of the Rose" (Foster-Melliar), excellent and comprehensive, published by Macmillan and Co., has been advertised in our own columns, 8s. 6d. Mr. William Paul of Waltham Cross is also the author of valuable works on Roses.

Diseased Asparagus (Y. Z.).—We have unfortunately seen many acres of Asparagus infested similarly to the sample you have sent. It is caused by a fungus which Mr. Abbey knows very well, and we shall shortly publish an article by him on the subject. In the meantime gather and burn all the affected stems, as they contain a harvest of spores for doing further mischief.

Vine Samples (F. G.).—We have received the samples, but you entirely fail to make clear the precise object in sending them, or what you particularly want to know. One of the samples is excellent, the other not bad. You explain the browning of the roots, but the soil, as we received it, was certainly too dry for healthy root action, and correspondingly healthy growth of stems and foliage.

Scarlet Fungus (E. W.).—The showy specimen you send is *Amanita muscaria*, and is poisonous. There is probably no such "cheap" book on Fungi as you have in mind. The most complete modern book (and it is not dear) is Masee's "British Fungus Flora," of which four volumes are issued, 7s. 6d. each, and there are two more to follow. Messrs. George Bell & Sons, Covent Garden, are the publishers.

The Cape Gooseberry (Stirling).—The *Physalis Alkekengi* which you mention is commonly called the "Winter Cherry." It is quite hardy, and plants can be obtained from most nurseries, or raised from seed. Messrs. Veitch & Sons are distributing a very fine form, P. A. Franchetti, the orange-coloured vesicular calyx being larger than hens' eggs. The "Cape Gooseberry" is *Physalis edulis peruviana*. It is not hardy, but usually grown against walls in glass structures from which frost is excluded. The fruits are eaten and by some persons enjoyed, those of P. *Alkekengi* are not.

Storing and Cooking Celeriac (Inquirer).—A portion of the crop may be left where it is grown, but the roots must be rather heavily moulded over, to protect them from severe frosts. Use these first. The greater portion, however, should be stored at once, as no doubt you are aware, it is the roots or swollen knobs that are cooked. Shake clear of soil, remove all the outside leaves from these, leaving only quite the heart, and store in sand where severe frosts cannot reach them. When required for use, trim, wash, and then place in boiling water flavoured with salt, and boil till tender. Large roots would require something like four hours' boiling. They may be eaten hot, with white sauce, as a vegetable, or sliced when cold, and mixed with other salading.

Liming Land to Prevent Clubbing (Subscriber).—There are so many diseases called "clubbing" in the Cabbage tribe, especially Cauliflower and Brussels Sprouts, that it is difficult to make out what is meant. If caused by any of the usual agents a dressing of gas lime would be the most effective, using to each square rod about 28 lbs. of the article fresh from the gas works, mixed with enough charcoal dust or dry wood ashes to enable it to be easily spread, which should be done evenly, and then left on the ground about three weeks or a month, when it may be dug-in in the ordinary way. If you trench the ground and use it should be given on the surface after the trenching, as it will descend quite fast enough without burying it. All that would then be necessary would be to point in lightly as you propose.

Lady Downe's Grapes Imperfectly Coloured (W. A. F.).—The berries of the bunch are large for this variety, excellent in quality, except those shanked, and where not rubbed, covered with a fine bloom. The shanked berries are about 10 per cent., and there are a few that show the remains of the scalding that had occurred. The colour of the berries is nearly, and in some cases quite, green at the shank, the other parts being variously tinted with purplish red and streaked with deeper colour. At the stalk end the berries are very firm and crackling in the flesh, the greener the more hard, but the other parts of the berries are soft in the flesh. The cause of defective colour is usually overcropping, but considering the size of the berries and their texture we do not think that is relative to your case. The hardness at the shank end of the berries is probably due to the "fixation" of the starch and chlorophyll granules in the cells, and that there has been only such transference in ripening as results in fruit sugar in the soft part of the berry. Similar conditions would no doubt be found in the leaves, which will, if we are right, be unusually stout in texture and abnormally green, dying off tinged with purple instead of a clear yellow colour, thus indicating that there has not been sufficient transference or change of the starch and chlorophyll as to give a due proportion of sugar through the whole fruit and of the colour over the entire skin of the berry. Such cases are not uncommon in hot seasons, especially when the Grapes are highly fed and attain to more than normal size. The deficiency of colour has been attributed to a defective amount of available iron in the soil, but there is no great need of that mineral where so much chlorophyll abounds, nor of magnesia either, but the chief requisite is possibly sulphur, and certainly potash, therefore you may afford a top-dressing of sulphate of potash now, using 3 or 4 ozs. per square yard if the roots are not very near the surface, or half the amount if they are, applying the other half at the time of starting the Vines. This will usually prevent the fixation of the starch and chlorophyll and afford the requisite means for transference. Of course, overcropping must be strictly guarded against. For the shanking you may use a little sulphate of iron and magnesia, $\frac{1}{4}$ oz. of the iron and $\frac{1}{2}$ oz. of the magnesia per square yard about the time or a little before the Vines are started, mixing the sulphates with twice their amount collectively of air-slaked lime, which will facilitate their distribution and benefit the Vines.

Stephanotis Fruiting (*R. W.*).—It is not very unusual for the *Stephanotis* to form seed pods of the nature you describe, but at the same time they are not by any means common. We have had several sent to us from time to time, though we might go into a hundred gardens and not find one.

Apple Waxy (*An Old Subscriber*).—The Apple has part of the flesh of a firm, hard, waxy consistence, and that part is singularly sweet, acidless in flavour. The cells of that part of the fruit are completely filled with starch grains passed into fruit sugar (levulose or fructose), there not having been any transference or conversion of the chlorophyll, but the granules of that substance have combined with the starch grains and formed a remarkably tough, waxy flesh. It is probably due to a deficiency of potash in the soil, and to the hot weather prevailing in September. The waxiness is common to some varieties, such as *Duchess of Oldenburg*, *Esopus Spitzenburg*, and *Gravenstein*. The *Calville* type varieties are also subject to it, and certainly indicates a high concentration of juices, as in "mumpers" or small Apples found in clusters on many trees, especially where there is a deficiency of potash salts in the soil, and in hot dry seasons. Several specimens were sent us in 1892.

Dressing for Soil in Tomato Houses (*W. W.*).—As you have lost "thousands of Tomato plants" this year from eelworm (your remarks about slime fungus coming after eelworm are wholly conjectural), you may give each square yard, as you do not wish to "hurt the soil," a 3-gallon watering-potful of soft water containing $\frac{1}{2}$ pint of soluble phenyle well stirred, first stirring the surface of the soil lightly but evenly, so as to ensure the regular penetration of the solution, using it with a fine rose watering pot, and having the soil moderately dry, such as soil should be when it requires watering to prevent plants flagging. The day after mix all to a depth of 18 inches with a fork. At planting time in spring, or whenever fit, and the plants are a foot high, water each with a gallon of soluble phenyle solution (1 oz. to the gallon) in a circle described a foot all round the plant. If your plants are affected with either "drooping" disease, which is never caused by eelworm, but by either *Plasmadiophora solani* or *Fusarium solani*, and sometimes by *Phytophthora infestans*, you will oblige by sending a specimen here for examination. The authority you think wrong is far the greater of the two you mention on the subject of your note, and was the first to advise the use of soluble phenyle after carefully conducted experiments.

Charcoal for Orchids (*Charcoal*).—Undoubtedly charcoal is one of the most useful aids to Orchid culture in existence. There is no other material that acts so well in a double capacity so to speak—that is as a mechanical agent—in keeping the compost open and aerated, and in taking up moisture, also ammonia in some cases, and giving it off in suitable proportions to the need of the plants. It is valuable in the compost for terrestrial Orchids, and doubly so in the case of epiphytal species. The principal point that could possibly be urged against its use is that in the case of plants badly drained it may hold moisture to excess. If the compost is properly prepared, the pots well drained, and the plants judiciously watered—and all these points are necessary to successful Orchid culture—then charcoal cannot do harm, but, on the other hand, does an infinite amount of good in the manner described above; but, like every other good thing, charcoal must be properly used, and it must also be of good quality. It should be selected from Oak or other hard wood, properly but not over-burnt, and all the fine dusty portions must be sifted out. Use it in this way, and note the manner in which the large fleshy roots of an *Aërides* or *Vanda* cling to it, or how those of *Cattleyas* and similar kinds seem almost to wrestle for possession of a chance piece in the compost, and no better or more decisive answer will be required to your question. It is quite certain that although in a badly managed and waterlogged compost charcoal may be something akin to the famous chips in porridge, yet where other details are properly carried out it is of the greatest utility.

Growing Onions on Newly Broken up Ley Land (*Onion*).—Onions do not, as a rule, succeed well on freshly broken up, turfy soil, the plants being frequently patchy, the seedlings falling a prey to various root pests, and those that survive are prone to grow more to top than bulb, this being perhaps due to the roots not reaching the turf until late in the season, but it is mainly an outcome of the comparative looseness of the soil as compared with land some time under crops. As you are trenching the ground, which is the proper thing to do, providing too much of the subsoil is not brought on the top, and that of a poor hungry stubborn nature, you may apply a dressing of thoroughly rotten manure, 20 tons per acre not being too much, spreading it evenly, and pointing in to a depth of 4 to 6 inches. This should be done in the autumn or early winter, and at the same time you may apply 4 cwt. of kainit per acre, as a safeguard against grubs, and to insure a supply of potash. In the spring the ground should be made as firm as possible during dry weather, or when it is in good working order, either by treading or rolling, but treading is the best. With this you will get a sturdy growth from the start, providing you keep the plants free from the ravages of slugs and other predatory pests, which is usually effected either by dressing the ground with soot at the time of sowing or when the seedlings are appearing, using about a peck per rod, or 40 bushels per acre. With this treatment and due attention to thinning and keeping clean, you ought to have a good crop of Onions; at least, we had, and made £75 per acre of them, but that was some years ago.

Names of Fruits.—*Notice.*—We have pleasure in naming good typical fruits (when the names are discoverable) for the convenience of regular subscribers, who are the growers of such fruit, and not col-

lectors of specimens from non-subscribers. This latter procedure is wholly irregular, and we trust that none of our readers will allow themselves to be made the mediums in infringing our rules. Special attention is directed to the following decision, the object of which is to discourage the growth of inferior and promote the culture of superior varieties. *In consequence of the large number of worthless Apples and Pears sent to this office to be named, it has been decided to name only specimens and varieties of approved merit, and to reject the inferior, which are not worth sending or growing.* The names and addresses of senders of fruit to be named must in all cases be enclosed with the specimens, whether letters referring to the fruit are sent by post or not. The names are not necessarily required for publication, initials sufficing for that. Only six specimens can be named at once, and any beyond that number cannot be preserved. *They should be sent on the first indication of change towards ripening. Dessert Pears cannot be named in a hard green state.* (*P.*)—A fine specimen of *Golden Winter Pearmain*. (*Romford*).—*Vicar of Winkfield*. (*W. S.*)—1, *Wadhurst Pippin*; 2, *Baumann's Reinette*; 3, *Beauty of Hants*; 4, *Evargil*; 5, *Hollandbury*; 6, *Ribston Pippin*. (*R. W.*)—*Small's Admirable*. (*W. G.*)—2, *New Hawthornden*; 4, *Dumelow's Seedling*; 10, *Round Winter Nonesuch*; 11, *Blenheim Pippin*; 12, *Minchull Crab*.

Names of Plants.—We only undertake to name species of plants, not varieties that have originated from seeds and termed florists' flowers. Flowering specimens are necessary of flowering plants, and Fern fronds should bear spores. Specimens should arrive in a fresh state in firm boxes. Slightly damp moss, soft green grass, or leaves form the best packing, dry wool the worst. Not more than six specimens can be named at once, and the numbers should be visible without untying the ligatures, it being often difficult to separate them when the paper is damp. (*E. W.*)—3, *Episcia fulgida*; 4, *Polypodium aureum*, infested with scale; *Sedum azoideum variegatum*; 1 and specimen in envelope totally insufficient. (*R. P.*)—As we have repeatedly stated, we do not undertake to name *Chrysanthemums*, which come under the category of florists' flowers.

TRADE CATALOGUES RECEIVED.

Messrs. Hogg & Robertson, Dublin.—*Forest and Fruit Trees, &c.*
Mr. W. Sydenham, Tamworth.—*Violas*.
W. K. Woodcock, Leicester.—*Chrysanthemum List*.

COVENT GARDEN MARKET.—NOVEMBER 6TH.

FRUIT.

MARKET very dull, with heavy supplies.

	s.	d.	s.	d.		s.	d.	s.	d.		
Apples, per bushel	1	3	to	3	0	Filberts, per 100 lbs.	35	0	to	0	0
„ Nova Scotia, per barrel	13	0		17	0	Grapes, per lb.	0	6		1	6
„ Tasmanian, per case	0	0		0	0	Lemons, case	35	0		45	0
Cobs, per 100 lbs.	35	0		37	6	Peaches, per dozen	1	0		10	0
						Plums, per half sieve	0	0		0	0
						St. Michael Pines, each	2	0		6	0

VEGETABLES.

	s.	d.	s.	d.		s.	d.	s.	d.		
Beans, per bushe	1	0	to	2	0	Mustard and Oress, punnet	0	2	to	0	0
Bect, Red, dozen	1	0		0	0	Onions, bushel	3	6		4	0
Carrots, bunch	0	3		0	4	Parsley, dozen bunches ..	2	0		3	0
Cauliflowers, dozen	1	6		3	0	Parsnips, dozen	1	0		0	6
Celery, bundle	1	0		1	3	Potatoes, per cwt.	2	0		4	0
Coleworts, dozen bunches	2	0		4	0	Salsafy, bundle	1	0		1	6
Cucumbers, dozen	0	9		1	6	Seakale, per basket	0	0		0	0
Endive, dozen	1	3		1	6	Scorzoneria, bundle	1	6		0	0
Herbs, bunch	0	3		0	0	Shallots, per lb.	0	0		3	0
Leeks, bunch	0	2		0	0	Spinach, bushel	1	0		1	6
Lettuce, dozen	0	9		1	6	Tomatoes, per lb.	0	3		6	5
Mushrooms, punnet	0	9		1	0	Turnips, bunch	0	3		0	0

AVERAGE WHOLESALE PRICES.—OUT FLOWERS.—Orchid Blooms in variety.

	s.	d.	s.	d.		s.	d.	s.	d.
Acacia or Mimosa (French)					Marguerites, 12 bunches ..	2	6	to	4 0
per bunch	1	0	to	2 0	Orchids, various, dozen				
Aram Lilies, 12 blooms ..	4	0		8 0	blooms	1	6		12 0
Asparagus Fern, per bunch	2	0		4 0	Pelargoniums, 12 bunches	4	0		9 0
Bouvardias, bunch	0	6		1 0	Primula (double), doz. spys.	0	6		1 0
Carnations, 12 blooms ..	1	0		3 0	Roses (indoor), dozen ..	1	0		2 0
Chrysanthemum, dozen					„ Tea, white, dozen ..	1	0		2 0
blooms..	1	0		4 0	„ Yellow, dozen (Niels)	3	0		6 0
„ doz. bunches	3	0		6 0	„ Safrano (English),				
Eucharis, dozen	4	0		6 0	dozen.. .. .	1	6		3 0
Gardenias, dozen	2	0		4 0	„ Red, dozen blooms ..	1	0		1 6
Geranium, scarlet, doz.					„ various, doz. bunches	6	0		12 0
bunches	4	0		6 0	Smilax, per bunch	2	6		4 0
Lilac (French) per bunch	4	0		5 0	Stephanotis, dozen sprays	2	0		4 0
Lilium lancifolium, twelve					Tuberose, 12 blooms.. ..	0	4		0 6
blooms	1	6		2 6	Violets Parme (French),				
„ longiflorum, 12 blooms	4	0		6 0	per bunch	3	6		4 6
Lily of the Valley, dozen					„ Czar (French), per				
sprays.. .. .	1	0		2 0	bunch	2	0		3 0
Maidenhair Fern, doz. bchs.	4	0		6 0	„ Victoria (French),				
					12 bunches ..	1	6		2 6

PLANTS IN POTS.

	s.	d.	s.	d.		s.	d.	s.	d.		
Arbor Vitæ (golden) dozen	6	0	to	12	0	Ferns in variety, dozen ..	4	0	to 18	0	
Aspidistra, dozen	18	0		36	0	Ferns (small) per hundred	4	0		6	0
Aspidistra, specimen plant	5	0		10	6	Ficus elastica, each	1	0		7	0
Chrysanthemums, per doz	6	0		18	0	Foliage plants, var. each	2	0		10	0
Dracæna, various, dozen ..	12	0		30	0	Lycopodiums, dozen	3	0		4	0
Dracæna viridis, dozen ..	9	0		18	0	Marguerite Daisy, dozen ..	6	0		9	0
Ericas, various, per dozen ..	9	0		24	0	Myrtles, dozen	6	0		9	0
Euonymus, var., dozen ..	6	0		18	0	Palms, in var., each	1	0		15	0
Evergreens, in var., dozen	6	0		24	0	„ (specimens)	21	0		53	0



GRASS VERSUS CORN.

OF the Assistant Commissioners' reports on the condition of agriculture written for the Royal Commission on Agriculture, two of the latest—that on Norfolk by Mr. R. H. Rew, and that on Cumberland by Mr. Wilson Fox—present a striking contrast, as illustrating the relative value of corn land and pasture under the depression, and their influence upon the condition of landlord and tenant now. In Norfolk the farmers have kept to the four-course shift, which for a century had caused that county to be regarded as a remarkable example of how high farming renders a naturally poor soil as productive as that which is rich in pristine fertility. Yet though rents have fallen 25 to 60 per cent, and that part of the land which has been kept under good cultivation is as productive as ever, corn has fallen so low in value as to realise less than the cost of its production. The farmers have struggled on, clinging to the system under which their forefathers had been so prosperous, the tenants holding on better than the yeomen, whose interest on their mortgages has not been reduced like the tenants' rent. The yeomen have practically vanished, the tenants are following—will follow them, unless recourse be had to a new system of farming. On the largest estate in the county, the Holkham estate of the Earl of Leicester, no tenant had ever thrown up a farm till Michaelmas, 1894, when eight of them gave up their holdings, notwithstanding a reduction of 45 per cent. in the rental during the last sixteen years.

In Cumberland, on the other hand, where in 1894 only 98,543 acres of all kinds of corn were grown on a total cultivated area of 581,949 acres, and where, during the last twenty years, there has been an annual addition of between 1000 and 2000 acres to the permanent pasture, the Commissioner found but few "outward and visible signs" of agricultural depression. Farms are in good demand at moderately reduced rents, and rents are so well paid that on an estate of nearly twice the size of that mentioned in Norfolk, there is not a single defaulter. That the term of "moderate reduction" is justly applicable to the rents of this county is shown by the Commissioner's estimate of 15 to 25 per cent. For comparison we may mention that Mr. Rew gives examples of reductions in Norfolk of 60 and 76 per cent. It is not claimed that the Cumberland farmers have suffered no loss under the depression; on the contrary, it is shown that they have had—are having—a severe struggle. By their wisdom in the timely withdrawal from the cultivation of cereals, by downright hard work, by the exercise of thrift, energy, and foresight—sound judgment in selection, skill in the breeding, management, and disposal of their live stock, they continue to pay their way and something more.

Cattle breeding, sheep breeding, and dairying absorb most of their attention as really profitable branches of agriculture. Black-faced sheep for the hills, White faced for the lowlands, and the hardy, shaggy, polled Galloway cattle everywhere, are articles of faith with them. Pure Galloways have been much improved, especially on home farms by the landlords—and the Commissioner calls attention to the highly profitable cross-bred Blue-grey cattle from white Shorthorn and black Galloway herds. Fine examples of Blue-greys have made their appearance at the London cattle shows; buyers now come to Cumberland from long distances to purchase them, and they are said to average £2 a head more than any other cattle bred in Cumberland. Mr. Fox sums up by saying that though some capital has been lost, and many of the farmers only just pay their way, in spite of hard work, yet if present prices of stock

continue he thinks that Cumberland farmers, if they help themselves in the future as they have done in the past, may be able to pursue their calling with sufficient success.

For Norfolk the Earl of Leicester has a scheme of reform, an outcome of his own practice, which bears some resemblance to the method pursued by the Scotch farmers in Essex. Temporary pasture down for about eight years—never less, sometimes more—forms the basis of the scheme. Grazing with sheep—lightly during the first three years—always with caution and judgment, renders the land suitable when broken up for a rotation of Rape, Oats, Turnips, and Barley again seeded down. It is obvious that the Rape and Turnips can each in turn be folded, which explains Lord Leicester's assertion that land so managed yields abundant crops and requires no manure. The term is misleading, because sustained fertility of a very high order is certain if the sheep are folded and taken over the pasture skilfully. What is really meant is no dressing of either chemical or farmyard manure. It is claimed that the straw is either consumed by bullocks in yards or converted into manure, which is used on other land. Here Barley is indicated. Oats may, of course, enter equally well into the scheme, and we should certainly expect much of the corn and straw to be consumed to advantage by the flock.

WORK ON THE HOME FARM.

The cold snap at the end of October was a reminder that winter is coming, and that all work upon the land at all dependent on fine weather should be done without delay. It has certainly given an impetus to the clearance of the root crop, to which no harm has been done. But still there might have been harm, and we do not like running any risk. If it is worth while going to the expense of cultivating such an expensive crop as Mangolds or Swedes, then, however well off we may be with fodder corn, our best efforts should be forthcoming to save, store, and use the roots in sound condition. We never can understand writers who say because one crop is a poor one we should do our best to save another crop. Such an incentive ought never to be required. But then there is so much that is paradoxical in poor humanity.

We have so much hedging and ditching on our hands that it is already in progress, and for another reason most pleasant to record, that having pushed on autumn tillage, seed-sowing, and root-clearing earlier than usual, we have got through, all the arable land is ready for winter, and a certain number of the men are available for other work. A strong gang is engaged in planting Larch on some neglected land, which we have had in preparation for some months. By means of the steam cultivator, harrows, and Cambridge rollers, it is in capital order, the planting is progressing well, though we had some trouble in getting it really well done at the outset. It is so difficult to induce the men to spread out the roots, to cover with fine soil, to press it down well over the roots, and to plant the trees at the same depth they were planted in the nursery. In connection with this work we have been struck of late by the vast quantity of pit props imported from Norway for the collieries. Could not some of our waste land be turned profitably to account for a home supply? What with butter and bacon from Denmark, timber from Norway, and corn from Russia, exporters from those countries must pouch an enormous amount of British gold annually that might just as well go into the pockets of some of our depressed agriculturists and help to bring back prosperity to the land again.

METEOROLOGICAL OBSERVATIONS.

CAMDEN SQUARE, LONDON.

Lat. 51° 32' 40" N.; Long. 0° 8' 0" W.; Altitude 111 feet

DATE.	9 A.M.					IN THE DAY.				Rain.
	Barometer at 32°, and Sea Level.	Hygrometer.		Direction of Wind.	Temp. of soil at 1 foot.	Shade Tem- perature.		Radiation Temperature		
		Dry.	Wet.			Max.	Min.	In Sun.	On Grass.	
1895. October and November.										
Sunday .. 27	29.757	34.1	32.1	N.W.	43.0	44.5	27.6	65.9	25.0	Inchs. —
Monday .. 28	29.782	29.9	29.7	W.	41.9	45.8	25.6	71.9	24.1	0.010
Tuesday .. 29	29.816	35.0	34.4	N.	41.2	41.9	30.1	58.9	28.6	—
Wednesday 30	30.151	32.9	31.2	N.W.	41.0	47.7	29.0	66.3	26.1	0.013
Thursday .. 31	29.898	47.3	46.2	S.	41.0	50.9	32.9	57.4	27.9	0.101
Friday .. 1	30.434	42.6	42.6	N.E.	42.9	50.9	38.9	55.6	32.2	0.010
Saturday .. 2	30.293	42.4	41.9	N.E.	42.9	52.3	37.2	82.4	30.9	—
	30.319	37.7	36.9		42.0	47.8	31.8	65.5	27.8	0.134

27th.—Slight fog early; frequently sunny during day; misty evening.

28th.—Misty early; bright sunshine from 9.30 A.M.

29th.—Cloudy early; sunny from 11.30 A.M. 30th.—Bright sunshine almost throughout.

31st.—Mild and damp, with very slight showers early; fair afternoon; heavy rain from 5.30 to 7 P.M.

1st.—The sun shining through more or less fog all day.

2nd.—Fine and frequently sunny in morning; overcast afternoon.

Rather colder than the previous week and of course much below the average.

—G. J. SYMONS.

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STANDARD or HALF-STANDARD TEAS & NOISETTES.
Per dozen, 24s. to 36s.
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Journal of Horticulture.

THURSDAY, NOVEMBER 14, 1895.

CHISWICK.

MR. A. F. BARRON'S SUCCESSOR.

ON Tuesday last we learned that the Council of the Royal Horticultural Society, at a meeting held on that day, decided on the appointment of Mr. S. T. Wright, gardener to C. Lee Campbell, Esq., Glewston Court, Ross, as the successor to one of the most respected horticulturists of his generation as Superintendent of the Chiswick Gardens. It is a prominent position, such as can only be fittingly occupied by a sound gardener and intelligent man. He must also be an official of the utmost probity, and in temperament sufficiently equable to be uninfluenced by the blandishments of the world on the one hand, and its peculiar and varied methods of criticism on the other. Superintendents of Chiswick have in the past had enough of both—enough of the former to almost surfeit a modest man at times, and of the latter to worry a man who should happen to be habitually sensitive. Mr. Barron would seem in temperament as if made for the position, and it would be about as difficult to recall occasions when he was discovered either unduly elated when the recipient of merited praise, or wildly excited under any circumstances whatsoever; while it would be superfluous to discuss his qualifications in other respects. We will only say that if the new Superintendent discharges his duties as well and as long as his predecessor has done, that will be the best proof of his capacity, and his services will be appreciated accordingly.

We are glad that a thorough gardener has been appointed to Chiswick. Rumours have been plentiful as to the preference for a "scientific" person for the position who would conduct the establishment on advanced educational lines—a sort of science school for the manufacture of superior gardeners. Whether such rumours were "escapes" from the responsible authorities as feelers for public opinion, or whether verdant creations set up as a basis for further disquisition, we know not; but the quasi "scientific" bogey passes away, and the best of all science, the science of common sense, has asserted its supremacy in the appointment in question.

CHRYSANTHEMUMS.

All Growers who desire the **BEST VARIETIES ONLY** should obtain a Copy of

W. J. GODFREY'S CATALOGUE

It is the **MOST RELIABLE** List Published (Ready early in December).

Before the blooming season hardly began Catalogues were being distributed containing long lists of Foreign Novelties, with descriptions appended, as supplied by the various Raisers. Not a tenth part of these have yet bloomed in this country, and not one in twenty will be worth cataloging. Those growers who are tempted by these glowing descriptions will be sadly disappointed. W. J. G. has on trial of this Season's Novelties, 220 Varieties from Continental Raisers, 75 from America and Japan, all the English introductions, and several hundreds of second-year Seedlings of his own raising. **ONLY THE VERY BEST** of these will be Catalogued, and no expense and trouble are being spared to "sift the few grains from the chaff."

STRONG, HEALTHY, COUNTRY-GROWN CUTTINGS

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Will consist of Sterling Varieties only, every one of which has been thoroughly tested the second year.

W. J. GODFREY, EXMOUTH, DEVON.

The new Superintendent of Chiswick is a genuine gardener beyond all doubt. His work speaks more eloquently and forcibly than any mere words can do in that respect. No one who has seen the change that has been brought about at Glewston in less than a dozen years can question Mr. Wright's cultural ability. He has established, in not inherently fertile soil, fruit plantations than which it would be hard to find any better managed and more profitable in the kingdom. He has no doubt had wise guidance based on the scientific knowledge possessed by his enterprising employer, Mr. C. Lee Campbell, and like a prudent man profited by it. For the attainment of such results as have been achieved at Glewston, the best methods, and only the best, are essential. There can have been few, if any, mistakes there, and the man by whom the success has been achieved must of necessity be a skilful cultivator, who has worked perseveringly on sound lines, scientific lines, in fact, and which have also formed the basis of action in the distribution of fruit. It is no ordinary feat in these keen competitive days to obtain the highest possible prices for fruit in bulk, but this, according to the evidence of a leading market salesman, has been done with the produce grown at and dispatched from Glewston. It is not suggested that the grower of it could do the same, or be expected to do anything of the kind at Chiswick, but the experience affords tangible proof of capacity all the same, and a second-rate cultivator at Chiswick would be an incongruity.

Nor is it with hardy fruits alone that the Glewston gardener has excelled both as a commercial man and as an exhibitor. In the production of Grapes he has been as successful as in the cultivation of Apples and Plums, and no competent person who has inspected Mr. Lee Campbell's Vines could be otherwise than satisfied that they were in charge of a masterly cultivator. Then, too, it may be said without fear of contradiction that few, if any, gardeners have studied more closely the question of insect pests, and have striven more persistently to conquer them than has Mr. S. T. Wright; and further, it may be safely averred that if he had failed in that phase of his duties he could not have the excellent record of accomplished facts, which have, presumably, been his chief recommendation to the responsible and by no means easy position that he has been chosen to fill. It cannot have been won easily, and if we are not mistaken it was only after a critical examination of his work by a deputation appointed to visit Glewston that the question was determined.

The Superintendent of Chiswick must, moreover, be a man of intelligence and not without literary capacity, as the preparation of reports of experiments must of necessity devolve upon him for the purpose of publication from time to time in the Society's Journal. He was fortunate in being able to give evidence of capacity in this reference by the high position he occupied in the recent Fruit Essay competition; and his distinctly creditable production can scarcely fail to have been considered by the Council of the Royal Horticultural Society in arriving at their decision on the appointment in question.

The new Superintendent is, like the present respected official, as modest as he is able, and, also like him, conveys the impression that he is one of those men who can look after his own business and let other people's alone. He will in all likelihood be content to let his work speak for itself. What that particular work will be is only known in part—the usual routine. We know nothing of the nature of the changes that may be in view, and possibly they may not be so great as seems to be imagined. New regulations may perhaps be issued of some kind or other. It is usually so when old officials are "retired" and new instituted. For their nature we must wait. For the present Superintendent we have only one wish—a long and happy retirement. For his successor we also wish a long career of usefulness in a famous old garden, but becoming more and more a town garden, because of the great and growing surrounding population.

Mr. S. T. Wright, whose portrait we give on page 453, is, we understand, a Derbyshire man, who commenced his gardening

career at Snelston Hall, then served at Woodseat, passing eventually to Glewston Court, the residence of the brother of the late proprietor of Woodseat, Colin Minton Campbell, Esq. We think Mr. S. T. Wright enters on his duties at Chiswick at the commencement of the new year.

ASPARAGUS DISEASE.

ALTHOUGH the disease prevalent on Asparagus during this year in Cambridgeshire, Southern Lincolnshire, St. Ives district of Huntingdonshire, about Yarmouth, in the county of Norfolk, on the sandy alluvial soils of the Dee Valley in Cheshire, the light soils of Worcestershire, especially the alluvials of the Severn and Upper Avon, particularly in the vale of Evesham, is not new to this country, it has been far more widespread and disastrous to the "grass" than in any season during the last half century. This may be accounted for partly from the great extension of Asparagus cultivation during the last decade, there being now as many fields or parts of fields devoted to Asparagus growing as there were twenty-five years ago plots in private and market gardens, which implies a larger amount of food—closer connection between parasite and host, but the chief cause of the increase of the malady is the slovenly practices of field as compared with garden culture. In the latter the grass is out as soon as the leaves have fallen from the haulm, or stems and branches of the Asparagus plants, and the whole of the yellow or dead "straw" burned. This makes an end of the resting (teleuto) spores of the fungus, which are then present on the diseased stems and branches in incalculable myriads. Then the beds are covered with manure and soil from the alleys placed on it, so that the teleutospores that obtain in the pustules on the leaves are practically put out of power for injuring the "grass" in the following season by producing sporidia, which give rise to the uredo condition of the fungus on the growing Asparagus plants, and the disease then spreads "fast and furious," so that by September the "grass" has a conspicuously black appearance, as if infested by vast hordes of Asparagus beetle (*Crioceris asparagi*) larvæ. Indeed, some cultivators consider that the grubs of the beetle favour the fungus by gnawing the stems, and thus facilitate the entry of the parasite into the Asparagus.

Unfortunately, this is mere guesswork, and is totally opposed to the necessities of the fungus, which requires an uninjured epidermis, beneath which it can develop its mycelial hyphæ, and from this push the bodies (uredospores), which burst through the cuticle, and, breaking off, are dispersed by wind to set up disease in any Asparagus plants they may alight on, they growing best on "grass" that is soft, strong, and long from a large amount of contained nitrogen.

Such is a practical-cultural diagnosis of the Asparagus disease, which as a rule is first observable in August. Small dark brown spots, which in the course of a few days attain the length of one-tenth to one-fifth of an inch, which appear on the stalks, branches, and leaves, but much more abundantly on the main stems and side branches, and gradually assume a much darker shade. These spots have the cuticle ultimately ruptured by the outgrowing uredospores, which are borne on short stalks, and then the spots are surrounded by the ruptured epidermis of the stalk, and are somewhat inflated. On close examination the layers of small powdery spots are distinctly seen, and it is these accumulations here and there which cause the epidermis to burst. Thus the fungus has no connection with the beetle larvæ, neither aiding nor abetting the other.

The Asparagus disease fungus belongs to the order of fungi called Uredineæ (rust fungi) and to the large genus named Puccinia, this peculiar species living parasitically on Asparagus, and that submitted by a correspondent of the *Journal of Horticulture*, "Y. Z." (page 448), being Puccinia asparagi, D.C., may be briefly described; but be it known that of the *Æcidium* or cluster cup condition of this particular species we know as yet little or practically nothing. Indeed, in neither it nor in Hollyhock disease fungus (*Puccinia malvacearum*) have I found the *Æcidium* stage of the fungus; nor can I make either "head or tail" of the affinity or connection of *Æcidium berberidis* with *Uredo linearis* and *Puccinia graminis*—the cluster cup of the Berberry, rust and mildew of Wheat respectively, but have traced the two latter repeatedly from year to year, and found there can be and is the latter (to the depreciation of Wheat crops in this country of not less than £1 18s. per acre on an average as compared with clean crops) without any *Æcidium* stage whatever. This has special reference to the subject in hand, for it is imperative that the cultivator be not mystified by the mysteries that are often put forth as surrounding fungi and other parasites, and have a clear understanding of what they have to contend with in their culture.

Asparagus fungus (*Puccinia asparagi*) commences its existence

at the moment the male element collides with and pierces the female body, and this gives rise to what is called the teleutospore. It grows on an erect stalk or branch from the mycelium, is two-celled, and remains long united to it—that is, it may abide on the dead Asparagus stem all the winter, and when mature is wet-proof and frost-proof. It remains for a considerable time without germinating, continuing unchanged during the winter. On germinating in the early summer, which, as far as I have observed, is uniformly at the close of May or early in June, a germinal tube is pushed out from one or both of the cells; but usually only one, and that the lower. This tube grows a considerable length before becoming septate (divided by cross walls), and then forms cells, from which spring small branches, each bearing at its top a small roundish-oval body called a sporidium. This has an air cavity or vacuolum near its upper end, and perforce of certain chemical changes and mechanical action becomes so light as to float in dry air, and by some instinct makes for the stems of growing Asparagus plants. This sporidium pushes a growth-tube, and that enters the Asparagus stem either by directly piercing the epidermis, which it does by means of a secretion acting as a solvent on the hard cuticle, or by intruding through a stomata.

Now we lose sight of the fungus altogether, and it grows between the cuticle and underlying cells, permeates the intercellular spaces, and becomes much branched and restricted to a small area on account of the resistance on the part of the Asparagus, so that it forms a mass of mycelial hyphæ, and a pustule about three times as long as broad. From this hyphæ oval, single-celled bodies spring, and are protected by the epidermis of the Asparagus until they are perfectly developed, when the epidermis bursts, and the bodies called uredospores are set free. They are produced singly on erect branches, and, when ripe, fall off, being blown by wind hither and thither, but usually fall on Asparagus stems, branches, or leaves, which are often made almost entirely black in appearance. This is the "rust" stage of the fungus.

From the same substratum of mycelium as the uredospores spring teleutospores are produced, but later in the season, being most plentifully and often only developed in late summer. They grow on erect stalks, are two-celled, and considerably thicker-walled and darker in colour than the "rust spores." This is the mildew or final stage of the fungus, which lives over the winter, as before described. Thus the cycle or life history of the parasite is completed.

Prevention.—It may be as well to say that there is no cure for this or any other fungus living in the internal tissues. The most that can be done in cases of infection is to arrest the progress of the disease and hinder its spreading. Attention, therefore, should be given mainly to preventive measures.

1, Destroy every portion of the dead "grass" by burning, not leaving a particle of it, and it would be wise to scrape off the surface soil lightly and burn that also, or bury it deeply in the spaces between the rows or beds, making trenches or pits about a foot deep and covering with at least 6 inches of bottom soil.

It is no use attempting to do anything more for the winter, and instead of wasting money in sulphate of iron and other nostrums for killing the resting spores, save it for investing when the Asparagus heads begin to appear in a spraying machine or a powder distributing apparatus and a stock of sulphate of copper and lime for making Bordeaux mixture, or lay in a supply of anti-blight, Fostite, or other fungus powder. Be ready for the fungus not later than the beginning of June in the South and by mid-summer in the northern parts of the kingdom, cutting the "grass" as usual, and not being flurried or alarmed until the cutting ceases, and the Asparagus plant is fairly developed in stem, branch, and leaf.

2, When the grass has formed its leaves or growths, which will vary according to the age of the plants—that is, young plants before "cutting" age will make growth fit for spraying by the beginning of June, and "cut" plants by the end of that month or at latest early in July; but whenever it may be, spray or dust the plants with either a 2 per cent. Bordeaux mixture, or a powder preparation containing 10 per cent. of sulphate of copper. Choose a dry day and prospect of fine weather for spraying; such weather, but on a morning when the grass is moist with dew, for distributing the powder. Let the spraying or the dusting be done both ways—up the rows and back again, so as to coat the "grass" on all sides, under, over, everywhere, with the finest possible film of moisture or lightest even coat of powder, remembering that is not the quantity, but the regular and thorough administration of the preparations that are effective.

(a) Again spray or dust the plants three weeks or a month after the first dressing. Do it well so as to reach all the new "grass" that has been made, and under ordinary circumstances this will be all that is required to stave off disease from this most valuable of all spring vegetables.

(b) In certain seasons Asparagus—young plants and "hard-cut" beds or plats—push "grass" in August and even September. The uredospores or "rust" revel in these late growths, hence a third spraying or dusting may be necessary. If so, give it; let there be no tampering with the enemy, but, as an invading foe it ought to be met, let all rise in their strength and, contesting every inch of invaded ground, expel the devastating hordes from the land and crops.—G. ABBEY.



FIG. 70.—MR. S. T. WRIGHT.

MASSING SHRUBS.

FASHION in the various departments of horticulture changes almost as frequently and erratically as do the vagaries in dress to which civilised communities subject themselves. In the latter instances these fleeting fancies do not generally leave any objectionable feature behind, although perhaps they frequently demand the sacrifice of a considerable amount of personal comfort. In horticultural matters, however, the case is totally different, especially in that branch of it which deals with the laying out and planting of gardens, shrubberies, parks, woods, and even public roads and their immediate surroundings.

How beautiful many of our English landscapes are, though not as might at first sight appear, because of their thorough naturalness, but rather because some master mind of a past generation used art in planting to lend an added beauty to that of Nature's. Look at that distant hill rising in wavy undulations to the horizon, clothed as it is with the deep green colour of thousands of sturdy Firs! What a bold feature is thus created! Turn again in the opposite direction, where a long stretch of verdant grass is backed up by forests of Beech and Oak, whose brown and yellow leaves give a wealth of colour which brightens up the whole landscape. No haphazard method of planting would create such distinctive scenes as these. It is the broad masses of each species of tree or shrub that gives the boldness to the landscape when the area is great as well.

The same principle applies to the gardens and grounds that surround the mansions of Britain. The larger the space to be planted the greater should be the masses of each kind of shrub. The great landscape gardeners of bygone days had thoroughly grasped this principle, and have left splendid monuments of their practical achievements in that direction behind. Marnock in particular seemed to have a characteristic way of carrying out these ideas, and whenever I pay a friendly visit to a brother of the craft I can generally detect his work if he happened to have laid out any part of the grounds there. When it was necessary to raise banks and mounds for screens these would be covered with beautiful spreading Yews, than which nothing is more suitable for the purpose. He planted for posterity, and not altogether for rapid effect.

All, however, cannot do that in these "express" days, but can

leave their mark behind by adopting a system of massing in planting which will always be more striking and satisfactory in every way than the indiscriminate mixtures of shrubs one often meets with. In villa gardens and others of very limited extent there may be some excuse for adopting this mixed method of planting, as the occupiers seem to prefer great variety, but in gardens of magnitude there is abundance of room to secure variety without sacrificing boldness in effect. A mistake too often made is to plant Laurels in masses in too many parts of the grounds till the shrubberies appear nothing more than masses of them. This is carrying the principle a little too far for even our largest pleasure grounds. How much better it is to clothe a bank here with *Aucuba japonica*, an adjoining one with *Berberis Darwini*, another with *Berberis aquifolium*; that large space, which is rather shaded with tall grown deciduous trees, with Box. Then give a background of *Rhododendrons* to that fine sweep of lawn, and on that steep dry sunny bank let masses of Broom find a congenial home. When these masses meet let a few standard flowering trees be planted, always allowing wide open spaces to separate such dot plants, otherwise the effect will in time be wanting in breadth and boldness. To give the necessary amount of brightness, masses of dwarf flowering shrubs, or variegated trees and shrubs, could be judiciously disposed, so as not to occur too frequently, but be massed in sufficient quantities to give a great feature at the various seasons when each in turn are in full beauty.

At the present time, when so much planting is being done, these few notes may perhaps supply ideas which will help some young planters to carry out successfully any alterations they may have in hand, and prompt them to erect effects which will be viewed with pleasure and admiration by future generations.—CEDRUS.

FLORAL FACTS AND FANCIES.—14.

WRITING about his early life, Charles Darwin remarks that he remembers telling another little boy that he could produce variously coloured Primroses and Polyanthes by watering the plants with certain coloured fluids. He adds, "Of course this was a monstrous fable, for it had never been tried by me." He was probably not aware that as far back as 1707, Bishop Fleetwood, in his "Curiosities of Nature and Art in Husbandry and Gardening," had described a method of achieving this very thing. It was only to be tried, however, when the stems and branches of a plant were strong; if so, it was to be pierced to the pith, and into the aperture the colour wished for in the flower was to be worked, the hole being filled up with cow manure or clay.

He also states that the effect lasts but one year. Did the worthy Bishop really succeed in this? The idea of a modern American, Mr. Cockerell, is that colours may be altered by watering with different chemicals. Thus he found cyanide of potassium changed the pink flowers of *Monarda fistulosa* first to greenish blue, then to pale yellow; a purplish-red *Verbena* turned yellow also; and the scarlet of some flowers became pink. Gardeners are, of course, accustomed to notice changes of a less speedy kind, produced on plants by cultivation and the use of various manures. It has been one of the floral fancies which some have discussed, whether modifications of colour in wild flowers afford an indication of the soil or subsoil on which they occur. Several curious instances are given where that seems to be the fact, such as the occurrence of the rose-tinted variety of the Lily of the Valley in the West of England only on old red sandstone. Also an observer, who was noticing the various shades of colour in the common *Anemone* (*A. pulsatilla*)—white, purple, bluish, and pink—found those of the last tint chiefly on greensand; then chalk has been thought to favour the development of blue or white flowers. Again, the garden *Hydrangea* has been given as an instance where curious variations of colour occur, connected perhaps with the agency of iron salts in the soil; and other cases may be noticed amongst cultivated or wild plants. Difference of soil, however, will not account for the singular *Hydrangeas* peculiar to the Channel Islands and parts of France, 7 or 8 feet high, having huge heads of bloom, consisting of sterile florets. An idea that this plant was fond of cold as well as of moisture led to its being taken to represent "coolness" or "heartlessness" in flower language. But, after all, the connection between soil and colour is a doubtful one, since plants of the same species growing close together display often such strong contrasts in colour.

Amongst the plants occasionally cultivated in the flower garden are several that were conspicuous in the herb gardens of our ancestors, such as the *Salvias*, which received the name because of their healing qualities, though little esteemed now. Our bee-keepers might encourage the culture of these plants, since few offer more attractions to hive bees, and indeed to every species

of the tribe, especially *S. nemoralis*, with its succession of small purplish flowers. Others have blue tints, such as the showy *S. patens*, of deep colour, which is a symbol of "sagacity," while the crimson, autumn-blooming, *S. splendens* represents "energy," and various colours, with no particular meaning to them occur amongst the hundreds of species in the genus, some of which wintered in a frame, and planted out during May, exhibit such handsome heads. To several of these *Salvias* the name of Clary was given by our ancestors, or rather "clear eye," the boiled mucilaginous seeds being applied to that organ when the sight was weak. The Elizabethan gardeners thought they had got a prize from Italy when they obtained *S. Schlarea* in 1562, which was deemed far superior in virtue to any native Clary, and used for divers purposes; though the odour is not exactly agreeable, it is seldom grown now.

But the fragrant Thyme, emblem of "courage," allied to the preceding, keeps up its popularity, for several Alpine and Pyrenean species, some of which have golden or silvery foliage, are effective in beds and along borders. The Greeks and Romans so loved its odour that the highest praise they could give to a work of art was to say it was as delightful as a bed of Thyme; they are supposed to have associated the plant with activity, perhaps from the busy movement of insects frequenting its flowers. Old-fashioned gardens sometimes displayed the Balm, a showy labiate with purplish flowers (*Melissa officinalis*), brought from France in 1572, presumed to be in itself a *balmy* plant, and taken to be a figure of "sympathy."

One or other of the Basils would be occasionally its companion, species employed as culinary aromatics, yet not plants of good repute, since they told of "hatred" and "poverty" too, for a representation of the latter was to be seen, showing a female form garbed in rags seated beside some Basils. More ominous still, the name is part of that belonging to the mysterious basilisk king of serpents, which had the power, 'twas believed, of blighting the herbage with its breath. Some have tried to explain this by the supposition that in the East, where the Basil was not uncommonly planted on graves, superstitious by-passers at night mistook the crimson flowers of the plant for the fierce eyes of the imagined reptile. We may note here that the family of the Mints, other labiates of importance, are typical of "virtue."

"Steep in the wine cup the Borage I sent thee,
Drown all thy sorrows and jealousies there,"

was the counsel said to have been given to the fair Helen of old by one of her friends; "Herb of Gladness," the ancients called it, a soother of sorrows, though in flower language it is a type of "abruptness." This, at least, is certain that the bluish, white-centred flowers have for many centuries been infused in wine and other beverages, even yet there are places where Borage is mixed in the "cool tankard" so named, but the flowers impart warmth not coldness, or otherwise Borage could hardly be a giver of courage, for such was its repute in England. One of our poets indulges in a lament, that a plant of such value should have been dismissed most gardens, and left to take its chance by the wayside. There, too, its companion is now, and then the Viper's Bugloss (*Echium vulgare*) often on the chalk, which, with some kindred species, illustrates the old doctrine of signatures. Their spotted stems showed they were good against the bites of vipers—nay, even the sight of one of the plants would scare reptiles away! Yet, from its association with snakes, a Bugloss was a type of craft or duplicity, and this name, from Greek, meaning an ox's tongue, was suggested by the rough foliage. Loudon thought the Viper's Bugloss the handsomest of our native flowers, and certainly the long clusters of purple and pink belis justified its introduction to gardens where exotics were scarce.

Allied to these are the *Lithospermums* or Gromwells, two or three species of which are capital plants for edging and rockwork. When the rich blue flowers have died off, and the leaves are gone, the seeds will still cling to the branches, looking like tiny pearls. Their stony hardness originated the Latin name, and that of Gromwell, which has various forms (Philip Miller oddly writes it "Graymill"), but comes evidently from two Celtic words referring to the seeds.

The late flowering Sneezeweeds or *Heleniums*, which linger on to join the *Chrysanthemums*, with blooms like little suns, are supposed to have sprung from her tears, though some suggest that Helen made a cosmetic from the juice of one species. The freaks of fancy are illustrated by the name of Love-lies-bleeding, given to *Amaranthus caudatus*, with its drooping clusters, said to mean "hopeless not heartless," and by the popular appellations given to the *Nigellas*, which one seldom sees in gardens. Owing to the furzy growth around the flowers, one of these has been called "Love in a Mist," and another is "The Devil in a Bush."—J. R. S. C.



EVENTS OF THE WEEK.—Once again we have to refer our readers to the list of shows given on page 459, for the principal events of horticultural interest to take place during the forthcoming week.

— **WEATHER IN LONDON.**—Rain has fallen on each day since our last issue went to press. On Thursday and Friday rain fell during the day, but not in the evening; while though Saturday opened damp and dull, it cleared off, and was bright and fine throughout the remainder of the day. On Sunday, Monday, and Tuesday heavy showers prevailed, and on the latter day it turned decidedly colder. On Wednesday the sun shone brightly and the air was cold.

— **WEATHER IN THE NORTH.**—In striking contrast to the three weeks preceding, that ending the 12th inst. was for the greater part dull and wet. Saturday was on the whole fine for the season, but the night was excessively wet, as were also the morning and evening of Sunday. Between the latter and Monday morning a gale from the south-west raged for several hours. Rain fell also on the evening of Monday, and a dull morning on Tuesday with a low and falling barometer promised no improvement.—B. D., *S. Perthshire*.

— **ROYAL METEOROLOGICAL SOCIETY.**—At the ordinary meeting of the Society, to be held by kind permission of the Council of the Institution of Civil Engineers at 25, Great George Street, Westminster, on Wednesday, the 20th inst., at 7.30 P.M., the following papers will be read:—"On the origin of the cold weather storms of the year 1893 in India, and the character of the air movement on the Indian seas and the equatorial belt, more especially during the south-west monsoon period," by John Eliot, M.A., F.R.S., F.R.Met.Soc.; "The Diurnal Variation of Wind Velocity at Tokio, Japan," by Charles Davison, M.A., F.G.S.

— **LIVERPOOL HORTICULTURAL ASSOCIATION.**—On Wednesday evening the first lecture of the session was given by Mr. R. W. Ker, of the Aigburth Nursery, in the Free Library, Liverpool, his subject being "Holland and the Bulb Growers." With such a subject Mr. Ker was thoroughly happy, his periodical visits to Holland and his many appointments at various times to adjudicate at the great exhibitions making him eminently qualified to deal with it in almost every phase. The writer of this short note has been many times delighted by the accounts of Holland when privately conversing with Mr. Ker, and no less so was the large audience which assembled and listened with such attention to the lecturer's lucid descriptions. A unanimous vote of thanks was passed to Mr. Ker in conclusion.—R. P. R.

— **HARDY FRUIT AT WOODHATCH, REIGATE.**—The fine fruit room here, prominently placed, gives exactly the ideal appearance so much to be desired in many gardens. It is well fitted up with six tiers of shelves, is very roomy, and has a table in the centre on which are always laid plates and knives and forks, so that visitors can not only enjoy a look at the fine fruit but may taste to their appetites' content. Apples and Pears are here well grown, and as admirably displayed. A bold label tacked to the front of the shelf shows the name of each variety, which is helpful to visitors who do not want to ask too many questions. Very fine kitchen Apples are Gloria Mundi, Peasgood's Nonesuch, The Queen (here going soft too soon), Lady Henniker, Stone's Pippin (one of the very best for cooking), Lord Derby, Tower of Glamis, Golden Noble (very fine), Tibbet's Pearmain, Bismarck, Mère de Ménage, Warner's King, and Lane's Prince Albert; and, of dessert varieties, Cox's Orange, Ribston, Blenheim, and King of Pippins; Mabbott's Pearmain (beautiful fruits), Toker's Incomparable, Rosemary, and Brownlee's Russets (both fine and handsome), the Foil, and Court Pendu Plat were all first-rate samples. Pears, too, were good, but many of the earliest had been consumed. Marie Louise, Josephine de Malines, Winter Nelis, Glou Morceau, Easter Beurré, and Beurré Diel, showed that some good keepers were, however, in store. I noticed that half a dozen of the neat little fruit trays so recently certificated were here employed, and are very highly appreciated. For those who have no regular fruit rooms these trays seem to be especially useful, being afterwards available for seed Potatoes.—D.

— **BECKENHAM HORTICULTURAL SOCIETY.**—On Friday evening Mr. Edwin Molyneux delivered a lecture, entitled "Salient Points in Chrysanthemum Culture," before the members of the Beckenham Horticultural Society in the Beckenham Public Hall. Over 300 were present, and the greatest interest was shown in the subject. Some fine exhibits by Messrs. Cannell & Sons, the Bromley Chrysanthemum Society, and a large number of private growers made the room look gay, and rendered the subject additionally interesting.

— **THE WORCESTERSHIRE BRANCH OF THE GARDENERS' ROYAL BENEVOLENT INSTITUTION.**—The inauguration of this branch will be held in the Guildhall, Worcester, on Monday, November 18th, at 3 P.M., Earl Beauchamp in the chair, supported by several influential gentlemen. Messrs. Veitch and Ingram will attend and address the meeting. It is sincerely hoped that all gardeners of the county and patrons of horticulture will attend and show practical sympathy with the movement.

— **FINGER AND TOE.**—The connection of an attack of "finger and toe" in Turnips, &c., with a previous impoverishment of the soil in lime, is well shown by two soil analyses just completed at the South-Eastern Agricultural College, Wye (County Councils of Kent and Surrey). One portion of a 16-acre field in the south of Kent was badly affected by "finger and toe," the rest being only slightly attacked. Samples of the soil taken from that part of the field where the disease was prevalent showed on analysis only 13 per cent. of available lime; while the soil from the rest of the field contained 43 per cent. Wherever "finger and toe" (anbury or club root) shows itself the land probably wants a dressing of chalk or lime.

— **THE CELERY GRUB.**—I have recently noticed that the supply of Celery brought into the Birmingham market has been particularly free of blistered leaves caused by the larvæ of the Celery fly (*Tephritis onopordinis*). The major portion of the best Celery supplied to this market comes from the Tamworth district, and the opinion of one of the best growers as to this immunity from the grub was due to the absence of fruit trees in the fields where the Celery is grown, and that under such conditions the crop is rarely affected by the fly. The opinion prevails that the fly will leave the fruit trees in favour of the Celery. There would appear to be a modicum of truth in this assumption if judged by more than one crop of Celery I have seen this season in gardens where Apple, Pear, and other fruit trees are grown, inasmuch as the plants were in some instances badly affected. Perhaps some entomologist may be able to afford a more decided elucidation of the matter?—W. G.

— **SPORTS IN LONDON PARKS.**—The cost of maintaining the games spaces in the parks and open spaces of London has been occupying the attention of the London County Council, but the following resolution, moved by Mr. Beachcroft at the last Council meeting, was rejected, and consequently cricket, football, may be still indulged in free of cost: "That it be referred to the Parks and Open Spaces Committee to consider and report whether, having regard to the large cost incurred in maintaining those portions of the Council's open spaces which are devoted to games and exercises, the increasing demand for such provision, and the fact that, at the best, but a limited number of those requiring the privilege can be accommodated, it is not reasonable that some charge should be made for the use of the portions set apart for these purposes, and that Parliamentary power should accordingly be sought enabling the Council, where it thinks fit, to make charges."

— **STEM POTATO TUBERS.**—Most interesting were the illustrations of these abnormal tuber growths, shown by Mr. Sutton the other day at the Drill Hall. I have often found similar products where stems have been severely whipped by the wind, and thus broken the bark at the ground line, also where the bark below the surface has been eaten by grubs or wireworms. The chief interest, however, which attaches to these illustrations of abnormal Potato production is found in the evidence afforded of the action of the sap in plants in creating tubers only after it has been aerated in the leafage, where it receives oxygen, then passing down the bark or epidermis, both builds up or increases stem growth and finally ground tubers. Then it is obvious to do that certain of this sap is capable of producing tubers and nothing more, and being prevented by the fractures in the bark below from passing into the roots perforce creates aerial or stem tubers. We see, too, in this matter the important part healthy leafage plays in sound tuber production.—A. D.

— Kew Guild.—We are requested to state that the annual general meeting of the Kew Guild will be held on February 27th, 1896.

— BIRMINGHAM SHOW.—From the great Chrysanthemum show which opened at Birmingham on Wednesday our representative wired that Mr. Pearce, Weedon, secured the premier place for twenty-four incurved; Mr. P. Blair, Trentham, being successful in the corresponding class for Japanese. For eighteen Japanese Mr. Jones, Barford Hill, was a splendid first. The exhibition was in every way magnificent, and a great credit to its promoters and managers.

— WEATHER IN SOUTH WALES.—The weather here since the 5th has been remarkable for the heavy rainfall. From the 4th to the 9th the total fall was 3.21 inches, the maximum being 1.77 inch on the 5th. This, however, has been put greatly in the shade by the rainfall of the 10th, namely, 3.18 inches, which is a record here for any twenty-four hours. It was accompanied by a very strong N.W. by W. wind. The total for six days was 6.39 inches.—W. MABBOTT, *Gwernllwyn House, Dowlais*.

— THE WEATHER LAST MONTH.—October was changeable and showery until the 17th, when 7° of frost on the glass killed all tender plants in the open. On the 26th a heavy fall of snow occurred, which covered the ground to a depth of 1½ inch, and much of it remained during the following day. It equalled 0.17 inch of rain. The wind was in a westerly direction eighteen days. Total rainfall, 3.10 inches, which fell on twenty-five days, the greatest daily fall being 0.97 inch on the 8th. Barometer, highest reading, 30.342 at 9 A.M. on the 18th; lowest, 28.896 at 7 A.M. on the 9th. Thermometer's highest in the shade, 61° on the 15th; lowest, 24° on the 26th. Mean of daily maxima, 51.80°; mean of daily minima, 38°. Mean temperature of the month, 44.90°; Lowest on the grass, 19° on the 26th, 27th, and 28th; highest in the sun, 126° on the 1st. Mean temperature of the earth at 3 feet, 52.51°. Total sunshine, 98 hours 40 minutes. There were nine sunless days.—W. H. DIVERS, *Belvoir Castle Gardens, Grantham*.

— CHRYSANTHEMUM ULIGINOSUM.—Mr. Arnott refers to this fine late-blooming plant as too tall. That is so, and to correct that natural defect I have both layered the stems when 3 feet long, and have also taken off the tops at that height as cuttings and inserted them into pots in sandy soil, standing in a cool frame to root, and in that way have obtained charming plants, blooming at about 2 feet in height. But then I have also noticed that these topped or beheaded stems have, if blooming a little later, at least done so much dwarfer than are those unstopped. Why not try to correct this tall habit by pinching out the tops of the shoots at 2 feet in height, and compel the stems to break low down? It is at least easier in that way to correct a tendency to height than it is to add height when too low. Summer-rooted plants in pots are admirable if stood in a greenhouse when the flowers open.—D.

— SCHIZANTHUS.—To a certain extent this charming half-hardy annual has recovered from the undeserved neglect to which earlier cultivation had in some degree consigned it. Nearly all are suitable for growing in the open border during the summer months; but it is not generally known what charming plants they are when well grown in pots either for the embellishment of the conservatory or indoor decoration, while the flowers individually when wired are also very serviceable in the making up buttonholes or sprays; in fact, we have no more elegant annual for general purposes than the varieties of this very distinct plant. The seed can be sown at almost any time of the year if required for summer flowering. Sowings may be made in heat during March and April, and the seedlings can be either potted for indoor flowering or planted in the open border in June; but to obtain fine conservatory specimens it is advisable to make another sowing in August or September, using well drained pans filled with light sandy soil. A cool shady frame will be found a very suitable place to ensure germination of the seeds. In the course of a few days the young plants will make an appearance, and when large enough to handle should be potted, using 3-inch pots well drained, placing them in the frame until re-established. Afterwards a light airy house or pit sufficiently heated to exclude frost will be found a very suitable place in which to grow them during the winter, taking care to keep them close to the glass at all periods of their growth. The final shift into their flowering pots should take place early in January, using a light but rich compost for the purpose with a rather liberal addition of sand. I have found the varieties of *S. retusa* the most suitable for pot culture. These grow from 2 to 4 feet in height under good cultivation, and fully repay the cultivator for the trouble taken in growing them.—G. W. H.

— FLOWERING OF JERUSALEM ARTICHOKE.—Although the ordinary variety has flowered freely this season, the newer Lily White has given a greater quantity of blooms.—E. M.

— APPLE COCKLE'S PIPPIN.—How seldom do we see this Apple growing in private gardens, yet in some market gardens it is common. From Christmas onwards for three months this Apple is in good condition as a dessert fruit. As a bush or loose pyramid it succeeds, and fruits freely in a young state. It is said there are two sorts of this Apple, one quite russety, and the other pale green. Whether this is so or not I cannot say; fruit answering both these descriptions I can gather from one tree.—E.

— POTATOES IN CANADA.—I learn from my daughter, in a letter just to hand, that Potatoes are as cheap in Canada as at home. She states they have just lifted 500 bushels, but cannot obtain more than 1s. per bushel. The variety is not mentioned, but one referred to as being very productive, though not yet much known, is Glory of the World, an appellation which shows that even our boldest home names are modest as compared with Canadian ones. Nauton, the part of Canada referred to, is fifty miles beyond Calgary in Alberta Territory, near the Rocky Mountains, and where in winter the thermometer falls 30° below zero. I do not know how tender tubers such as Potatoes are wintered when frost is so severe, but it is information worth knowing.—A.

— OIL OF PEPPERMINT.—Three-fifths of the oil of peppermint consumed in the world is produced, according to the "Detroit Tribune," in eight counties of Michigan. The oil product of that State this year will amount to 150,000 lbs., and between 12,000 and 15,000 acres are devoted to the cultivation of Peppermint. Frost and drought have injured the older plantations this year, although the plants set this spring have escaped injury. The Peppermint is cut when in blossom like hay, and when dried is placed in wooden vats and steamed until the cells burst and the oil passes upward with the steam, which is condensed and conducted into a reservoir, where the oil rises and is skimmed off. It requires 350 lbs. of dried Peppermint to produce 1 lb. of oil. An acre of land will yield from 6 to 10 lbs., and in exceptional cases even as great a quantity as 50 lbs.

— VARIEGATED CELERY.—Noticing recently in the Birmingham wholesale market a quantity of white Celery with distinctly variegated foliage, and which, to me, was a novelty, I inquired of the grower as to its origin, with the information that he, the grower, had grown it in quantity for the last two or three seasons, and intends doing so more extensively. The strain was the produce out of a packet of an ordinary white variety purchased of a seedsman, and he purposes to select for future culture the seed of such of the variety in question as have as little variegation as possible in the leaves, as he considers this feature does not commend itself to the public eye. The plants were of a uniform length of about a foot, robust, and inclined to a flat, rather than a round form of growth, well blanched, crisp in texture, and nutty flavour; altogether a desirable variety, and evidently most suitable for late winter use, as it could be easily protected from the frost. I may add that there was equally as much useable a proportion in the "sticks" noted as in those nearly twice the length.—W. G.

— MARKET GARDENS IN GREAT BRITAIN.—According to the recent agricultural returns these have largely increased during the past five years. The area in 1891 was 81,368 acres; in 1892, 83,081 acres; in 1893, 87,560; in 1894, 88,210 acres; and in 1895, 92,837. From these figures it will be seen that there are in Great Britain 11,469 acres more of market gardens this year than there was in 1891, the increase amounting to about one-seventh of the total area of the earlier year. The twelve English counties which have the largest areas of market gardens are—Kent, 12,516 acres; Middlesex, 9,410 acres; Beds, 7,274 acres; Worcester, 5,586 acres; Essex, 4,740 acres; Surrey, 3,688 acres; York, West Riding, 3,422 acres; Hants, 3,137 acres; Norfolk, 2,638 acres; Sussex, 2,465 acres; Gloucester, 2,172 acres; Cambs, 2,036 acres. The area of market gardens has extended this year in all the English counties with the exception of the Counties of Cumberland, Hunts, London, Monmouth, Northampton, Oxon, Warwick, Wilts, and the West Riding. Only two counties in Wales have more than 100 acres of market gardens; these are Glamorgan, 562 acres, and Denbigh, 534 acres. Two Scottish counties possess more than 1000 acres; these are Lanark, 1,684 acres, and Edinburgh, 1,116 acres. Perth ranks next with 636 acres, Haddington with 622, and Aberdeen with 428. Three counties—Orkney, Shetland, and Sutherland—have no market gardens, and in fifteen others the area so occupied is less than 50 acres.

— **POLYGONUM AMPLEXICAULE** is one of the best of the Knot-weeds. For several months the bright rose red racemes are produced profusely; even now, the third week in October, it is more gay than at any other period. With us it grows 4 feet high, and rambles over a considerable space in a short time. By division of the roots it is readily increased.—GROWER.

— **PEARS AND FROST.**—I should like to hear the opinions of some of your practical correspondents as to how much frost Pears on trees without any protection will bear without injury to their qualities after being gathered; also in respect to varieties such as Marie Louise and Easter Beurré, or others of diverse ripening season. After the weather of the past month this is a point worth consideration.—J. J. CRAVEN.

— **A MAMMOTH DAHLIA.**—A Dahlia of gigantic proportions has, we learn from a Liverpool daily paper, been grown during the past season in a most unexpected quarter—namely, in the yard of the Olive Street Bridewell, Liverpool. The plant was put out by Mr. Cook, the Bridewell keeper, and so congenial was the prison atmosphere to it that it attained the height of 11 feet, and during the summer flowered abundantly. The name of the variety is not given, nor is the section to which it belonged stated.

— **ELEUSINE CORACANA.**—An interesting plant lately received at the Horticultural Department of Cornell University is, says an American contemporary, *Eleusine coracana*. It belongs to the Grass family, but is unknown in a wild state. It is supposed to have come from *Eleusine indica*, the common Crab Grass of dooryards, although it differs from this plant greatly in size, being 4 feet high, and in the appearance of its seeds, which are smooth instead of being wrinkled. The plant is known in China and India as *Natchnee* and *Mandua*, and thousands of acres of it are grown in those countries and in Japan, where it is a famous food-plant, the flour from the farinaceous seed being made into bread. A form of it is also in cultivation as an ornamental Grass.

— **GROWTH OF TREES.**—The following interesting results of experiments relating to the growth of trees at various times of the day have been sent to us by Mr. E. H. Thompson, the Government Entomologist of Tasmania. Measurements were taken as far as possible every three hours, with the following results:—From 6 A.M. to 9 A.M., $8\frac{2}{3}$ per cent. of growth; from 9 A.M. to noon, $1\frac{1}{2}$ per cent. of growth; from noon to 3 P.M., no growth; from 3 P.M. to 6 P.M., no growth; from 6 P.M. to 9 P.M., $1\frac{1}{2}$ per cent. of growth; from 9 P.M. to 12 P.M., $3\frac{1}{2}$ per cent. of growth; from 12 P.M. to 6 A.M., 85 per cent. of growth. The greatest growths in twenty-four hours were *Banksia Rose*, $6\frac{1}{2}$ inches; "*Geranium*," $5\frac{3}{4}$ inches; *Wattle*, $4\frac{1}{2}$ inches; *Apple*, $2\frac{1}{4}$ inches; and *Pear*, $1\frac{1}{2}$ inch.—("Public Opinion.")

— **AGLAONEMA COMMUTATUM.**—Unlike the rest of the family, this species is quite showy when in flower, and as its numerous spathes are freely produced it is well worth growing for the sake of the flowers alone. The leaves, while quite ornamental, are less richly coloured than those of *Aglaonema pictum* or even *A. nebulosa*. They are 8 or 10 inches long, green and glossy, with a few silvery spots scattered over the surface. The spathe is 2 or 3 inches long, spoon-like, of a creamy white and waxy in texture. The spadix is cylindrical or slightly tapering to the base. The stem is thick and fleshy, covered by the sheathing petioles of the leaves. The plant is generally kept dwarf and compact, side shoots being freely produced if the main shoot is topped. It is most ornamental when only 8 or 10 inches high, but broad and spreading.—N. J. R. (in "Garden and Forest.")

— **JERSEY KALE.**—A correspondent of "The Independent" writes that the Jersey Kale, a plant largely used in the island of Jersey as food for cows, has been introduced into California, and has shown itself a good forage plant, as well as a good plant for poultry. It grows very vigorously, and some ranchers in California have stated that it will produce more food to the acre than any other crop which they have tried. The plant in question is really a tall-growing Collard, not essentially different from the well-known Collard of the south, which is popular where Cabbages do not head easily. It differs from the Scotch Kale in having leaves almost smooth instead of curled. Perhaps it has no special advantages over other members of the Cabbage family, except that with care it will last several years and will grow sometimes from 8 to 10 feet high if the leaves are pulled off. Even Brussels Sprouts on good Californian land will often grow 4 feet high, and it will sprout from the trunk and will give a great mass of leaves if it is cut back several times in the season.

COOPER'S BLACK AND GROS MAROC GRAPES.

THE case of disqualification of an exhibit of Grapes at Dundee, as detailed in your issue of October 31st, on the ground that the two alleged varieties are alike, is a matter that needs bringing to a clear issue, if possible, to prevent confusion and disappointment in the future.

As to the two so-called varieties being synonymous, my experience of them is not sufficient to enable me to express a definite opinion, but I have thought for a long time there are different varieties of Gros Maroc, or that differences arise from the cultivation. Some years ago I obtained eyes of Maroc from a reliable source, and from them Vines were raised which were afterwards planted. One rod was inarched to a Black Hamburgh, the Grapes from this union being bluntly round as compared with those on the Vine on its own roots, which are inclined to be oval. I have never seen a variety that, to my mind, is so good as this one, the colour of the Grapes being richer than is usually seen in Gros Maroc. I have not exhibited it, as the opportunity has never occurred for doing so; but, nevertheless, the Grapes have been fine, as can be testified by several well-known men who have seen them this season.

Another "Maroc" obtained from a different source is quite inferior to the first named, the berries being quite oval, and, as far as I can judge at present, the fruit will never have the build and appearance of the variety first alluded to. In all other respects the Vines are identical. Now, assuming that Cooper's Black and Gros Maroc are distinct, from what I can learn they resemble each other so closely in nearly every respect that they should never be included together in a collection of Grapes. Gros Maroc I consider one of the easiest Grapes to grow and finish well.—J. J. CRAVEN, *Allerton Priory*.

MEDICINE FOR "THE SCEPTIC."

IN his role of reformer in fruit culture, "Sceptic" attributes to the "green unripened wood" of 1894 the extraordinary success in quantity and quality of the exhibits of the late fruit show. It would be easy to retort in "Sceptic's" own controversial style by asserting that the Apples and Pears were not produced by green unripened wood, but upon spurs "hard and firm—ripened and roasted" during the hot summer of 1893. Although there is more underlying this dictum than "Sceptic" in his present mood is prepared to acknowledge, we will leave it at present and refer him back to a masterly review of the subject by "A Judge," *vide Journal of Horticulture*, page 463, dated Nov. 22nd, 1894.

If "Sceptic" had read and assimilated the lessons taught him in that article, he would know that between his own stereotyped definitions of "roasted wood" and "green unripened wood" there is a wide field of modifying circumstances bearing upon ripened wood in its true sense, which all the way through this controversy he has persistently ignored. Locality and environment he dispenses with; soils and subsoils and their resultant differences he treats with contempt; whether present or absent, in due proportions of potash, phosphates, nitrogen, and other elements of plant foods to him in no way affect results; a ruinous attack of red spider which will do more harm a thousandfold than the hottest sunshine we ever experience in Britain, in no way modifies his conclusions; 12 inches difference in the rainfall of one district and another is to him a matter of no moment.

If our ordinary intelligence suggested a comparison between our hottest summers and those of France and Belgium so far as the production of Pears is concerned, and the summer of America and Australia so far as Apples and Peaches are concerned, we should still be told by "Sceptic" that ripened wood is a superstition, and he would still prattle on about roasted wood and green wood, and insult what little intelligence he allows us by claiming successful crops of fruit produced upon green wood, and be lamenting his failures from wood which he claims as being ripened. Yet his own assumed superior intelligence does not suggest to himself a remedy for his own failures, and thus this "Sceptic," with audacious complacency, hugs his green wood delusion, and claims to be securing fleeces before he has caught a single sheep. "A great cry and little wool," surely!

With characteristic modesty the "Sceptic" has hitherto refrained from any explanation of his details of culture and the "scientific pruning," whereby he attains his successful green wood results. To the same virtue we possibly owe the disappointment of not learning what position he obtained in the prize lists at the late fruit show, and we must express our regret that he missed so fine an opportunity of conveying an object lesson to those incapable gardeners whose degenerate fruit blossoms are unable to withstand 10° to 15° of May frost. A dish of his Peaches produced by the green shoots, which he prefers to ripened wood, had he exhibited them would have been more convincing than the "luminous envelopes" (?) with which he has surrounded the subject.

Unfortunately, along with hundreds more gardeners similarly situated, I live close to a large manufacturing town, and I can safely affirm that the wood of my Peaches and Vines has never yet been roasted, and certainly it has never in the best of seasons been over-ripe; though with a considerable amount of labour in washing the glass we manage to have both Grapes and Peaches. After an indifferent ripening autumn the Peach wood on the lower part of the back wall remains green, and previously we have not been surprised if the trees set no fruit, nor was there anything wonderful if they did set a few weakly blossoms to see them shrivel up without fructification; but if my employer reads "Sceptic's" wonderful discovery I need not be surprised.

to be called to account because the Peach trees have not set the regulation quantity of fruit equally distributed all over the trees. After all other arguments failed to convince it would be easy to fall back upon "Sceptic's" style of controversy, and state that the wood must have been scorched; but at the same time it would be a gross and palpable absurdity. The "Sceptic's" complaint is not new, but a very old ailment which has, however, happily never proved catching; still a slight tonic cannot do him harm if it does him no good.

Since writing the foregoing I have read the quasi-scientific paragraph in "Sceptic's" rejoinder, page 344; it is a remarkable production. After stating his reasons why, he discovers that he has been mixing up with his own some of the arguments brought forward by his opponents; he then hurriedly attempts to wriggle out of his illogical position by a repudiation of all he had written as having nothing to do with the ripened wood controversy. In his previous remarks in the same article he contends that green wood is better for the production of fruit than ripened wood. In the paragraph alluded to he attempts to prove that green wood does not bear fruit because of the lack of sunshine to ripen it.

Whilst all through the controversy he has been striving to convince us that sunshine is an unnecessary factor in the case, he would now have us believe that we are not discussing the bearing these matters have on the production or non-production of fruit, and by a blind trail he attempts to lure us on in the chase of a chimera, which all the way through the controversy he has been attempting to foist on us as a substitute for ripened wood.

"Your sceptical tale, my friend,
Is made of nothing, and of nothing spun;
Foam of the ocean, hoar frost on the grass,
Phantom gossamer threads, which melt in the sun."

As showing "Sceptic's" inconsistency and entire lack of logical acumen, he first informs that the actual cause is not understood as to why a fruit tree growing in the shade does not bear fruit; his next sentence informs us that it is "doubtless" due to lack of sunshine, and he advances a statement as if it were a new discovery, "Sachs" notwithstanding, that the chlorophyll performs a certain function which "Sceptic" in the Journal (November, 1894, page 402) entirely ridiculed as on the verge of being exploded. "Sceptic" having now developed into a scientific authority, he will perhaps inform us (1) what he means by the statement that the chlorophyll performs its function during its growth; (2) what does he mean by the circulation of the vital juices of the plant? As there is only one vital principle—viz, the protoplasm, and by no stretch of imagination can it be called a juice, further explanation is desirable.

Again, to have "Sceptic" attempting to set up the upward flow of the sap by electricity generated by the light and heat of the sun is as excruciatingly funny as his journey beyond the regions of space. Surely he might have found sufficient electricity in the earth and around it for that purpose, if it were needed. It is also unfortunate for "Sceptic" as a scientific controversialist the first time he needs support of his arguments he has to fall back on foreign scientific opinions, which he so lately assumed to despise. It is, further, unfortunate for him that the foreign scientists only hazarded the opinion that electricity influenced the flow of the sap as a speculation to be tested by criticism, which exploded the theory before it assumed the shape of actuality. It is more refreshing to have Canning and Cobbet resurrected in support of "Sceptic's" views, but to complete the three C's, or the trinity of his scepticism, he might add the name of Crabbe. Also, he would do better to keep clear of his quasi science, stick to the trinity of his C's, and take this tonic pleasantly. It is a Yorkshire mixture by—A MAN FROM SHEFFIELD.

If our friend "A Sceptic" turns up his ground in the autumn in the same way as he twists and turns what is said against his views, his ground ought to do well under wintry frosts. Has he never heard that "One swallow does not make a summer," any more than one branch does not make a tree? It does not follow that my gross shoot of Apricot was unripened. Again, has he never heard the French proverb, "The exceptions prove the rule?"—Y. B. A. Z.

ROYAL HORTICULTURAL SOCIETY.

DRILL HALL, NOVEMBER 12TH.

THE meeting of the Royal Horticultural Society, held on the above date, was not a very large one, the bulk of the work falling on the Floral Committee by reason of the number of fine Chrysanthemums that was staged. These comprised all sections, though as usual Japanese varieties formed the bulk. Orchids and fruit were not particularly numerous, but as a rule the quality, especially amongst the former, was very good.

FRUIT COMMITTEE.—Present: P. Crowley, Esq. (in the chair); with Dr. Hogg, Rev. W. Wilks, and Messrs. T. F. Rivers, H. J. Pearson, J. H. Veitch, T. J. Saltmarsh, J. Willard, W. Farr, F. Q. Lane, J. Smith, W. H. Divers, G. W. Cummins, and J. Cheal.

The most prominent display before the Fruit Committee was one of Apples and Pears from Mr. W. H. Divers, gardener to the Duke of Rutland, Belvoir Castle, for which a silver-gilt Knightian medal was recommended. The Apples in this exhibit were very fine, the colour, considering the climate whence they came, being very fine. The Pears also were very good, the number of varieties in each case being very large. Apples Dewdney's Seedling and Jenkinson's Seedling, the Committee desired to see again. A silver Banksian medal was given to Mr. A.

Becker, Jersey, for Apples and Pears, some fine fruits being staged. The Pears, as a rule, were large, but the Apples were the reverse.

Mr. Owen Thomas, Royal Gardens, Windsor, sent eighteen winter Pines in superb condition, receiving a silver-gilt Knightian medal. Mr. Thomas also sent Frogmore Late Plum, that should be useful for late work. Mr. L. E. Thomas, Berkhamsted, sent Eureka Apples, but they were passed.

A cultural commendation was deservedly given to Mr. J. Smith, Mentmore Gardens, Leighton Buzzard, for three splendid bunches of Chasselas Napoleon Grapes. From the Rev. J. R. Drummelow, Chard, came Grapes from the open air.

Apples Reinette de Damason Fraise d'Hoffinger and Welsh Beauty were staged by Messrs. J. Veitch & Sons, but no award was made. Messrs. Rivers & Son, Sawbridgeworth, staged Apples Rivers' Codlin and Rivers' St. Martin, but these also were passed. Mr. J. McIndoe, Hutton Hall, Guisborough, sent Pears Charles Ernest; Mr. A. Waterer, Woking, Apple Sanspareil; and Mr. A. McKay, Dunstable, Apple Ivanhoe, but all were passed.

FLORAL COMMITTEE.—Present: W. Marshall, Esq. (in the chair); with the Rev. H. H. D'Ombrian, and Messrs. J. Fraser, O. Thomas, H. Herbst, R. Dean, R. Owen, G. Stevens, E. Mawley, J. D. Pawle, C. E. Shea, J. Walker, H. Cannell, H. Turner, C. T. Drury, and G. Paul.

A group of single-flowered Chrysanthemums was arranged by Mrs. Jones, Greenford Place, Sudbury. Many of the best known varieties were staged, and all were in creditable condition (bronze Banksian medal). Mr. Slogrove, gardener to Mrs. Crawford, Gatton, Reigate, exhibited blooms of Mdle. Marie Hoste and Thunberg, both in fine condition (bronze Banksian medal). From Mr. W. Bain, gardener to Sir Trevor Lawrence, Bart., Dorking, came plants of Pentstemon Cobaea, said to be an old plant from Texas that is rarely seen. Chrysanthemums were shown in fine condition and variety by H. Briscoe Ironside, Esq., Burgess Hill. The varieties comprised Monte Rosa, Arona, Principina, Vignola, Oggebbio, Bellina, Ghiffa, and others.

A charming exhibit of Chrysanthemums arranged for effect with small Ferns, Dracenas, and Asparagus by Mr. Pentney, gardener to Mrs. Howard, Isleworth. The blooms were of medium size, and represented many of the leading varieties in the Japanese section (bronze Banksian medal). Mr. T. S. Ware, Hale Farm Nurseries, Tottenham, also staged Chrysanthemums in a somewhat similar manner. In this exhibit the blooms were rather larger, and of better colour. Amongst the varieties were M. B. Spaulding, Mdle. Thérèse Rey, Robert Owen, Rose Wynne, Mons. J. Allemand, Golden Gate, and others (silver Banksian medal). The cut blooms of Chrysanthemums from Mr. W. J. Godfrey, Exmouth, were very beautiful and of splendid quality. Fine examples of King of Yellows, Mrs. Hume Lang, Cecil Wray, Clinton Chalfant, Mutual Friend, Hallow Een, Madame Carnot, Mrs. George West, Mrs. W. J. Godfrey, Miss Rita Schroeter, Reine d'Angleterre, Wilson Addison, Cheveux d'Or, Louise Sievers, and Mr. W. G. Tranter were staged (silver Banksian medal). Half a dozen blooms and several plants of Philadelphia were staged by Messrs. B. S. Williams & Son, while H. Tate, jun., Esq., Allerton, Liverpool, sent Aristine Anderson.

A few Chrysanthemums were staged by Mr. R. Owen, Maidenhead, the varieties comprising Robin Adair, Mrs. R. C. Kingston, Vicar of Bray, George Haigh, Lord Mayor, John Lightfoot, and Lady Ridgway. Messrs. A. G. Eley & Co., Chippenham, sent flowering specimens of Boussingaultia baselloides. From Messrs. J. Veitch & Sons, Royal Exotic Nursery, Chelsea, came a small collection of Javanico-jasminiflorum hybrid Rhododendrons, which were very charming. The varieties included carminatum, Minerva, Princess Beatrice, Imogene, Primrose and Ruby. Messrs. Veitch also staged Rhododendron × Numa, a handsome plant having a certain amount of Azalea blood in it.

The most imposing display of flowers was staged by Messrs. H. Cannell & Sons, Swanley, and comprised Zonal Pelargoniums and Chrysanthemums. Of the latter Kentish White, Oceana, Rose Wynne, Philadelphia, Madame Carnot, Thos. Wilkins, Mrs. C. Harman Payne, R. Dean and G. W. Childs were amongst the most conspicuous. Noticeable amongst the Zonals were Snowdrop, Delicata, Blue Beard, Lady Carlisle, Lilacina, Raspail Improved, Volcanic, and other. Canna Queen Charlotte and Violet Princess of Wales also came from Swanley (silver-gilt Banksian medal).

Mr. Goble, Walcot Nursery, Ryde, I.W., sent plants of a floriferous Chrysanthemum named Ewan Cameron, while Mr. G. Wythes, gardener to Earl Percy, Syon House, Brentford, staged cut Chrysanthemums in great variety. All the best of the older varieties were shown, with several of the newer ones, the flowers in all cases being of good form and very rich in colour (silver Banksian medal).

Mr. C. Last, gardener to H. O. O'Hagan, Esq., Hampton Court, showed a finely grown plant of Dracena latifolia; W. Marshall, Esq., Bexley, sending a new Polystichum called constrictum. Messrs. F. Sander & Co., St. Albans, sent plants of Anectochilus petola and Sanderianus, both very handsome. Mr. Gulzow, Bexley Heath, staged foliage plants and a few Orchids, all in good form (silver Banksian medal).

ORCHID COMMITTEE.—Present: H. J. Veitch, Esq. (in the chair); with Messrs. J. O'Brien, W. H. White, T. Statter, F. Sander, A. H. Smea, H. J. Chapman, E. Hill, T. W. Bond, W. Cobb, S. Courtauld, H. Williams, and H. Ballantine.

As has been said Orchids were not very numerous. Messrs. B. S. Williams, Upper Holloway, staged a small group, comprising Cœlogyne Gardneriana, Pescatoria Klabocharum superbum, Odontc-

glossum Roezli, *Catasetum Bungerothi aureum*, and *Cypripediums* in variety (silver Banksian medal). Mr. H. J. Chapman, gardener to R. I. Measures, Esq., Camberwell, sent *Pleurothallis longissima*, *Cypripedium Venus*, and *Masdevallia abbreviata*; J. Gurney Fowler, Esq., Woodford, sending a fine spike of *Cymbidium Traceyanum*.

Two Orchids were staged by Mr. W. H. White, grower to Sir Trevor Lawrence, Bart., namely, *Luddemannia triloba* and *Cypripedium Pollettianum* Burford variety, the latter receiving an award of merit, and the former a first-class certificate. C. Ingram, Esq., Godalming, sent *Lælio-Cattleyas* Cecilia, Othello, and Lady Ingram, each of which is described below. Mr. R. Johnson, gardener to T. Statter, Esq., Stand Hall, sent a beautiful collection of cut *Cattleya* blooms (silver Banksian medal).

Messrs. F. Sander & Co., as usual, arranged an attractive exhibit, comprising several *Cypripediums*, *Cattleyas*, and others, of which *Cypripedium Marchioness* of Salisbury received a first-class certificate, and *Cattleya labiata* Miss Clara Measures an award of merit (silver Banksian medal). Messrs. J. Veitch & Sons staged a very beautiful group of Orchids, comprising *Cattleyas*, *Lælio-Cattleyas*, and *Cypripediums*. Of *Lælio-Cattleyas* *callistoglossa ignescens* and *Cypripedium Milo* var. *grandis* were adjudged first-class certificates, and *Lælio-Cattleya Semiramis* an award of merit (silver Flora medal).

CERTIFICATES AND AWARDS OF MERIT.

Cattleya labiata Miss Clara Measures (F. Sander & Co.).—Pure white are the sepals and petals of this variety. The fringed lip has a patch of violet rose with a yellow veined throat (award of merit).

Chrysanthemum Arona (H. Briscoe Ironside).—This is a seedling incurred Japanese with narrow reddish buff florets (award of merit).

Chrysanthemum Vicar of Bray (R. Owen).—A reflexed Japanese with long, slightly twisted florets of a reddish brown colour (award of merit).

Chrysanthemum Mrs. R. C. Kingston (R. Owen).—A finely built incurred with narrow petals. The colour is deep rose, tipped white (award of merit).

Chrysanthemum Robin Adair (R. Owen).—It is seldom a really good new Anemone variety is staged, so this attracted much interest. The crown is rosy purple and yellow, the guard florets being rosy purple (award of merit).

Chrysanthemum Annie Heard (W. J. Godfrey).—Pure white in colour, this single flowered variety is sure to find favour (award of merit).

Chrysanthemum Clinton Chalfant (W. J. Godfrey).—For decorative purposes this should prove a decided acquisition. The colour is rich clear yellow (award of merit).

Chrysanthemum Oceana (H. Cannell & Sons).—A massive petalled incurred Japanese. The colour is a soft yellow, and the shape very handsome (award of merit).

Cypripedium Marchioness of Salisbury (F. Sander & Co.).—This is a charming hybrid between *C. bellatulum* and *C. barbatum superbum*. The drooping petals are cream, profusely spotted with maroon, the ground colour of the dorsal sepal being the same, but shading to rose towards the edges. The pouch is rosy brown (first-class certificate).

Cypripedium Milo var. *grandis* (J. Veitch & Sons).—This is a splendid hybrid between *C. × cœnanthum superbum* and *insigne Chantini*. The petals are bright yellowish brown with a green margin. The pouch, of medium size, is bright reddish brown, while the dorsal sepal is yellowish green, spotted and patched brown, and with a broad pure white margin (first-class certificate).

Cypripedium Pollettianum Burford var. (W. H. White).—Rosy purple is the prevailing colour of the petals and pouch of this variety, the dorsal sepal being green, heavily spotted brown, and with a white margin (award of merit).

Dracœna latifolia (C. Last).—A handsome broad-leaved kind of a dark green hue, with a narrow pale edge (first-class certificate).

Lælio-Cattleya callistoglossa ignescens (J. Veitch & Sons).—One of the most beautiful bigeneric hybrids introduced. The colour of the sepals and petals is delicate rosy purple, while the charming lip is rich velvety maroon. *Cattleya Warscewiczii* and *Lælia purpurata* are the parents (first-class certificate).

Lælio-Cattleya Cecilia (C. Ingram).—The colour of this is delicate lilac throughout, with the exception of a little rosy purple on the lip (award of merit).

Lælio-Cattleya Lady Ingram (C. Ingram).—Creamy white is the colour of the sepals and petals of this hybrid. The lip is rose, with a paler margin and a yellow throat (award of merit).

Lælio-Cattleya Othello (C. Ingram).—The sepals and petals of this Orchid are purplish rose, the lip being violet purple (award of merit).

Lælio-Cattleya Semiramis (J. Veitch & Sons).—Resulting from a cross between *Cattleya Gaskelliana* and *Lælia Perrini*, this is charming. The sepals and petals are rose, and the lip rosy crimson with a white throat (award of merit).

Luddemannia triloba (W. H. White).—The flowers of this Orchid are borne in long drooping racemes, the colour being yellow in the petals and lip, and brown in the sepals. It is very fragrant (first-class certificate).

Pentstemon Cobœa (W. Bain).—This is a handsome though rarely seen species from Texas, which is not quite hardy. The colour is white at the lower part of the flower, and lilac on the upper (award of merit).

Rhododendron × Numa (J. Veitch & Sons).—This hybrid has been obtained by crossing *Azaleas* and *Rhododendrons*, and is likely to prove useful. The colour is orange red (award of merit).



CHRYSANTHEMUM SHOWS.

As is usual at this time of the year we have received numerous intimations of Chrysanthemum shows which are to be held during the coming season. Space, however, can only be found for mentioning those which have been advertised in our columns. If any have been omitted we shall be glad to add them to the following list. We append the names and addresses of the respective secretaries.

Nov. 14th and 15th.—WINCHESTER.—Chaloner Shenton, Westgate Chambers, Winchester.

„ 15th and 16th.—BOLTON.—J. Hicks, Markland Hill Lane, Heaton, Bolton.

„ 15th and 16th.—ECCLES AND PATRICROFT.—H. Huber, Hazeldene, Winton, Patricroft, Manchester.

„ 15th and 16th.—SHEFFIELD.—W. Houseley, 177, Cemetery Road, Sheffield.

„ 15th and 16th.—BRADFORD.—J. Collier, 51, Midland Road, Frizinghall, Bradford.

„ 19th and 20th.—LEEDS PAXTON.—J. Campbell, Methley Park Gardens, Leeds.

„ 19th and 20th.—TWICKENHAM.—Edward F. Green, Strafford House, Twickenham.

„ 20th and 21st.—SOUTH SHIELDS.—Bernard Cowan, Harton, South Shields.

„ 20th, 21st, and 22nd.—YORK.—J. Lazenby, 13, Feasegate, York.

„ 29th and 30th.—ALDERLEY EDGE.—G. Leadbetter, jun, Fern Bank, Trafford Road, Alderley Edge.

CHRYSANTHEMUM EDITH TABOR.

In this variety we find one of the finest new varieties that has been exhibited at any of the Chrysanthemum shows this year, and as such has well merited the awards of merit given by the Royal Horticultural Society, and the certificate adjudged by the Floral Committee of the National Chrysanthemum Society. A glance at the woodcut (fig. 71, page 463), engraved from a photograph, will convey the beautiful form of the flower with its broad florets, slightly curving at the tips. At first glance the bloom reminds one of *Mlle. Thérèse Rey*, differing from that choice variety mainly in the curling of the tips. The colour, however, is quite distinct, being of a delicate lemon-yellow of a peculiarly pleasing shade. The habit of the plant is said to be strong and of medium height. This splendid addition is a seedling raised and exhibited by Mr. R. C. Notcutt, Broughton Road Nursery, Ipswich.

NATIONAL CHRYSANTHEMUM SOCIETY.

An interesting meeting of the Floral Committee of this Society took place on Monday last at the Royal Aquarium, Mr. T. Bevan occupying the chair. A large number of very fine blooms in almost every section was staged, Japanese, of course, predominating, but incurred and singles were also represented in very creditable condition. The exhibitors were unusually numerous, and excellent collections were staged from Messrs. H. Cannell & Sons, W. J. Godfrey, R. Owen, C. E. Shea, H. Briscoe Ironside, H. J. Jones, W. Wells, and M. Ernest Calvat, whose best new seedling unfortunately too closely resembled one called *Arona*, raised by Mr. Ironside. In fact it was a matter of some little curiosity that two seedlings raised in entirely different directions should be, as they were, almost identical in every respect.

The following varieties were awarded first-class certificates.

Dolly.—A small reflexed Pompon with broad florets, commended last year. The colour is pure golden yellow. Exhibited by Dr. Walker of Wimbledon, who raised it from colonial-saved seed.

John Lightfoot.—Japanese. The blooms are of medium size, the florets notched at the tips; a spreading flower. Colour white, suffused and edged pale lilac. Shown by Mr. R. Owen of Maidenhead.

George Haigh.—An incurred of good form, obtained as a sport from Robert Petfield, which it resembles in all respects save colour. It is a carmine rose, shaded pale golden bronze. From Mr. R. Owen.

Mrs. H. Weeks.—An immense, deeply built globular Japanese having broad florets, which are curly and intermingling. Six magnificent blooms were staged, varying in colour from a pure white to pale blush. Mr. H. Weeks was the exhibitor.

Major Bonaffon.—An American variety of some repute. The form is a cone-like incurred. It has a large number of narrow pointed florets, not unlike *C. H. Curtis*, but of pure paler yellow. Four exhibitors staged the variety, but those presented by Mr. W. Mease well deserved the award.

Mrs. A. E. Stubbs.—Of the single Japanese type; the florets are long, narrow, and pointed; colour white, with yellow centre. Shown by Mr. H. J. Jones.

Mrs. George West.—A Japanese incurved, very globular in form and massive in build; colour velvety amaranth inside, reverse silvery pink. Also shown by Mr. H. J. Jones.

Occana.—A seedling incurved Japanese, raised in Australia; a noble flower of its type. The florets are of great width, deeply grooved, and of much substance. The colour is clear golden yellow. An introduction of Messrs. H. Cannell & Sons, who were also the exhibitors.

Arona.—A Japanese with narrow pointed florets incurving at the tips; the inside colour is reddish crimson, and the reverse a waxlike golden yellow. Raised and exhibited by Mr. Briscoe-Ironside.

Clinton Chalfont.—A really attractive medium sized Japanese; useful for decorative purposes, and of American origin; pure pale yellow, without shade or marking. Staged by Mr. Godfrey of Exmouth.

Annie Heard.—A neat little single-flowered variety, with several rows of short, flat white florets round a yellow centre. Also from Mr. Godfrey.

Baronne de Buffières.—Very globular and solid; an incurved Japanese having medium sized florets; colour pale soft lilac, with a reverse of pearly pink. This was staged by Mr. W. Wells.

Mons. Chenon de Leché.—Very large, and of excellent form; a reflexed Japanese which was commended last year by the Committee. The florets are very long, regularly arranged, and of medium width. The colour is a yellow ground, shaded salmon bronze in the centre, passing to a rosy bronze on the outer florets. This came from Mr. W. Wells too.

Mlle. M. A. de Galbert.—A large white drooping petalled Japanese; the florets are medium to broad, and the colour clear and distinct. Also from Mr. W. Wells.

Le Moucherotte.—A giant Japanese of great breadth, and very full and double; the florets are long and narrow, the colour deep golden yellow slightly tinted bronze. Another of Mr. Wells' introductions, and, like the three preceding seedlings, raised by M. Ernest Calvat.

Ewan Cameron.—A single-flowered Japanese with flat florets; centre yellow. Sent by Mr. E. C. Goble.

The Committee wished to see several varieties again, the principal being *L'Améthiste*, a rosy amaranth incurved; *William Bolia*, a Japanese, rosy amaranth and silver; *Duchess of Fife*, large white incurved Japanese; *Mrs. Hepper*, incurved white; *Harold Wells*, a fine primrose yellow Japanese incurved; *Mayor of Exmouth*, and *Mrs. W. J. Godfrey*, the white hairy variety.

Among M. Calvat's varieties, which had suffered by their long journey, *Vicomte René de Chezelles* was in good form, but identical with Mr. Ironside's *Arona*. *Rêve d'Or* was large, but thin in the petal. *Australie*, a very large colonial Japanese, amaranth and silver; and *Mrs. Hume Larg*, somewhat similar in style, will be both seen again. *King of the Yellows*, *Lady Ridgway*, *Mrs. C. Orchard*, and several other novelties were very presentable.

JUDGING AT CHRYSANTHEMUM SHOWS.

Is it not high time to introduce a more scientific and consistent method of judging at Chrysanthemum shows than obtains at present? As it is, judges have no particular recognised authority beyond their personal reputations, and are, as a consequence, laid open to all sorts of unpleasant charges and abuse from disappointed competitors, who appear unable to control their feelings in many cases. I would suggest that some form of examination should be instituted, by means of which candidates should be submitted to a test, and if found properly qualified given a certificate to that effect, just as official football referees are appointed. As one frequently called on to act as a judge, I should be very pleased to stand or fall by such a test, provided it was arranged by an authoritative body, such as the Committee of the N.C.S. for instance. I also consider that such a course would recommend itself generally to both judges and competitors all over the country.

Another thing greatly needed is a set of axioms laid down with regard to certain principles in judging, concerning which the best judges appear to differ. The decisions of one set of judges are sometimes found to be entirely different from those of another set, and founded on entirely different principles. This state of things is not fair to the competitor, and might, I venture to say, be obviated to a very large extent by the set of rules or axioms to which I have referred.

I will give a case in illustration of what I mean. We will suppose a board of blooms is being pointed. We come to a splendid *Vivand Morel*, perfect in form, freshness, and colour. It gets the maximum number of points. Next comes a smaller bloom of *Mrs. Alpheus Hardy*, fresh and of fair form. It is not so fine a bloom as the *Vivand Morel* by any means, but it also receives the maximum, because—and here is the point—because it is a difficult doer and is a fine bloom—"for *Mrs. Alpheus Hardy*." I have frequently differed from my colleagues in this matter, and I will admit I almost invariably find myself in the minority concerning it. My contention is that the choice of varieties to grow and show lies entirely with the competitor, and that if a man chooses to select weak and inferior sorts he deserves to suffer for his lack of discretion in that respect, and not to be favoured because of it, as he is in the case I have mentioned. A difficulty also often turns up in the class for six Japanese, any one variety. How can one compare, say, six *Mme. Carnots* with six *W. H. Lincolns*? Presuming all the blooms are equally fresh and well developed, the question resolves itself into one of taste, not judgment, and tastes as we know differ. In this class, therefore, it is simply a toss-up, depending entirely on the individual tastes of whoever happens to judge them. Here again a hard and fast rule would be of use, and would insure a scientific conclusion being arrived at.

I do not bring forward the two instances I have referred to as matters for controversy, but simply as examples where a recognised set of rules would prevent much valuable time being wasted in useless argument, as is often the case under existing circumstances. I should very much like to know the opinions of our most eminent judges on the matter. The principle of the scheme I suggest might, of course, be introduced generally with regard to judging, but for simplicity's sake it would, I think, be advisable to confine ourselves to Chrysanthemums at first.—FRED. C. SMALE, *Torquay*.

[We think the Judging Committee of the Royal Horticultural Society have formulated a series of "axioms," if they may be so called, in judging Chrysanthemums. We also think they have been sanctioned by a number of exhibitors and judges; but we do not know that they include every point in our correspondent's letter, which affords material for discussion.]

NEW FRENCH CHRYSANTHEMUMS.

THE best of the new introductions from France are usually to be met with early in the season, and the present year is no exception to the rule. At most of the trade displays a large number of French seedlings have been seen in remarkably good form, and taken as a whole I do not remember ever yet to have been so much struck with the great brilliancy of colour in the season's novelties as this year. And this applies not only to varieties sent out in 1895, but to those of former years, whether American, French, or English. Probably the remarkable heat of the past summer may have contributed to bring this about, a point, however, which may well be left to the consideration of more experienced culturists than I.

On looking over my note book there seems to be good ground for assuming that the threatened extinction of the French raisers is just about as far off as ever. It may, perhaps, be considered by some to be unpatriotic to say so, but in some matters of public importance even truth is preferable to patriotism. The Chrysanthemum happens to be a case in point. We have never yet, since the French florists began to devote themselves to the seeding of the Japanese Chrysanthemum, been able to dispense with their productions, and probably never shall. One raiser may perhaps for a time hold the sway and then decline, but another rises up in his place to startle the world with some new departure or novelty in form or colour, and thus gives an impetus to the cultivation of the flower which seems to be unfailing in its capacity to astonish and delight us.

The boundless inexhaustibility of the Chrysanthemum is one of the wonders of the age in which we live, and those who have known it the longest will be the first to admit that it sets all expectations at defiance. New races, new types, new families have practically been the order of the day ever since seedlings were first raised in Europe, seventy years ago, but most certainly so since Robert Fortune introduced the Jap in 1861, then so much despised and derided by the former generation of Chrysanthemum fanciers—"Ragged Jacks" they were called then by some folks, and one false prophet declared they would soon be stranded on the shores of the past, by which it would be wise for present day prophets to infer that it is never safe to prophesy unless you know.

The season of 1895 will long be memorable in the annals of this famous flower for the marvellous additions to our lists of new Japanese varieties. Some of those which have come prominently forward this season are not, strictly speaking, novelties of 1895, but have been with us rather longer; the season has favoured their higher development, and they may thus have been saved from falling into oblivion.

Having, in another issue, referred to American varieties, I propose in this paper to say a few words concerning recent French seedlings, and the chief of these appear to be:—

Madame Ch. Champon (Calvat).—A large spreading Japanese with long flat florets, rather loose in form; white shaded purple.

Marquis d'Aiguesvives (Delaux).—Japanese; petals slightly incurving; colour golden yellow, outer florets shaded crimson.

Mons. G. Montigny (Calvat).—A large loose Japanese; very long florets, tips toothed, rosy white streaked lilac.

Floridor (Lacroix).—Japanese incurved; florets pointed, inside colour crimson, centre yellow.

Noces d'Or (Calvat).—Japanese incurved; medium grooved florets, golden yellow.

President Armand (Calvat).—Japanese incurved of large size; grooved florets; colour carmine chestnut, reverse brassy yellow.

Phœbus (Lacroix).—A real Japanese; long drooping florets; deep golden canary yellow.

Mons. Ch. Molin (Calvat).—Japanese with flat florets, rather broad; pure yellow shaded bronze.

Boule d'Or (Calvat).—Japanese incurved; figured and described in the Journal on 24th October.

Mons. Aug. Lacviver (Lacroix).—Japanese, very large when well done; colour rich, being of a golden rose with inside tone of salmon rose.

Mons. Georges Biron (Calvat).—Japanese of incurved form; crimson and gold.

Mons. Benj. Giroud (Calvat).—Japanese of globular form, not large, but very fine in colour; deep crimson, reverse golden.

Reine d'Angleterre (Calvat).—A large flat petalled Japanese; colour white ground shaded rosy colour.

Souvenir de Toulon (Calvat).—Japanese incurved, large and solid; florets grooved, pale amaranth, reverse silvery pink.

Mons. J. Allemand (Calvat).—Very large but straggly, a Japanese; tubular florets; colour white shaded purple.

Mons. Pankoucke (Calvat).—Japanese, with florets more or less incurving; deep golden yellow.

Madame Ad. Chatin (Calvat).—Incurved Japanese; a good solid bloom; pure white.

Mdlle. A. de Galbert (Calvat).—Japanese; broad florets, pointed at the tips; white, slightly tinted in the centre.

Madame Ad. Moulin (Calvat).—Another large white Japanese, with very long florets.

Australian Gold (Calvat).—An immense Japanese, not yet in commerce; colour canary yellow tinted lemon.

Amiral Avellan (Calvat).—Japanese; rich golden yellow.

Madame Paul Lacroix (Lacroix).—Japanese; large in size; pale sulphur white, passing to primrose.

Mons. Ch. Delahousse (Hoste).—Small-sized Japanese, but very distinct in colour; velvety purple amaranth; reverse silvery pink.

Madame G. Eymard-Duvernay (Calvat).—Japanese; colour deep rosy amaranth; reverse silvery pink.

Deuil de Jules Ferry (Calvat).—Japanese; petals somewhat incurving; velvety violet amaranth.

La Garonne (Lacroix).—Pretty but small Japanese; colour rosy pink; centre white tinted yellow.

Leviathan (Lacroix).—Japanese incurved; rather regular in build; velvety amaranth; reverse silvery; broad-pointed florets.

L'Aigle des Alpes (Calvat).—Japanese; rather broad florets; carmine crimson; reverse golden streaked carmine.

Mons. J. Ginot (Calvat).—Japanese; carmine amaranth; reverse silvery white.

Tendresse (Lacroix).—Japanese; rather loosely built; very long florets; colour delicate blush tinted yellow.—P.

CHRYSANTHEMUMS AT EARLSWOOD.

MR. W. WELLS has a high reputation as a collector of the best novelties and grower of fine blooms—two excellent things. As a trader he does not despise the popularity which attaches to showing in competitions first-class flowers, because in selling—or striving to sell—novelties, few things help so much as presenting the flowers to the eyes of the intending customer in the best possible form. For these reasons the huge collection of 1000 varieties now grown at Earlswood has special interest. The very large lofty span-house, now full to the utmost of plants, is indeed one of the Chrysanthemum sights of the year, where can be seen not one or two but a dozen or so of plants of one variety, especially of novelties, and thus enable the real habit of the sorts to be fully displayed. Of course, here as in all other of these grand show collections, most interest centres in the new ones, of which there are many of the Japanese and some of the other sections.

It is very apparent that the French raisers, and M. Calvat in particular, have the best novelties in the Jap. section, indeed Mr. Wells thinks, and it is rather a bold thought, that a dozen of Calvat's recent raising could be put up that would hold their own with any other dozen in commerce. That is in any case high praise, and I am not disposed, from what I have seen, to disagree with it. Looking over the collection the first novelty that attracts attention is the beautiful *Mons. Chenon de Leche*, certificated at the Drill Hall on 29th ult., and described in the Journal. It is a reflexed Jap, a model flower. Very fine and rich in colour, something after *Gloire du Rocher*, is *Mons. Alfred Geroud*, but it is finer, dwarfer, and more attractive. Very grand whites are *Madame Carnot*, a splendid flower, *Rose Wynne* and *Souvenir du Petite Amie*, which is here first rate, and quite a beat on *Avalanche*, and does wonderfully well on late struck plants 20 inches in height. Very beautiful is the soft, refined *Col. Chase*, and a grand, rich, rosy bronze is *Mons. Charles Molin*. A striking flower is *Mrs. Airdrie*, white ground with rosy stripes and incurved form. Reddish terra-cotta seems to be the colour of *Mons. George Biron*, a fine bloom, so also is *Mr. H. J. Jones*, colour rose amaranth. *Madame Maurice Ricord*, somewhat style of *Excelsior*, but richer in colour, is very fine, a grand dark flower. Found good elsewhere, too, is *Deuil de Jules Ferry*, and is a superb variety. Another very fine white is *Mdlle. M. A. Calbert*, and *Lizzie Seward* is charming. *Rose Wilkins* promises to make a very fine yellow. A noble flower is *La Moncharette*, after *Col. C. B. Smith* but apparently finer and deeper colour.

Maud Pearson, after the old *Belle Paule*, is fine and beautiful. A grand flower here is the new dark *Beauty of Teignmouth*. These are but a few out of hundreds, but they indicate the trend of the novelties. *Globe d'Or* is here a splendid golden buff incurved Jap, and *Jas. Agate* seems to be a valuable addition to the old incurved section, so also is *Mrs. R. C. Kingston*, soft peach, a full massive flower. Of course there are old incurves in abundance. A beautiful new reflexed is *Clara Leal*, golden buff colour. All the best Anemones are grown, and Mr. Wells is invariably strong in singles, of which he has a fine collection. These are charming for cutting. Specially handsome are *Virgin Queen*, pure white, charming yellow, rose pink; *Mary Anderson*, white; *Bertha Jenks*, magenta; and *Lizzie Mainwaring*, blush. The nursery adjoins the Earlswood station, and a visit just now will be amply repaid.

CHRYSANTHEMUMS AT WOKING.

AMONG the later additions to the list of nurserymen who are making a speciality of the ever-increasingly popular Chrysanthemum must be included Mr. W. Baxter, who has in an unostentatious way worked up a selection of the choicest old and new varieties, and his plants, grown in the orthodox way of three or four blooms each, are carrying some splendid flowers, notwithstanding that, with a view to a healthy and

useful crop of cuttings later on, they are not subjected to the usual heavy feeding. Many large "kind"-looking buds also promise a rich harvest of attractive flowers for several weeks to come.

Such well-tried varieties as W. H. Lincoln, Edwin Molyneux, Sunflower, William Seward, Colonel W. B. Smith, G. C. Schwabe, Vivian Morel, and Charles Davis are in good form; whilst the newer ones are well represented in *Duchess of York*, *Commandant Blusset*, *Mons. Panckoucke*, *Viscountess Hambledon*, *Eda Prass*, *Mons. Chas. Molin*, *Niveus*, *Louise*, *Prefet Robert*, *Miss Goschen*, *Mrs. W. G. Newett*, and many others.

A feature here that struck me as particularly valuable is the fact that the bulk of the collection are also represented by ground roots, which, grown as they are in the pure country air, guarantee the quality and health of the cuttings for propagating purposes, which cannot always be said to be the case where a free use is made of powerful stimulants on pot plants. Judging by the supply a large demand is evidently expected for such varieties as *Mrs. W. H. Lees*, *Mrs. H. T. Drewett*, *Mons. C. Molin*, in addition to the ones already enumerated. Incurved varieties are not neglected, *Baron Hirsch* and *Lord Rosebery* being particularly noticeable.—MUMMER.

CHRYSANTHEMUM SHOWS.

HULL.—NOVEMBER 13TH AND 14TH.

THE strides that have been made by the Hull and East Riding Society in previous years were more than maintained in the twelfth exhibition that was held on the above dates. As is customary here, wires our representative, specimen plants, groups, and cut blooms were all shown in marvellous form, and also in very large numbers. Perhaps the best feature were the groups, though there was really little to choose between them all. In several of the classes handsome pieces of plate are given by generous donors, and our reporter has wired down the prizewinners in the chief of these.

Magnificent blooms were staged in the class for twenty-four incurved in not less than eighteen varieties, or more than two blooms of any one variety. The class is open to all comers, and with the first prize of £10 is given a cup value 5 guineas. The competition was very keen, the prizes eventually being awarded to Messrs. W. H. Lees, gardener to F. Bevan, Esq., Trent Park, Barnet; J. P. Leadbetter, gardener to A. Wilson, Esq., Tranby Croft, Hull, in the order of their names. These competitors also secured the prizes in the class for twelve incurved, distinct.

In the open class for twenty-four Japanese, distinct, some superb stands of flowers were exhibited. Richness of colouration, size without coarseness, and freshness were the leading characteristics of the flowers, amongst which were some as fine examples of high culture as have been seen at any show this season. The first prizewinner was Mr. W. H. Lees, with a perfect stand. Messrs. J. R. Pearson & Sons, Chilwell, were a good second, and Mr. W. Wells, Earlswood Nurseries, Red Hill, third.

A class that always attracts attention at Hull was for twelve vases Chrysanthemum blooms, in twelve varieties, three blooms of each, stems to be not less than 12 inches from the top of the vase. First prize given by Harold J. Reckitt, Esq., J.P., Winestead Hall. This allows an exhibitor to stage large blooms, and also to display a little taste in the arrangement of them. The successful candidates were Messrs. J. P. Leadbetter and F. Mason.

In the class for a group of Chrysanthemums, arranged in a space of 100 square feet, Sir James Reckitt, Bart., offers, in addition to the first prize of £6 given by the Society, a silver challenge vase, value 20 guineas, which must be won three times before it can become any exhibitor's absolute property. The arrangement here permits the utilisation of foliage plants, so that the best possible effect may be produced, though the quality of the blooms must also be high. Very beautiful indeed was the winning group arranged by Mr. Coates, gardener to W. Wheatley, Esq., Hull. Mr. Dearing, gardener to E. Paulson, Esq., was a good second; Mr. W. Cottam, Cottingham, third; and Mr. Jarvis, gardener to Mrs. Whittaker, Hessle, fourth. Mr. Wheatley having won this prize each year for the past three, now becomes sole possessor.

DEVIZES.—NOVEMBER 5TH.

THIS show was held on the above date in the Corn Exchange, and was probably one of the smallest exhibitions in the country, but the quality of exhibits was of first-class merit.

The principal class was for twenty-four incurved, in not less than eighteen varieties, which brought seven competitors. Mr. N. Molyneux, gardener to J. Carpenter Garnier, Esq., Rookesbury Park, Fareham, secured premier award with a stand of well developed and highly finished blooms, consisting of *Chas. H. Curtis*, *Robert Petfield*, *John Lambert*, *Lord Wolseley*, *Empress of India*, *Lord Alcester*, *Queen of England*, *Mons. R. Bahuant*, *Empress of India*, *Prince Alfred*, *John Lambert*, *Golden Empress*, *Lord Wolseley*, *Lucy Kendall*, *Empress Eugénie*, *J. Kearn*, *Brookleigh Gem*, *Mrs. Mitchell*, *Baron Hirsch*, and *Princess Beatrice*. Second Mr. C. Salter, gardener to T. B. Haywood, Esq., Woodhatch Lodge, Reigate; and third was Mr. J. Aplin, gardener to W. M. Barker, Esq., Halfeld Court, Gloucester.

For twelve incurved Mr. C. Salter was first, Mr. W. Robinson, gardener to the Right Hon. Lord Justice Lopes, Heywood, Westbury, second, and Mr. J. Baylis, Winterbourne, Bristol, third. For twenty-four Japanese in not less than eighteen varieties, first prize a challenge bowl, value £5. Nine stands were staged, and so close was the order of merit that the judges had great difficulty in deciding the first prize which was ultimately won by Mr. Salter with a fine stand. The varietie

were Mrs. C. H. Payne, Madame Carnot, Mons. Panckowcke, E. Molyneux, T. B. Haywood, Thomas Wilkins, International, Col. W. B. Smith, Wm. Seward, Chas. Davis, Madame Carnot, W. H. Lincoln, E. Molyneux, Wilfred Marshall, Vice-President Calvat; Deuil de Jules Ferry, Vivian Morel, Souvenir de la Petite Amie, Chas. Shrimpton, Col. W. B. Smith, M. Ricaud, Mrs. E. G. Hill. Mr. Thomas Wilkins, gardener to Lady Theodora Guest, Inwood, Henstridge, Blandford, was second, and Mr. W. Neville, gardener to F. W. Flight, Esq., Cornstiles, Twyford, third.

The groups were extra good, though only three were put up, some of the Japanese blooms in the first prize comparing favourably with many on the boards. First, Mr. H. Clack; second, Mr. W. Mantell, gardener to Colonel Dunn, Rowdeford, Devizes; third, Mr. F. Davis, gardener to R. H. Caird, Esq., Southampton House, Devizes.

HEREFORD.—NOVEMBER 5TH AND 6TH.

THIS splendid Fruit and Chrysanthemum Show opened in dull and stormy weather, but in spite of this drawback the attendance was excellent on both days, and the show was considered the best ever held in Hereford or the West of England. In every class the competition was keen, and the quality of the exhibits of high merit. The usual class for 100 dishes of Apples was this year reduced to half that number, as 100 varieties was considered by the Committee to be too many for all practical and useful purposes.

The first place for the fifty dishes of Apples, distinct, was secured by Mr. J. Watkins, Pomona Farm Nurseries, Hereford, his finest varieties being Peasgood's Nonesuch, Emperor Alexander, Loddington, Blenheim Orange, Catshead, Round Winter Nonesuch, Cox's Pomona, Scorpion (a fine red Apple of conical shape), Warner's King, Beauty of Kent, Wealthy, Cox's Orange Pippin, and many other fine dishes. The English Fruit and Rose Co., was a very close second indeed, being only ten points behind the premier lot; a dish of Peasgood's Nonesuch in this exhibit secured the prize as the finest dish of culinary Apples in the Show. The Earl of Coventry (gardener, Mr. W. Child), Croome Court, Worcester, came third with splendid fruit.

In the class for thirty dishes of Apples, distinct, C. Lee Campbell, Esq. (gardener, Mr. S. T. Wright), Glewston Court, Ross, was an easy first with splendid fruit of Warner's King, Lane's Prince Albert, Peasgood's Nonesuch, Tower of Glamis, Round Winter Nonesuch, Newton Wonder, Striped Beefein, Belle Dubois, Mère de Ménage, Cox's Orange Pippin (awarded the prize for best dish of dessert Apples in the show), American Mother, Ribston Pippin, and other fine dishes. Mrs. Evans (gardener, Mr. Parker), Morcton Court, Hereford, was second with a finely coloured lot; very closely followed by Lady Emily Foley (gardener, Mr. Ward), Stoke Edith, Hereford.

Only one entered for the twenty-four dishes of Pears, Mr. J. Watkins taking first prize for grand fruit of large size and high colour. For twelve dishes of Pears, Mrs. Williams (gardener, Mr. T. Panton, Rockford House, Tenbury) was an excellent first, his Louise Bonne of Jersey and other dishes being of great merit. Lady Emily Foley was a most uncomfortably close second; Philip T. Phillips, Esq. (gardener, Mr. R. Grindrod), Tram Inn, taking third position. The prizes for best dishes for flavour was won by Thompson's, Lady Emily Foley taking first, Mr. Whiting, Credenhill, coming second with the same variety.

In the single dish classes for Apples, C. Lee Campbell, Esq., took first for Cox's Orange Pippin, Bramley's Seedling, and for any other new Apple of recent introduction with a grand dish of Newtown Wonder, also many other prizes. The English Fruit and Rose Co. was also very successful in the single dish classes. The amateur classes were keenly contested and many fine exhibits were staged, but they are too numerous to mention in detail.

Seven collections of six dishes of fruit were staged, all good. Lady Henry Somerset (gardener, Mr. F. Harris), Eastnor Castle, was a capital first with fine Muscat of Alexandria and well finished Gros Maroc, Golden Perfection Melon, King of the Pippins Apples, Pitmaston Duchess Pears, and Filberts. Second, P. T. Phillips, Esq.; third Lady Emily Foley, both staging well. The Grape classes were well contested. In the Gros Colman class P. T. Phillips was a first-rate first, closely followed by C. Lee Campbell, Esq. For Muscat of Alexandria, M. Hamer, Esq. (gardener, Mr. J. Froggat), was a good first, Lady Emily Foley second, and Sir Joseph Pulley (gardener, Mr. Williams), Lower Eaton, third. In the class for any variety of black Grapes, C. Lee Campbell, Esq., was an easy first with three model bunches of Black Alicante; Lady Emily Foley second with Alnwick Seedling, very good; third, Mr. J. G. Woodhouse, Burghill Court, Hereford.

Chrysanthemums were admirably shown both in groups and in a cut state. For a group to cover 80 feet Sir Joseph Pulley well deserved the first place awarded him, the plants being splendidly flowered and the arrangement excellent. In the class for a group of stove and greenhouse plants arranged for effect P. T. Phillips, Esq., secured the premier award with a choice group, in which Orchids were a special feature. Second, Sir Joseph Pulley, with a charming group, but less flower than the first prize one.

The cut bloom classes were the best ever seen at Hereford, and were a source of great attraction. For twenty-four Japanese R. W. D. Harley, Esq. (gardener, Mr. J. Robinson), Brampton Bryan, was a magnificent first, his blooms being massive and very fresh. Back row: Stanstead White, Van den Heede, V. Morel, E. Molyneux, Midwinter, C. Davis, Duke of York, Madame Carnot. Middle row: Commandant Blusset, W. H. Lincoln, Eda Prass, Mons. Panckowcke, Lord Brooke, Madame Ad. Moulin, Robert Owen, Mons. C. Moulin. Front row: Mrs. F.

Jameson, Wm. Seward, Avalanche, M. G. Montigny, Madame Thérèse Rey, Pallanza, Mons. Bernard, and W. W. Coles. Lord Rodney (gardener, Mr. J. Russell) secured second place with a charming lot. Third, P. T. Phillips, Esq., also good.

In the twelve Japanese class R. W. D. Horley, Esq., and Lord Rodney took first and second in the order named with excellent stands. Miss Symonds, Pengethly, Ross (gardener, Mr. W. Digwood), third. For thirty-six blooms J. C. Hanbury, Esq. (gardener, Mr. J. Lockyer), was a good first, his best blooms being Madame Carnot, Vivian Morel, Mrs. E. D. Adams, Duke of York, Hairy Wonder, Empress of India, Madame F. Mistral, Madame Darrier, John Lambert, and others. The same exhibitor was also first for twelve incurved blooms, followed by Major-General Gillespie (gardener, Mr. G. C. Williams), Trewyn House, Sandy. Third, A. W. G. Wright, Esq., Linton.

Messrs. W. Clibran & Son, Oldfield Nurseries, Altrincham, were granted a certificate of merit for cut blooms of the newer varieties of Chrysanthemums, Col. C. T. Bourne, a beautiful crimson Jap; Mdle. M. A. de Galbert, A. H. Fewkes, a charming golden yellow Jap; Thos. Wilkins, which appears an improved Mrs. F. Jameson; Van den Heede, Inter-Ocean, Dr. Masters, Rose Wynne, and many others were very conspicuous.

Lord Coventry sent half a dozen fine dark green Melons, said to be of excellent quality for late work. Mr. J. Wilson of Hereford staged a most beautiful lot of wreaths, anchors, and crosses, not for competition; also Mr. Whiting of Hereford. The French Pomological Society sent samples of their cider fruit and cider, which excited great interest, but it did not compare at all favourably with similar examples of the same kinds staged by Mr. J. Watkins, who proved that we excel the French Apples in both size and appearance.

HANLEY.—NOVEMBER 5TH AND 6TH.

THE County Borough of Hanley Chrysanthemum Society is in its thirteenth year of existence, and though its career has, perhaps, been a little chequered, it is gratifying to know that the last few years of its history have been marked by a continuous and rapid advance. The Hanley show has grown in importance year by year as it has grown in size, and the area from which its exhibits are drawn becomes every year wider, denoting the increasing influence of the Society and the popularity of the exhibition amongst the best known, as well as amongst local growers. The schedule was a comprehensive one, and included fifty classes in all, and in addition to those in which prizes were offered for Chrysanthemum plant and blooms, classes were provided for stove and greenhouse plants, fruit, cut flowers, hand bouquets, wreaths, and crosses, and the amount of the prizes in all sections was upwards of £100.

In the open division the competition generally was keen, and the quality of the exhibits ran so evenly that the Judges experienced very great difficulty in awarding the prizes. The cut flower exhibits extended over three lengths of tables, the blooms being well developed and of first-class quality. In the show of twenty-four cut flowers, Japanese, of not less than eighteen varieties, Mr. F. Hayhurst, Overley, obtained premier position with a tray of fine specimens. A word of praise is due to the blooms shown by Mr. J. McPhail, of Queen's Park, Longton, which were awarded second prize, and it may be said that the general excellence of his exhibits was particularly noteworthy. Messrs. J. R. Pearson & Sons, Chilwell, Nottingham, took primary honours for twenty-four incurved blooms, Mr. McPhail taking the first award for twelve incurved. In the division for effect several artistic displays were on view. Chrysanthemums quickly favour schemes of arrangement by reason of their picturesque diversity and manifold richness of colour, and Mr. B. Smith, gardener to Mr. J. T. Maddocks, of Alsager, gained the Judge's approval for a superb display in the centre of the building. The flowers were arranged in semicircle fashion, and rose one above the other in graceful profusion. The specimens were well developed, many of the tints being of exceptional beauty. The most conspicuous blooms were Florence Davies, a fine specimen, and Sunflower. Mr. McPhail was awarded premier honours for six large flowering plants, and also another first for six Japanese varieties, again being to the front with a fine collection of Pompons.

The open amateur classes were exceptional for all-round merit, and in many respects quite outdistanced the exhibits in the open section. The plants in pots were exceptionally fine, and though they were not very numerous the judges had some difficulty in placing the competitors. This was much more strikingly noticeable, however, in the cut blooms, for the excellence in this department was a feature of the show. The blooms were young and fresh, and exceptionally fine, and such meritorious specimens were shown by Messrs. P. Simpson of Newcastle, S. Mountford and C. Robinson of Congleton, and J. Lowe of Woolstanton. Mr. Simpson, in particular, showed splendidly, and the samples with which he took first prizes in the classes for twelve cut flowers, incurved and Japanese respectively, were truly wonderful collections.

The local amateur division was hardly so strong in proportion, but on the whole it was a fairly creditable display. Messrs. Deakin of Basford, and Cottrell of Birches Head, showed very prominently both in the classes for cut blooms and for pot flowers. Mr. Deakin gained first honours with three fairly good Japanese plants, and Mr. Cottrell secured first prizes with a single Japanese of the Vivian Morel species, with three Pompons, and also a single Pompon, all being meritorious exhibits. The classes for cut flowers shown by local amateurs were a very good section, and again Mr. Deakin and Mr. Cottrell were prominent as prizewinners. Mr. Deakin's twelve cut blooms, Japanese, which

met with the approval of the judges, was a capital exhibit, and a similar success fell to his lot with six Japanese blooms, which were of equally good quality. Two boxes of twelve incurved were shown by the competitors named, and there was little to choose between them, and the same remark applies to the class for six incurved. The crosses and wreaths by local amateurs were quite as good as anything that has previously been seen in the same classes at the Hanley show. The winning wreath was an excellent arrangement of *Lilium Harrisii*, Camellias, Roman Hyacinths, and Chrysanthemums, with a tasteful border of

distinct feature. Mr. C. Horsey, gardener to J. E. E. Esterre, Esq., Elmfield, Southampton, won with a creditable arrangement. Mr. J. Amys, gardener to Hon. Mrs. Elliott York, Netley, Southampton, was a good second. Mr. E. Rose, gardener to Dr. Alden, Bassett, third. Trained plants were fairly well shown. Messrs. H. & J. Vare, Chilworth, won premier position with four Japanese, and for one Japanese also. In the class for four plants, any variety, Mr. A. Brown, Hill Farm, Southampton, was first.

Cut blooms were extensively shown. For eighteen Japanese, distinct,



FIG. 71.—CHRYSANTHEMUM EDITH TABOR. (See page 459.)

Maidenhair Fern. The successful cross was delicately put together, and comprised Arum Lilies, Gardenias, and Lilies of the Valley, with Maidenhair. Shower bouquets were pretty, but not numerous.

SOUTHAMPTON.—NOVEMBER 5TH AND 6TH.

AS usual the autumn exhibition was held in the Victoria Hall, and was most successful from a horticultural point of view. The weather though was most unfavourable, which militated against the financial success of the show.

Groups of Chrysanthemums in pots and arranged for effect were a

six competed. Mr. Inglefield, gardener to Sir J. Kelk, Bart., Tedworth, Marlborough, was first prizetaker with large, richly coloured blooms, the varieties being Colonel Smith, Vivian Morel, W. H. Lincoln, Mrs. C. H. Payne, W. Seward, Madame Carnot, Vice-President Audiguier, Stanstead White, G. C. Schwabe, C. Davis, Mdle. Thérèse Rey, Mons. Panckowcke, Niveus, Avalanche, Vice-President Calvat, Sunflower, Pearl Beauty, and Mrs. Dr. Ward. Mr. Penford, gardener to Sir F. Fitzwygram, Bart., M.P., Leigh Park, Havant, was a creditable second. Mr. Agate, Havant, third. For twelve Japanese, Her Majesty the Queen, Osborne, Isle of Wight, and Mr. Penford were placed equal first. Mr. Agate second, and Mr. Inglefield third. Japanese blooms, cut with

long stems, made an interesting class, arranged as they were with other foliage. Mr. Carr and Mr. R. West, gardener to R. Wigram, Esq., Northlands, Salisbury, were first and second respectively. For eighteen incurved, Mr. Agate won premier honours creditably. Mrs. J. Murray, Baron Hirsch, Jeanne d'Arc, Brookleigh Gem, Prince Alfred, Globe d'Or, Madame Darrier, Lucy Kendall, Mrs. J. Kearn, and C. H. Curtis were the most noteworthy. Mr. Penford and Mr. Inglefield second and third respectively.

For twenty-four blooms, not more than two of any one variety, Mr. Penford first, Mr. Inglefield second, and Mr. Carr third. Mr. W. Grace, gardener to W. P. Neave, Esq., Bickton, Fordingbridge, won for twelve incurved; Messrs. Agate and Inglefield second and third respectively. Mr. Agate in the class for twelve, not more than two of any one variety, secured first place; Mr. Penford second, and Mr. Grace third. Mr. Willatts, gardener to H. F. Compton, Esq., Hinstead Manor, Lyndhurst, won the first prize in the maiden class with a creditable exhibit.

Fruit and vegetables were, as they always are here, well shown. Trade exhibits were well represented, "not for competition." Mr. W. H. Rogers, Southampton, hardy fruit; Mr. Wills, miscellaneous plants; Mr. Ladhams, Chrysanthemums and Geraniums. Mr. Miles had also a fine collection of Apples:

STIRLING.—NOVEMBER 6TH.

THIS, the earliest of the Scottish shows, was held on Wednesday and Thursday, the 6th and 7th, and was a great success, and was opened by the Earl of Moray. The prize money was not large, but the blooms were in many of the classes quite as good as those exhibited at Southern shows.

For the silver cup, thirty-six Japanese, Mr. W. Rutherford, Airthry Castle, was first with grandly finished blooms of Mrs. H. Payne (2), Avalanche (2), W. Tricker (2), Alberic Lunden, Mrs. F. Jameson (2), Stanstead White (2), Gloire du Rocher, Madame E. Rey, G. C. Schwabe, W. H. Lincoln (2), Mrs. H. Bromhead (2), Bouquet des Dames, Col. W. B. Smith, Vivian Morel (2), Princess May (2), Mons. Bernard (2), W. Seward, Sunflower, Puritan, Charles Davies, E. Molyneux, Madame J. Laing, Madame T. Rey, C. Shrimpton, and Madame Baco.

For twenty-four Japanese (silver cup) Mr. J. Dunagon, Pittencrief, Dunfermline, was first, having Madame Isaac, W. A. Newett, Col. Chase, and Mons. Panckoucke specially good; Mr. A. McMillan, Dunmore Park, second, and Mr. A. Todd, Kippenross, third. For twelve Japanese, Mr. John Leslie, Abernethy, was first. For six yellows, Mr. J. Duncan, Pittencrief, won with M. Panckoucke, Mr. W. Rutherford had the six best white, with Mdlle. Thérèse Rey. Incurved blooms were poorly represented.

Mr. G. H. Pearson took first prize for a group of Chrysanthemums. Specimen plants were not remarkable. Some very good Primulas, Zonal Pelargoniums, table plants, and Mignonette were exhibited. Fruit, especially Pears, was very good indeed. Vegetables were very fine, Mr. J. Waldie, Dollarbeg, winning with a collection. Mr. J. Muir, Solgarth, was first for six splendid Leeks; and Mr. D. McNicoll won first for twelve fine Onions.

A collection of new Chrysanthemums was exhibited by Messrs. Dobbie & Co., Rothesay; also champion Leeks and large Onions. Chrysanthemums were also sent by Mr. Wells, Redhill, Surrey, and Mr. Campbell, Blantyre; whilst Messrs. Drummond of Stirling and Mr. Craig also sent collections of plants and wreaths. Messrs. D. & W. Buchanan, Kippen, exhibited Grapes, Tomatoes, and Vine leaves.

WOLVERHAMPTON.—NOVEMBER 6TH AND 7TH.

THE third annual show of this enterprising Society was held on the above dates in the Drill Hall, Wolverhampton, and proved a great success in every way, notwithstanding the unfavourable weather. The arrangement of numerous groups of Chrysanthemum and other plants around the hall, with the central position occupied by the cut flowers and fruit, created a very attractive scene, and reflected much credit on the energetic Secretary, Mr. J. H. Wheeler, and the staging Committee. The first prize group of Chrysanthemums arranged for effect, exhibited by Mr. G. Bradley, gardener to Miss Perry, Wergs Hall, was arranged with much taste, and not overcrowded, so that a fair proportion of the fine and healthy foliage was presented in effective contrast with the flowers, whilst the pots were hidden with an edging of Maidenhair Ferns. It was an example that some of the exhibitors at the larger shows might do well to imitate.

Bouquets, sprays, and buttonholes formed an attractive feature, especially the bouquet of Orchids by Mr. J. Robinson, gardener to R. D. Harley, Esq., Brampton Bryan, secured the first prize, and the second prize to Mrs. Wight Boycott, Rudge Hall, for an elegant arrangement of white Chrysanthemums and fringing by her gardener, Mr. S. Postings, the third prize being accorded to Mr. R. Lowe, florist, Exchange Street, Wolverhampton, for an effective composition of Allamanda and white flowers.

Appended is a list of the principal prizewinners in the cut-bloom section of Chrysanthemums:—For twenty-four incurved varieties Mr. C. Smith, gardener to C. P. Noel, Esq., Bell Hall, Bellbroughton, was awarded the first prize for fine examples of Queen of England, Golden Empress, Lord Alcester, John Salter, Empress of India, Baron Hirsch, Prince Alfred, Alfred Salter, and John Lambert. The second prize was accorded to Mr. C. Bellis, gardener to Sir C. H. Rouse Boughton, Bart., Ludlow, for almost equally good examples of such as Jeanne d'Arc, John Lambert, Lord Alcester, Charles H. Curtis (very fine), Baron Hirsch, Empress of India, R. Petfield, and others.

For twenty-four Japanese varieties the first prize was taken by H. H. France, Esq., Overlay, Wellington, for excellent blooms of such as W. Seward, Amos Perry, W. G. Newitt, Sunflower, G. W. Child, Miss D. Shea, Préfet Roberts, Mons. Bernard, C. Davis, Colonel Smith, Eda Prass, and R. Dean. The second prize was well won by Mr. C. Bellis, gardener to Sir C. H. Rouse Boughton, Bart., for Madame Carnot (very fine), E. Molyneux, R. Dean, Colonel W. B. Smith, Mrs. C. H. Payne, Vivian Morel, Duke of York, Van den Heede, and Mons. Panckoucke.

In addition to the display of Chrysanthemums there was also a very fine one of fruit, including chiefly Apples, Pears, and Grapes; while vegetables were also splendidly represented, and in large numbers.

ASCOT.—NOVEMBER 6TH AND 7TH.

THE annual autumn exhibition was held, as usual, in the Grand Stand, and if not quite so large as some of its predecessors, was of average merit. Cut blooms were the most important section of the exhibition. The principal class was that for eighteen incurved and the same number of Japanese, all to be distinct. A silver cup, presented by the Hon. Mrs. Ashley Ponsonby, was added to the first prize of £3.

Mr. W. Lane, gardener to Miss J. D. Smith, King's Ride, Ascot, succeeded in again winning premier honour, and as he has now won the cup three consecutive years, it now becomes his property. By the quality and better finish of his incurved blooms he won undoubtedly, as his Japanese specimens were a few points behind those of the second prizewinner. The varieties were—Japanese: Charles Davis, Mrs. C. H. Payne, Col. W. B. Smith, R. Dean, Rose Wynne, Dorothy Shea, Sunflower, Mdlle. Marie Hoste, E. Molyneux, Gloire du Rocher, Mrs. G. Whittle, Col. Chase, G. W. Child, G. Atkinson, M. Panckoucke, Viscountess Hambleton, Charles Shrimpton, and President Borel. Incurved: Baron Hirsch, Empress of India, Golden Empress, Queen of England, Lord Alcester, Mrs. R. C. Kingston, J. Doughty, Jeanne d'Arc, Violet Tomlin, Miss M. A. Haggas, Princess of Wales, Ami Hoste, Mrs. Heales, Nil Desperandum, C. H. Curtis, Brookleigh Gem, Madame Darrier, and Robert Petfield. Mr. F. J. Paul, gardener to Mrs. Bowring, Forest Farm, Windsor, was a close second, staging remarkably fine Japanese, and large but somewhat rough incurved blooms.

The class for eighteen Japanese blooms, distinct, produced the best blooms in the whole section. Mr. A. Sturt, gardener to N. L. Cohen, Esq., Round Oak, Englefield Green, Egham, won premier award somewhat easily with a grand array of blooms. Especially fine were Mdlle. Thérèse Rey, Noces d'Or, A. H. Neve, Vivian Morel, Thomas Wilkins, Charles Davis, and International. Mr. E. Johnson, gardener to A. Gilliatt, Esq., Duffield House, Stoke Pogis, Slough, secured second place with an excellent stand; Mr. Wilson, gardener to P. C. Christy, Esq., Ascot, third. For twelve Japanese Mr. H. White, gardener to the Marchioness of Conyngham, Ascot, was first; Mr. Farmer, gardener to H. P. Leschallas, Hyams, Windlesham, second; Mr. Wilson, gardener to R. A. Christie, Esq., Ascot, third. For six, any coloured variety, Mr. Farmer won with Vivian Morel in really fine condition; Mr. Lane coming next with Sunflower, Mr. Bird following with Col. B. Smith.

Incurved blooms were quite up to the average for the season. For eighteen, distinct, Mr. F. J. Paul won with a creditable lot. Robert Petfield, Mrs. Coleman, Madame Darrier, and Empress of India were the best. Mr. A. Sturt and Mr. Farmer were second and third respectively. The last-named was an easy winner for twelve incurved, staging neatly dressed examples of the best varieties; Mr. Bird second, and Mr. White third. In the class for six blooms, any incurved variety, Queen family excluded, Mr. Bird won with good examples of Lord Wolseley, Mr. Farmer following with Madame Darrier. Reflexed varieties are always well staged here. For twelve, distinct, Mr. W. Neate, gardener to Miss Macker, Sunningdale, staged medium sized, well coloured examples; Mr. H. White second. A good stand of blooms had to be disqualified owing to the exhibitor inadvertently staging a bloom of Hetty Dean, reflexed Japanese. Mr. E. R. Smee had the best stand of six reflexed varieties; Mr. Hawthorn second.

For a group of Chrysanthemums arranged in semicircular form, quality and general effect to be the leading feature, Mr. Lane won premier position with plants carrying extra fine blooms, but none too well arranged. Mr. Hawthorn was placed second with a better arrangement, but lacking the large blooms of the first prize group. Mr. J. Edge, gardener to Lord Harlech, Ascot, third. Table plants, Primulas, Cyclamens, Solanums, fruit and vegetables were well shown. Space, however, forbids a detailed list being given. Messrs. John Standish & Co. had a large group of miscellaneous plants in the entrance room, tastefully displayed, "not for competition." Mr. Thorne, gardener to Major Joicey, Sunningdale, had a charming group of mixed plants in one corner, which added much to the beauty of the show. Orchids were numerous represented, such as *Oncidium tigrinum*, *Cymbidium giganteum*, *Cattleya Dowiana aurea*, *Cypripedium Charlesworthii*, *Cattleya Alexandrae*, and *C. labiata*. Amongst the Orchids were lightly interspersed Ferns, Crotons, Asparagus, and *Caladium argyrites*, the whole being prettily margined with small plants, freely flowered, of *Streptocarpus* alternated with Ferns.

COVENTRY.—NOVEMBER 6TH AND 7TH.

THIS great centre of the cycle industry has long been noted for the energy and enterprise of its business men, and judging from the imposing display and high quality of the exhibits brought together in the Corn Exchange on the occasion of its first Chrysanthemum show, Coventry is likely in the future to become famed for its autumn fixture. The general effect of the show was greatly enhanced by many grand Palms

and Crotons, which were judiciously disposed about the building. These were contributed by Mr. W. Finch, gardener to J. Marriott, Esq., Coventry, who also exhibited, not for competition, a splendid specimen of *Ixora Dnffi*.

For a group of *Chrysanthemums* arranged in a space equal to 50 square feet, there were four entries, Mr. Finch being a good first with plants carrying blooms of fine quality arranged in his usual finished style, *Lilian Bird*, *E. Molyneux*, *Miss M. A. Haggas*, and *Madame Darrier* being thoroughly well represented. Mr. Morris, gardener to Sir R. Moon, Copsewood, Coventry, was a good second, his arrangement, however, being rather too flat. The third prize fell to Mr. Blake, gardener to G. Singer, Esq., Coventry. Specimen plants were not numerous shown. For four Japanese, distinct, dwarf-trained, Mr. Blake was a good first, and Mr. Finch second. The latter exhibitor also obtained the only award given for four incurved specimens.

The cut blooms were undoubtedly the feature of the show. Prizes of £3, £2, and £1 were offered for twenty-four Japanese in not less than eighteen distinct varieties. The premier position was won by Mr. H. Pearce, gardener to S. Loder, Esq., Floore House, Weedon. His blooms were heavy, fresh, and of good colour. The varieties were—Back row: *J. Shrimpton* (grand), *W. G. Newitt*, *Col. W. B. Smith*, *Mons. Ricaud*, *Miss Dorothy Shea*, *Mdlle. Thérèse Rey*, *Sunflower*, and *Mrs. G. H. Payne*. Middle row: *Eda Prass* (large and solid), *G. Schwabe*, *Mdlle. Marie Hoste*, *J. S. Dibben* (grand), *Vivian Morel*, *Mrs. F. Jameson*, *W. Seward*, and *Louise*. Front row: *W. H. Lincoln*, *Mrs. H. Payne*, *C. Davis*, *Mdme. C. Molin*, *Sunflower*, *Mons. Bernard*, *Comte de Germiny*, and *Bonle d'Or*. Mr. W. Tustin, gardener to A. James, Esq., Coton House, Rugby, was a very close second, with large highly coloured blooms, the best being *Commandant Blusset*, *Miss Dorothy Shea*, and *J. Shrimpton*; Mr. Blake being a rather lucky third. For twelve Japanese, distinct, the latter exhibitor led with good fresh blooms; Mr. J. L. Yates being second, and Messrs. Webb & Sons third. A teapot, valued at 35s., was offered by Mr. T. Colchester, Ipswich, for the best six blooms of Japanese which had been fed with ichthemic guano. This was well won by Mr. Pearce with solid examples of *Vivian Morel*, *Sunflower*, *Mdlle. Thérèse Rey*, *C. Davis*, *W. Seward*, and *Madame Ricaud*.

For the prizes offered for twenty-four incurved, in not less than eighteen varieties, three exhibitors competed, the first prize being deservedly awarded to Mr. Tustin for stands of solid and even blooms of the following varieties—Back row: *Alfred Salter*, *J. Lambert*, *Mons. Bahuant*, *Golden Empress*, *A. Salter*, *Empress of India*, *Lord Wolseley*, *J. Lambert*. Middle row: *Empress of India*, *Miss M. A. Haggas*, *Madame Darrier*, *Empress Eugénie*, *Baron Hirsch*, *J. Doughty*, *Princess of Wales*, and *Alfred Lyne*. Front row: *Baron Hirsch*, *Jardin des Plantes*, *Madame Darrier*, *Jeanne d'Arc*, *Mrs. W. Shipman*, *Madame F. Minstral*, *Mrs. Brunlees*, *Jeanne d'Arc*, and *Lord Wolseley*; Mr. Blake was a good second, and Mr. Morris third, each showing well. For twelve incurved, distinct varieties, Mr. H. Dunkin, gardener to the Earl of Warwick, Castle Gardens, Warwick, secured the first prize with a stand of even clean blooms; Mr. Blake following closely. Messrs. Sander & Co., St. Albans, offered as a prize for the best six incurved blooms of one variety, an Orchid of the value of £2 2s. This was well won by Mr. Blake, with good blooms of *Lord Rosebery*.

Good collections of Apples and Pears, not for competition, were staged by Mr. C. Wilkins, gardener to E. Petre, Esq., Whitley Abbey, Coventry, and by Mr. Morris. The latter exhibitor also staged several well grown Orchids in flower, and a tastefully arranged group of Orchids was shown by Mr. Blake, which included several fine forms of *Oncidium varicosum* Rogersi. Messrs. Perkins & Co. exhibited in their usual finished style baskets and bouquets of *Chrysanthemums* and other flowers, a splendidly formed harp of *Chrysanthemums* with Violet strings occupying a central position.

The arrangements in connection with the show were admirably carried out by Mr. F. Curtis and the Committee who supported him.

DUBLIN.—NOVEMBER 6TH AND 7TH.

THE Royal Horticultural Society of Ireland have, apparently, wound up by their winter show a fairly successful year. Held somewhat earlier than usual, it was a question with competitors of being up to the fixed date with their exhibits. Judging from appearance in the cut bloom section, it was beyond dispute that so far as the popular Japs were concerned the mark had been hit, for seldom, if ever have they been shown here in better form, nor more conspicuous by their freshness. Not until the evening of the second day was the opportunity afforded to me of noting their merits, and the appearance then of this section, indeed of all the cut bloom classes, led one to conclude that the bulk of the blooms would keep in the cool large hall at Ball's Bridge for a fortnight.

In deference to public taste, which inclines to the Japs and not in the order of the schedule, these shall receive first attention. Class 10, stand of twenty-four varieties, distinct, the first prize for which is the gardeners' challenge cup, valued at twenty sovereigns, to be won three times, with £4 added annually to the winner, was taken for the second time by Mr. Hugh Crawford, who presides over the Countess of Pembroke's fine gardens at Mount Merrion. His blooms were the freshest of the fresh, and made up an even well balanced stand without a suspicion of coarseness; the most prominent being *Hairy Wonder*, *Madame Carnot*, *Violetta*, *Col. Chase*, and *Amos Perry*. For the above prize Mr. McKellar, gardener to Lord Ashbrooke, was second, and Mr.

Mitcheson, gardener to the Hon. Col. Crichton, third, whilst several stands of the ten entries were commended.

Much interest was centred in what is rather a large order—viz., thirty-six Japanese in eighteen varieties, not more than two of each. Amongst eleven competitors Mr. Crawford again took the lead, followed by Mr. Sayers, gardener to Mrs. Goodbody, with Mr. Wm. Bradshaw, gardener to Sir David Harrel, close at his heels. For class 15, twelve Japanese, which brought out fourteen entries, Mr. J. Cumming, gardener to Viscount Gough, was a good first; second, Mr. Taylor, gardener to J. L. Naper, Esq.; third, Lord Carew (gardener, Mr. McLellan). For six white Japanese, one variety, a fine stand of *Marie Hoste* was passed over for six albinos of *Vivian Morel*, though it is but right to say that as far as whiteness went they were purity itself. The awards went to Mr. McKenna, Mr. Crawford, and Mr. Mitcheson in this order. For Mr. Cumming's prize for six Japs, any colour, one variety, Mr. Murphy, gardener to J. E. Barry, Esq., was first; second, Mr. McKellar; third, Mr. Sayers.

Class 9.—The Waterhouse challenge cup, valued at 10 guineas, for the best thirty-six blooms, half Japs, half incurved, was strongly contested for by nine competitors, Mr. Crawford, the winner last year, again being first, with Lloyd Vaughan, Esq., and Lord Ashbrook second and third respectively. Amongst the incurved proper, for twenty-four Mr. Crawford proved himself the giant that he is, and secured the handsome prize given by the Ichthemic Guano Company, a prize which will be useful when his friends drop in to tea. Mr. Cumming just missed it, and third in the running was Mr. McKenzie of Willow Park Gardens. Nine entered for the twelve incurved, and Mr. O'Conner, gardener to R. H. McComas, Esq., led, with Mr. Porter and Mr. Coghlan following. Except a few early varieties, notably *Baron Hirsch*, *M. R. Bahuant*, *Jeanne d'Arc*, and its coloured sport, the date was apparently ten days early for the incurveds, the more refined *Princess*, *Queen*, and *Empress* types being but half up.

That enthusiastic amateur, Mr. J. L. Smallman, for the best stand of twelve half Japs, half incurved, had it all his own way. Reflexed were only represented by three stands of twelve, and Mr. McKenna, Mr. Taylor, and Mr. Cumming divided honours in the order named, Mr. McKenna being again first with twelve *Anemone* flowered; R. de la Poer, Esq. (gardener, Mr. Fernie), and Mr. Smallman, second and third.

Of the plants (*Chrysanthemums*) the first glance on entering the large hall revealed the fact that they were not in it—figuratively, and, moreover, it was the one thing wanting. Circular groups were arranged by Messrs. McKenzie and Sayers; the latter's group, placed second, was charmingly fresh on the second day; but the jovial veteran McKenzie's exhibit had stood well to him at the judging by gaining the first prize given by Lord Ardilaun. The same nobleman's handsome trophy for the best group arranged on 50 superficial feet went to Mr. Goff, gardener to Mrs. McCann; second to J. White, Esq. For the six best Japanese Mr. Cumming was first; with remaining plant classes but little or no competition ensued, Mr. McKenzie being prominent.

Four nursery groups of miscellaneous flowering and foliage plants formed an admirable background at the far end of the hall. Messrs. Ramsay & Sons, of the Ball's Bridge Nurseries, being awarded the Society's large silver-gilt medal; the bronze medal going to Mr. Jameson, of Sandymount. Messrs. Henderson, of Templeogue, and Mr. Watson, of the Clontarf Nurseries, having nice exhibits of fresh and healthy decorative plants—the useful and elegant *Kentias* being conspicuous. A bright and pretty table was arranged by Mr. Sayers, gardener at Obelisk Park, Blackrock, with nice bits of *Cattleya labiata*, a fine plant of *C. Bowringiana*, some 3 feet high, bearing two spikes of its charming flowers, the whole set off with Maidenhair greenery. Another table, contributed by the Viceregal gardens, materially assisted the decorations.

Fruit made a good display, and medals offered by the Society for the best stand of six bunches of Grapes in three varieties, brought six exhibitors into alignment, those who were beaten being certainly not disgraced. Mr. Thomas Bradshaw bore off the large silver-gilt medal for the Marquis of Downshire; Mr. McKenna taking the bronze medal, third prize going to Earl Fitzwilliam (gardener, Mr. Wybock). The smaller classes for Grapes were well filled, and Apples and Pears were generally dished up in good form.

Trade exhibits did much for the Society's winter show, attractive fruit stands being fixed up by Messrs. Saunders of Cork, McCreedy of Portadown, Tait & Co., and Edmondsons of Dublin. Dicksons, Ltd., of Chester staged sixty-five dishes of Apples and Pears, their table being relieved with pot plants of their new *Cupressus macrocarpa lutea*. One long table displayed the produce of "sunny Kent" in the way of 104 dishes (distinct) of Apples, matchless in form and colour. Messrs. Bunyard's representative, Mr. Middlebrook, presided over this tempting table, and what he does not know about Apples is, I should say, not worth knowing. American-grown Apples are not in it, was the inference drawn in noting such varieties as *Bismarck*, *Washington*, *Gascoigne's Seedling*, *St. Lawrence*, *Lady Henniker* and *Tyler's Kernel*. In looking at this unrivalled stand it was easy to understand a little dissatisfaction felt by "the man in charge" at the award of "highly commended" it received, this being the highest recognition the Society is, under existing conditions, able to give. As they are anxious to keep pace with the times they will, doubtless, see their way to improve matters in this direction. A certificate of merit would not share the fate of that commended ticket which a vexed pomologist tore up and threw under the table.—K., Dublin.

WATERLOO.—NOVEMBER 7TH.

ON Thursday last the Town Hall presented a grand appearance, when the third annual show held in this aristocratic neighbourhood was opened by the Right Hon. G. N. Curzon, M.P. There was a large and fashionable gathering, and with the knowledge of the fact that the right hon. gentleman has travelled in almost every part of the world it was naturally expected that he would be able to add some interesting remarks, and in this they were not disappointed.

After a few words from the President, J. B. Colton, Esq., the member in declaring the show open, said he had had many opportunities of observing the cultivation of flowers in foreign countries. In Japan the people regarded the growth of the *Chrysanthemum* not merely as an artistic taste, but as a national pride. It had often occurred to him, and he had not only noticed it in Japan but in other countries, that the best people in the world were those who had a taste for flowers, and he thought it was the duty of all public bodies and local authorities, whenever they got the opportunity, to encourage all classes of the population to cultivate the growth and development for flowers. To a great extent this was cultivated in England.

In the open class for twelve incurved and twelve Japanese, distinct, six competed. First, Mr. P. Green, gardener to T. Gee, Esq., Allerton. Second, Mr. Haynes, gardener to Mrs. B. C. Nicholson, Oswaldcroft, Wavertree. Third, Mr. R. Pinnington, gardener to Mrs. Banner, Blacklow House, Roby. Local classes were admirably represented, the Judges having a very heavy task in all cut bloom classes. Mr. J. Bounds, Aigburth, and Mr. J. Stephenson, Woolton Hall, were the principal prizewinners with fruit.

BIRKENHEAD.—NOVEMBER 7TH.

THIS Society opened the ninth annual exhibition in the Y.M.C.A., Grange Road, and a beautiful display, probably such as has never been seen at Birkenhead on previous occasions, was the result, the arrangements in every respect reflecting the greatest credit on those who had charge of the work. A 5-guinea silver cup, presented by Mrs. Cockburn, was given as the first prize for thirty-six Japanese, not less than eighteen varieties, and here Mr. T. Ranson, gardener to H. R. Rodger, Esq., Oakland, Spital, was distinctly ahead of his opponents. Although the stand contained several weak blooms there was very little fault to be found, for they were fresh and solid. The names were Mrs. C. H. Payne (2), W. Seward (2), Charles Davis (2), Jules Chrétien (2), Mons. Panckowcke (2), Vivian Morel (2), Mdlle. Thérèse Rey (2), G. C. Schwabe (2), Commandant Biusset (2), Pallanza, Madame Carnot, Primrose League (2), President Borel, Mdlle. M. A. de Galbert (2), Florence Davis (2), Madame Ad. Moulin, Good Gracious, Wilfred Marshall. The second position was taken by Mr. J. Williams, gardener to C. J. Procter, Esq., Boscobel, Noctorum. A new exhibitor, Mr. J. Wynne, gardener to G. T. Bates, Esq., Maryton Grange, Allerton, put up a very good stand for third place.

For twelve Japanese the competition was very keen, the Judges deciding in favour of Mr. W. Ewbank, gardener to Jos. Heap, Esq., Claughton, E. Molyneux (grand), Wilfred Marshall, Charles Davis, Mrs. C. H. Payne, and Col. Smith being excellent. R. R. Anderson, Esq., second with very fresh blooms. Third, Mr. H. Howard, gardener to A. S. Mather, Esq., Woolton. Three staged for eighteen incurved, distinct, Mr. J. Bracegirdle, gardener to W. H. Watts, Esq., J.P., being a splendid first with Jno. Lambert, Queen of England, Mrs. R. King, Golden Empress, Alfred Salter, Empress of India, John Doughty, Prince Alfred, Mrs. Heale, Baron Hirsch, Lord Alcester, Brookleigh Gem, Violet Tomlin, Miss M. A. Haggas, Madame F. Mistral, Princess of Wales, Robert Petfield, and Madame Darrier. Mr. T. Ranson was second, a fair third being Mr. H. Howard. Mr. Cubbon, gardener to J. H. Gair, Esq., first for twelve. The local competition was a strong contest in every class, Mr. A. Price, gardener to F. Jevons, Esq., being awarded chief honours with twelve Japanese, distinct, Col. Smith, superb, others good being E. Molyneux, Mrs. C. H. Payne, W. H. Lincoln, and Charles Davis. Mr. Ranson was a very close second. For twelve incurved Mr. Ranson was to the fore, having good blooms of those previously mentioned in his stands, Mr. A. Price being a moderate second. Mr. Ewbank won with six. For six incurved and six Japs Mr. Beer, gardener to T. L. Dodds, a moderate collection. For twelve Japanese, arranged with foliage, Mr. T. Edwards, gardener to A. Billson, Esq., had an effective exhibit.

As in former years the groups of *Chrysanthemums* formed no small feature of the show, the plants being most healthy, whilst many of the blooms were quite up to exhibition size. Mr. J. Williams was placed first, the blooms on his plants being superb; Mr. A. Brown, gardener to Geo. Webster, Esq., second; and Mr. S. E. Haines, gardener to Egerton Laird, Esq., third. Fruit was never more beautifully shown, not a faulty dish being seen amongst the scores staged. Nurserymen contributed handsomely, amongst whom were Dicksons (Ld.), Chester, who had amongst others a collection of autumn foliage, which attracted much attention by its brilliant colouring. Other growers exhibited cut flowers, plants, and groups. Mr. W. Bassett, the esteemed Hon. Sec., and his Committee, are to be congratulated on their careful arrangements.

HORNSEY.—NOVEMBER 7TH AND 8TH.

IN the northern districts of the metropolis there are several enthusiastic *Chrysanthemum* growers, and the annual show of the Hornsey and District *Chrysanthemum* Society is usually an excellent one. This year it was held on the above dates, and proved very fine

indeed, many superb flowers being staged. It is to be hoped that financially the show was as great a success as floriculturally, but the weather on each day was decidedly against this. Taken as a whole this exhibition was a decided advance on all its predecessors, and it is thought that this improvement will be maintained in succeeding years. We append the names of the prizewinners in some of the chief classes.

Mr. F. J. Matthews of Myrtle Lodge, Muswell Hill, secured the premier honour of the year by winning the handsome silver cup, which is valued at 20 guineas, and has to be won three times in succession or four times in all. This competition was only open to amateurs, who had to show thirty-six Japanese blooms of eighteen varieties, not more than two of any one variety. Among the best of the varieties were Mdlle. Thérèse Rey, Dorothy Shea, and Mons. Panckowcke. Mr. Bongard was a highly meritorious second. In the special prize competition for the best group, Mr. Rowbottom, gardener to Mr. H. R. Williams, was the best with a superb arrangement of choice blooms. Another of Mr. Rowbottom's exhibits worthy of especial commendation were the six Phœbus blooms in the class for six Japanese of one variety. Mr. E. Jones, 25, Malvern Road, who is an amateur, came out well in the second place, the only fault in his specimens being a lack of colour. Mr. Rowbottom was again first with twenty-four Japanese, among which Robert Owen was particularly noticeable. The trained plants looked most effective on the platform, and Mr. J. Brooks won Mr. H. C. Stephens' special prize for the best of them.

In the class for eighteen cut blooms, nine Japanese and nine incurved, Mr. E. Rowbottom was first, Mr. J. Brooks second, and Mr. T. L. Tuck third. For eighteen Japanese, twelve varieties, not more than two of any one variety, Dr. F. W. Wiles was first, Mr. E. Jones second, and Mr. T. W. Lester third. In the amateur section Mr. H. R. Williams offered prizes for eighteen cut blooms (six Japanese, six incurved, and six reflexed, distinct), which were won by Messrs. A. F. L. Bongard, W. H. Wash, and B. R. Durrant in the order of their names. Twelve blooms (six Japanese, six incurved, distinct), Mr. W. Austin first, Mr. J. Newman second, and Mr. S. Hill third. For twelve Japanese, distinct, Mr. E. Jones first, Mr. A. F. L. Bongard second, and Mr. B. R. Durrant third. For six Japanese, distinct, in vase, with foliage as grown, the prizewinners were Messrs. E. Jones and B. R. Durrant.

Besides these there were numerous other classes, both for cut flowers, vases, and table decorations, charming taste being displayed in the latter arrangements, in which ladies were the exhibitors. Vegetables were not seen in very large numbers, but as a rule the quality was high. The staging and general arrangements, in the hands of an energetic Secretary and Committee, were well carried out, and reflected high credit on all concerned.

EXETER.—NOVEMBER 7TH AND 8TH.

THE 182nd autumn exhibition was held in the Victoria Hall. Groups of *Chrysanthemums* were not only more numerous, but superior. The competition in the cut bloom section was exceptionally keen. Miscellaneous plants were really well shown, while fruit especially was a feature, Apples and Pears being remarkable for their quality. The arrangements of this fine show were, as usual, in the able hands of Mr. D. Caine, the Hon. Secretary, aided by an efficient Committee. The Exeter Nursery Co. arranged a most beautiful miscellaneous exhibit that attracted much attention.

Groups of *Chrysanthemums* in pots were a decided feature. The stipulation was that not less than eighteen varieties should be employed in each group. An edging of Ferns was allowed. Mr. A. C. Williams, gardener to Mrs. A. D. Sims, Exeter, was an easy first with exceedingly fine blooms, not too thickly arranged; Mr. W. Roland, gardener to W. Brock, Esq., Exeter, was a good second. In a smaller group the last named occupied the post of honour with an interesting arrangement of well-grown plants; Mr. Williams second. Miscellaneous plants arranged for effect also made a good display.

Cut blooms were largely staged, while the quality throughout left little to be desired. In the class for thirty-six Japanese, distinct, for which a silver cup was offered as first prize, seven competed. Mr. G. Loyd, gardener to V. Stucky, Esq., Langport, won after a close fight with G. Hawkins, gardener to W. H. Fowler, Esq., Claremont, Taunton. The blooms were large, well coloured, and neatly staged, the most noticeable being Madame Carnot, Violet Rose, Robert Owen, Nyanca, Mrs. C. H. Payne, Madame Ad. Molin, C. Davis, Duke of York, Mdlle. Thérèse Rey, Madame C. Molin, Good Gracious, and L'Isère. Mr. G. Foster, gardener to H. Hammond Spencer, Esq., Glendanaugh, Teignmouth, third. For eighteen Japanese, distinct, Mr. A. Long, gardener to Venables Kirk, Esq., Exeter, won with a good stand of blooms. Mr. Loyd second. Mr. G. Horner, gardener to A. D. Paul, Esq., Exeter, secured the premier position for twelve Japanese, distinct, in capital form; Mr. G. Smeetze, gardener to J. W. C. Washington, Esq., Exeter, second.

For six Japanese, any white variety, Mr. G. Foster with Madame Carnot secured leading position. Mr. R. Mares, gardener to Sir J. Shelley, Bart., with Beauty of Exmouth took second prize. For the same number of any one yellow variety, Mr. Mares with W. H. Lincoln was awarded first place. For six blooms any other colour, Mr. Foster with Col. W. B. Smith in grand order won premier place.

Incurved blooms were creditable. For twelve, distinct, Mr. G. Heath, gardener to Sir W. Walrond, Bart., won rather easily with really fine examples of Golden Queen of England, Prince Alfred, Lord Wolseley, C. H. Curtis, and Lucy Kendall. Mr. Foster second with good blooms also. For six incurved, Mr. W. Prothero, gardener to Mark Favant, Esq., Exeter, was placed first with blooms quite up to the average; Mr. G. Stiles, gardener to Miss Fripp, Teignmouth, second.

Anemone blooms were very finely shown by Mr. J. Symes, gardener to Col. Holford Thompson, Teignmouth; Mr. Prothero second. The last-named had the best Pompon-flowering varieties in six distinct kinds; Mr. Emmett second. Mr. Prothero staged single flowered varieties well, and was awarded first prize for six trusses of three blooms each; Mr. Emmett second.

For varieties introduced in 1894 and 1895 Mr. Loyd secured the first prize offered by Mr. W. J. Godfrey with good specimens of Madame Carnot, Mons. G. Biron, Mutual Friend, Jules Chrétien, Mephisto, M. Gruyer, Nyanca, Philadelphia, Mrs. W. J. Godfrey, M. Panckoucke, and Miss Rita Schroeter; Mr. Foster second.

HITCHIN.—NOVEMBER 7TH AND 8TH.

THE Hitchin Horticultural Society is one of the few that succeed in providing their subscribers with two satisfactory exhibitions every year, and the fact bears ample testimony to able management and liberal support. The stimulus afforded to cultivators in the district by such societies is of more than merely local importance, and the labours of the Committee and officers fully merit the recognition accorded by the residents. If the Corn Exchange were somewhat larger an even more effective display could be provided, but the utmost advantage is taken of the convenience at command, with the result that the show opened on Thursday was good in all points. Plants, cut blooms, fruit, and vegetables were well represented in numerous classes, but, as is usually the case in local shows, some features specially excelled the others in attractiveness and interest. Particularly good in this case were the Apples, Pears, and floral decorations for a table, which occupied the two opposite ends of the hall; adding to these the cut blooms, which filled two long tables in the centre, and the groups of Chrysanthemums at the sides, a show of diverse attractions resulted.

With a group of Chrysanthemums arranged for effect Mr. J. F. Parsons, gardener to W. Spencer, Esq., Codicote Lodge, was adjudged first prize for extremely dwarf plants, furnished with good foliage down to the pots, and bearing large substantial blooms, chiefly of Japanese varieties. The front plants did not exceed 2 feet in height, and it is seldom that such fine blooms are seen on plants so dwarf. Mr. C. Osman, gardener to S. Lucas, Esq., Hitchin, was second with taller plants, but well arranged and with good blooms, especially of Sunflower. Mr. W. G. P. Clarke, Verulam Road, Hitchin, was a close third for a bright and tasteful group. With trained specimen plants the prizes were secured by Mr. Springham, gardener to T. H. Tuke, Esq., Hitchin, who had the premier six; and Mr. Titmus, who had the leading three specimens.

In the cut bloom classes, the best twenty-four Japanese blooms (distinct) were shown by Mr. J. Turk, gardener to P. Bosanquet, Esq., Little Berkhamsted, who had blooms of capital substance, those particularly good being Duke of York, Stanstead White, Edwin Molyneux, Mdle. Thérèse Rey, Mrs. F. Jameson, Madame Carnot, Eda Prass, Col. Smith, and Sunflower. Mr. T. J. Hartless, gardener to T. Fenwick Harrison, Esq., King's Walden, won second honours for fresh bright blooms; Mr. J. Kipling, Knebworth, being third. The incurved generally were not so good as the Japanese, but Mr. Hartless was first with a good twelve, followed by Messrs. J. Turk and S. Cotton. For six blooms of one Japanese variety Mr. Parsons led with Madame Marie Hoste; Mr. Hartless being second with the same variety, both staging fine blooms. In the corresponding class for one coloured variety Mr. Turk was first for superb examples of Sunflower; Mr. Hartless second with Col. W. B. Smith, nearly as good; and Mr. Parsons third with Vivand Morel, deeply coloured. In other classes the prizes went to Mr. T. Bateman (premier twelve Japanese), Messrs. Cotton, Hartless, and Turk.

There were twelve competitors with three dishes of dessert Apples, all were close in merit, and the prizes were secured by Messrs. Turk, Parsons, and Martin, in the order named, all showing Ribston Pippin, Cox's Orange Pippin, and King of the Pippins, with only a point or two between them. For three dishes of culinary Apples, Messrs. Parsons, Martin, and Sinclair were the prizetakers, all showing fine fruit. Fine Pears were shown by Messrs. Parker, Parsons, Martin, and Carlisle, while black and white Grapes came from Messrs. Ransom, Martin, and Springham.

The floral decorations for the centre of a dinner table were excellent, and the nine competitors provided one of the most tasteful portions of the show. Miss C. E. Foster Bancroft, Hitchin, was first in an arrangement of Bramble sprays with Chrysanthemum, Miss Pollard was second for a distinct group of Beech leaves and yellow Chrysanthemums; Mrs. Clarke being third for stands of these sprays, with Source d'Or Chrysanthemums and Gypsophila; Miss Hill following with crimson Chrysanthemums and Beech leaves effectively arranged.

This was the first occasion on which a two-day show has been tried, but both unfortunately proved very wet and dull. The Honorary Secretary, Mr. E. B. Lindsell, and the excellent working Secretary, Mr. G. W. N. Clarke, are both evidently devoted to the interests of the Society.

PUTNEY.—NOVEMBER 7TH AND 8TH.

ONE of the brightest, most attractive, and best managed of what may be termed London suburban exhibitions, is that of the Putney, Wandsworth and District Chrysanthemum Society, of which the Hon. Baron Pollock is the President; G. H. Pitt, Esq., the much esteemed Treasurer; and Mr. J. F. McLeod the efficient Secretary. The eighteenth annual show was held in the Cromwell Hall, Putney, on the date named; a commodious and well-lighted building admirably adapted for the purpose, affording just space enough for the exhibits and the com-

fortable enjoyment of them by visitors. The show ranked among the best of the series, and was remarkable for the uniform excellence of the competing exhibits in the cut bloom classes, only very narrow dividing lines separating those which obtained prizes from those which did not. Groups of Chrysanthemums were, as usual at Putney, very good, and some creditable specimens were staged; while collections of Palms and other plants, including fine pans of Roman Hyacinths from Mr. Iceton; Nepenthes and other Chelsea novelties from Messrs. Veitch & Sons, and an effective group from Mr. Mahood, imparted diversity and richness to the hall.

In class I, of twenty-four incurved blooms, in not less than eighteen varieties, the two exhibitors were taken by surprise, but took their disqualification as good exhibitors should, good humouredly. One had only sixteen and the other seventeen varieties in the stands. Mr. J. Portbury, gardener to N. Froy, Esq., Ripon House, Putney Heath, had undoubtedly the best blooms, and very good indeed. Mr. J. Potter, gardener to J. D. Charrington, Esq., Gifford House, Roehampton, also staging well, and special first and second prizes were recommended for the stands on their merits, not regarding the mistakes as otherwise than accidental, as all the blooms were correctly named. The premier incurved bloom in the show, Violet Tomlin, was found in Mr. Portbury's stand. These exhibitors occupied the same relative positions with twelve incurved blooms, both staging uniformly good examples. Third, Mr. J. Wright, gardener to H. A. Tuffnell, Esq., The Grove, Wimbledon. For six blooms Messrs. C. Bentley and J. Wright were successful in the order named.

Japanese blooms made a brilliant display. The first prize for twenty-four was won by Mr. J. Wright, with an admirable collection, very closely followed by Mr. J. Portbury and Mr. Potter. Mr. Portbury was the premier in the class for twelve blooms, Mr. Potter running him closely, Mr. Wright an excellent third, and having the premier bloom of the section in Mdle. Thérèse Rey.

Mr. C. Bentley, gardener to Captain J. Bosworth, Roehampton, had the best reflexed, followed by Messrs. Portbury and Wright. The last named exhibitor won the leading prize with a charming stand of Pompons, Messrs. Bentley and Portbury following. Mr. B. Rogers had the best six Japanese in the amateur class, quite professional in their character, Mr. J. Dark having the best incurved blooms, which were extremely creditable examples. In the single-handed gardeners' class for twelve Japanese, Mr. J. Holmes was the leading exhibitor, his blooms being excellent throughout.

Groups of Chrysanthemums, arranged in the formal style, were as examples of that style excellent. Mr. J. Williamson, gardener to T. S. Jay, Esq., won the silver cup with sturdy well-grown plants, equally good in foliage and bloom; Mr. W. Jenner, gardener to Miss Allen Ward, Wimbledon Park, second; Mr. Thomas Hunt, gardener, Rickard Lodge, Wimbledon Park, a close third; and Mr. Tew fourth. Amateurs' groups of eighteen plants were of remarkable merit. Mr. S. W. Lambert, 6, Northumberland Avenue, winning the silver cup; Mr. A. Wass, Sandown Lodge, Upper Richmond Road, a dangerously close second. Mr. Pitts' prizes for groups of miscellaneous plants were won by Messrs. Potter, Bentley, and Methven in the order named; and Mr. J. Bentley secured the whole of the first prizes in the classes for trained specimen Chrysanthemums, far outdistancing all other competitors.

Berried plants were very good indeed, and it is questionable if better examples of culture, and conspicuous both as regards size and brilliancy of fruit as well as robust leafage, have been seen than those with which Mr. J. French, gardener to Mrs. Barclay, Ambleside, Wimbledon, won the first prize in the class. Mr. Methven was placed in the leading position with Ferns, and Mr. Portbury with elegant table plants. Apples and Pears were admirably represented, as were vegetables.

The following marks of recognition were granted for meritorious non-competitive exhibits:—Palms and other plants, including fine pans of Roman Hyacinths, from Mr. Iceton; also Nepenthes and other choice plants from Messrs. Jas. Veitch & Sons, as well as a collection of Apples from Mr. Berry, very highly commended; a group of plants from Mr. Mahood, also floral decorations from Mr. Stevens, highly commended. The show was admirably managed, and creditable alike to officials and exhibitors.

WINDSOR.—NOVEMBER 8TH.

THE fourth annual autumn exhibition was held in the Albert Institute as usual, and was much the best of the series in every respect. It is a pity a larger site cannot be obtained, the necessity of crowding some of the exhibits is too apparent in the limited space at command. The arrangements under the circumstances were of the best, reflecting much credit on the Committee and the worthy Hon. Secretary, Mr. Finch, who laboured hard to make the show what it was—a success. Fruit also was well shown.

Groups of Chrysanthemums in pots, arranged in semicircular form in a space not exceeding 10 feet by 5 feet, were a distinct feature. Mr. Cole, gardener to Mrs. E. B. Foster, Clewer Manor, Windsor, was first prizewinner. The plants were exceptionally dwarf, well clothed with healthy foliage, and carrying blooms quite equal to the best seen in a cut state in many exhibitions. Mr. J. Wood, gardener to Lord Boston, Hedsor Park, Maidenhead, was a capital second. For four specimens, any section, Mr. F. J. Paul, gardener to Mrs. Bowring, Ascot, won premier position with plants of immense size, not too formally trained, and most profusely flowered. Mr. W. Skeet, gardener to Sir H. D. Gooch, Bart., Clewer Park, Windsor, second, with freely flowered standard-trained plants. A remarkable exhibit was that in the amateurs' section

for twelve plants, any varieties, trained specimens excluded. No less than nine competed, making an extraordinary display. Mr. H. Edwards, Windsor, won the premier award by the good quality of the blooms his plants carried. Mr. J. F. Young, Windsor, was a close second; and Dr. Wyborn, Sheet Street, Windsor, third.

Cut blooms were extremely well represented. The principal class was that for thirty-six, distinct, half to be incurved and the remainder Japanese. Mr. A. Sturt, gardener to N. L. Cohen, Esq., Englefield Green, just succeeded in securing the premier position with a charming lot of large, fresh and highly coloured specimens. The names were.—Japanese: International, Vivand Morel, Silver King, Etoile de Lyon, Stanstead White, Duke of York, Mdle. Thérèse Rey, Mrs. C. H. Payne, Charles Davis, W. H. Lincoln, G. C. Schwabe, Colonel W. B. Smith, E. Molyneux, Sunflower, Deuil de Jules Ferry, Rose Wynne (very fine), Violet Rose, and M. Ch. Moulin. Incurved: Empress of India, John Salter, Alfred Salter, Golden Empress, Lord Rosebery (fine), Jeanne d'Arc, Lucy Kendall, Miss M. A. Haggas, Prince Alfred, Flora Macdonald (large), Violet Tomlin, Princess of Wales, Madame Darrier, Robert Petfield, Camille Flammarion, Mrs. Coleman, John Doughty, and D. B. Crane. Mr. G. Lane, gardener to Miss A. S. Ridge, Highfield, Englefield Green, a good second; and Mr. F. J. Paul, third.

A challenge cup was presented with the first prize for twelve incurved and twelve Japanese, distinct, and which produced the finest blooms in the whole exhibition. Mr. Lane here succeeded in defeating Mr. Sturt by the superiority of his incurved blooms. So good were the premier collection that we give their names. Japanese: Duke of York, Charles Blick, International, Edwin Molyneux, Waban, C. Davis, Good Gracious, Mrs. J. G. Beer, Alberic Lunden, M. Ch. Molin, Madame Carnot, and Vivand Morel. Incurved: C. H. Curtis, Lord Rosebery, Globe d'Or, Golden Queen of England, Lucy Kendall, C. B. Whitnall, Empress of India, Miss M. A. Haggas, Mrs. Coleman, R. Petfield, Violet Tomlin, and Brookleigh Gem. Mr. E. Johnson, gardener to A. Gilliatt, Esq., Stoke Pogis, Slough, third. Mr. F. J. Paul won for twelve incurved with medium sized well finished blooms; Mr. W. Skeet, second; Mr. J. Williams, gardener to F. Ricardo, Esq., Old Windsor, third.

Mr. Sturt won the premier award for six any one variety, incurved, with Prince Alfred, Mr. Lane second with Jeanne d'Arc, Mr. A. B. Wadds, gardener to the Hon. W. W. Astor, Cliveden, third. For six Japanese in one variety Mr. Cawte, Dedworth Green, was first with Edwin Molyneux, Mr. Lane second with Vivand Morel, Mr. Wadds third with the same variety. Mr. A. Sturt staged remarkably fine Anemone-flowered varieties, and won first prize for twelve. Mr. J. Williams third. Mr. W. Neate, gardener to Miss Wacker, Ascot, won for twelve reflexed, staging well-built blooms, Mr. Sturt second, and Mr. J. Woodhouse, gardener to Miss H. Belcher, Ascot, third.

A most interesting class was that for a basket or vase of twelve blooms with stems not less than 1 foot long. Mr. R. Cawte won first with a pleasing arrangement in a round basket; Mr. J. Wood second, and Mr. F. J. Paul third. Amateurs and single-handed gardeners exhibited really well in the cut bloom department of the show. Space, however, forbids a mention of the individual exhibits.

GLOUCESTER.—NOVEMBER 11TH.

In every respect the exhibition held on the above date was considered by those who have seen it for many years to be the best the Society ever held. Groups of Chrysanthemums were not so good or numerous as on some former occasions, but the first-prize exhibit of Mr. John Herbert, Wotton, Gloucester, was a very handsome and well arranged one.

Cut blooms were admirably represented, and the silver cup offered by J. Buchanan, Esq., for the best twelve Japanese and twelve incurved was secured by M. W. Baker, Esq. (gardener, Mr. J. Aplin), Hasfield Court, Gloucester, in strong competition, his Japanese consisting of Vivand Morel, Lilian Bird, John Aplin, jun., Duke of York, Miss E. Tietmann, Mrs. C. H. Payne, W. H. Lincoln, Good Gracious, M. M. Ricoud, M. Panckoucke, Lady Randolph, and Colonel W. B. Smith; incurved: Empress of India, Globe d'Or, Golden Empress, Director Konalleke, Jeanne d'Arc, Princess of Wales, Mrs. R. King, Matthew Russell, Duchess of Teck, C. B. Whitnall, P. Martignat, and Queen of England. Second, Mr. A. J. Driver, Bridgend, Stonehouse. In the twelve bloom class Mr. S. T. Wright, gardener to C. Lee Campbell, Esq., Glewston Court, Ross, was an easy first, followed by Mr. J. Herbert.

In the black Grape class, Mr. G. Parry, gardener to — Sowray, Esq., Highnam Court, Gloucester, was a good first with Black Alicante. Second, Colonel Seddon, Wotton. In the Muscat of Alexandria class the positions were reversed. In the collections of dessert Apples the competition was very keen. The English Fruit and Rose Co., Hereford, took first honours, closely followed by Mr. J. Watkins, Pomona Nurseries, Hereford. The positions were reversed for the collections of culinary Apples, Mr. Watkins having the larger number of dishes, though both staged magnificent Apples.

For the twenty-four dishes of Apples, prize given by Mr. J. Watkins, the Glewston Court fruit easily distanced all other competitors, and was also leading in the single dish classes. Mr. J. Watkins was first, and Mr. S. T. Wright second, for a collection of dessert Pears, both staging well. The latter exhibitor was also first in the Tomato class with a superb dish named Glewston Court Tomato. Potatoes, vegetables, roots, and grain were admirably shown, and reflected the highest credit on the growers.

SUTTON.—NOVEMBER 12TH AND 13TH.

THE annual autumn show of the Sutton Chrysanthemum and Horticultural Society was held in the Public Hall on the above dates. The show was a decided advance on last year both in respect of number and quality of the exhibits, Japanese and groups being the best features of the exhibition. Great credit is due to Mr. J. Cook and a hardworking Committee for the able way in which the arrangements were carried out. Appended is a list of the prizewinners in some of the chief classes.

In the open class for eighteen Japanese, distinct, Mr. W. Slogrove, gardener to Mrs. Crawford, Gatton, Reigate, gained the first prize with a really fine stand of Vivand Morel, Madame Carnot, Duke of York, W. H. Lincoln, Mrs. F. Jameson, Mdle. M. Hoste, Mons. Panckoucke, Miss D. Shea, Madame Alf. Molin, Edwin Molyneux, Mdle. Thérèse Rey, Deuil de Jules Ferry, Alberic Lunden, H. Jacotot fils, Mrs. C. H. Payne, Sunflower, W. Seward, and Thunburg. Mr. C. Gibson, gardener to J. Wormald, Esq., Morden Park, was second, his best blooms being Charles Davis, Madame Carnot, W. H. Lincoln, and Sunflower. Mr. A. Minniss, gardener to J. M. Richards, Esq., Worcester Road, Sutton, third.

For eighteen incurved Mr. C. Lane, gardener to E. H. Coles, Esq., Caterham, was the only exhibitor, and was awarded the first prize. Mr. J. Alcock, gardener to Mrs. Bacon, Stoneleigh, Worcester Road, took the lead in the class for twelve Japanese with good blooms of Vivand Morel, Colonel W. B. Smith, Sunflower, and Duke of York. Mr. W. Jones, gardener to W. Hooper, Esq., Sutton, was second. For six Japanese, distinct, Mr. J. Cook, gardener to R. Farden, Esq., Heathfield, Worcester Road, was first, the best varieties being Mr. C. H. Payne, Charles Davis, Etoile de Lyon, and Lord Brooke. Mr. Alcock was second, and Mr. A. Minniss third.

For twelve incurved, distinct, Mr. C. Goddard, gardener to W. H. Francis, Esq., Broomfields, Grennell Road, was first with examples of Prince Alfred, Refulgens, Violet Tomlin, and others. Mr. W. Jones was second, and Mr. A. W. Soathard third.

For six Japanese in any one variety, Mr. A. Minniss was first with a grand stand of Mdle. Thérèse Rey; Mr. J. Alcock second with Avalanche; and Mr. J. Cook third with Florence Davis. For six Japanese, one yellow variety, Mr. E. Cox, gardener to A. J. Heveron, Esq., Lynton Lodge, took the first prize with Sunflower. Mr. W. Jones second with same variety. Mr. J. Cook third with Charles Blick. For six incurved, one variety, Mr. C. Goddard was an easy first with Violet Tomlin; Mr. W. Jones second; and Mr. Alcock third. In the class six Japanese, distinct, with foliage as grown, Mr. Minniss was first; Mr. C. Goddard second; and Mr. E. Cox third.

For a group in a space of 40 square feet, Mr. H. Gates, gardener to R. W. B. Miller, Esq., Bellevue, Brighton Road, was first with well arranged plants; Mr. J. Cook was second, and Mr. W. Cutts, gardener to J. B. Watts, Esq., Blethwood, third. There were five competitors.

For a group of miscellaneous plants, arranged for effect in a space of 50 square feet, Mr. H. Gates was first with a beautiful exhibits; Mr. C. Goddard second, and Mr. W. Cutts third. Fruits and vegetables were well shown, and the competition throughout was keen.

KINGSTON.—NOVEMBER 12TH AND 13TH.

THIS flourishing Chrysanthemum Society held its nineteenth annual exhibition in the Drill Hall, Kingston, on the above dates. The weather on the opening day was wet and uninviting—regular Chrysanthemum weather—we heard someone remark. In spite of this, however, interest ran high, a large and diversified schedule being arranged. Cut blooms and trained plants were the chief feature in the show, the exhibits being numerous and of superior quality.

Principal amongst the former was the 25-guinea challenge vase competition for forty-eight blooms, which evoked much interest. Four exhibitors competed, and premier honours fell to Mr. W. Higgs, gardener to J. B. Hankey, Esq., Fetcham Park, Leatherhead, who showed in fine form—incurved: Empress of India, Mrs. S. Coleman, Brookleigh Gem, M. P. Martignac, Prince Alfred, Mrs. W. Shipman, Golden Empress, Empress Eugénie, Miss Haggas, Baron Hirsch, Queen of England, Robert Petfield, Mrs. R. C. Kingston, J. Agate, Lucy Kendall, Lord Alcester, C. B. Whitnall, Lord Rosebery, Wm. Tunnington, Princess of Wales, Violet Tomlin, John Lambert, Lord Wolesley, and Jeanne d'Arc. Japanese: Mrs. C. Harman Payne, Col. W. B. Smith, Vivand Morel, The Queen, Commandant Blusset, Marie Hoste, Sir E. T. Smith, Souvenir de Petite Amie, Wm. Seward, E. Molyneux, Mrs. Peter Blair, Lady Saunders, Stanstead White, G. C. Schwabe, Sunflower, Mons. Panckoucke, Deuil de Jules Ferry, H. Jacotot fils, Vice-President Audiguier, Mrs. Falconer Jameson, Madame Ad. Chatin, Mdle. Thérèse Rey, Golden Gate, and Charles Davis. Mr. G. Hunt, gardener to Pantia Ralli, Esq., Epsom, took the second award with an exhibit of little less merit. Mr. M. Neville, gardener to F. W. Flight, Esq., Twyford, being third, and Mr. J. Quarterman, gardener to C. E. Smith, Esq., Cobham, fourth.

Mr. A. Mease, gardener to A. Tate, Esq., Leatherhead, was first with twenty-four incurved, showing well-formed blooms of Robert Petfield, Queen of England, Empress Eugénie, Lord Alcester, Wm. Tunnington, Mrs. Heale, C. B. Whitnall, Princess of Teck, Chas. Gibson, Globe d'Or, Jeanne d'Arc, J. Lambert, Robert Cannell, Princess of Wales, Chas. H. Curtis, Golden Empress, Lady Dorothy, Lord Rosebery, J. Doughty, Mrs. N. Davis, Empress of India, Hero of Stoke Newington, Flora Macdonald, and Major Bomoson. Mr. W. Higgs was a good second.

For twelve incurved Mr. F. King was first with Golden Empress, Empress Eugénie, Hero of Stoke Newington, Lord Rosebery, Mrs.

Robinson King, Robt. Petfield, Lord Alcester, John Doughty, Princess of Teck, C. B. Whitnall, Mrs. J. Kearn, and Prince Alfred. Mr. R. Ridge, gardener to C. Swinners Eady, Esq., Weybridge, was second; and Mr. E. Coombs, gardener to W. Furze, Esq., Teddington, third.

Out of seven competitors in the class for six incurved of one variety, Mr. W. Higgs was first with good blooms of Empress of India; Mr. A. Felgate, gardener to Her Grace the Duchess of Wellington, Walton-on-Thames, second, with Violet Tomlin, and Mr. F. King third with Robt. Petfield. Mr. J. Quarterman was first with six incurved, distinct, showing Queen of England, John Lambert, Miss Violet Tomlin, Lord Alcester, Empress of India, and Miss M. A. Haggas. Mr. G. Mileham, gardener to A. T. Miller, Esq., Leatherhead, was second, and Mr. G. Springthorpe, gardener to W. A. Bevan, Esq., Kingston, third.

The premier prizes for twenty-four Japanese fell to Mr. W. Mease, who showed fine examples of Silver King, Robert Owen, Vivian Morel, Miss Dorothy Shea, Mdlle. Thérèse Rey, Mrs. F. Jameson, Golden Gate, Good Gracious, Madame Ricoud, Madame Carnot, Commandant Blusset, W. G. Newett, E. Molyneux, Mrs. C. Harman Payne, Mons. Chas. Molin, Colonel Chase, G. C. Schwabe, Rose Wynne, Duke of York, A. H. Fewkes, Mons. Gruyer, Chas. Davis, Etoile de Lyon, and Mrs. W. H. Lees. Mr. G. Elliott, gardener to R. N. Graham, Esq., West Molesey, was a good second, and Mr. M. Standing, gardener to Mrs. Joad, Worthing, third.

Mr. F. King was first with twelve Japanese, showing Etoile de Lyon, International, Lord Brooke, Chas. Davis, President Borel, Sunflower, Vivian Morel, Mrs. F. Jameson, Louise, G. C. Schwabe, Viscountess Hambleton, and Mdlle. Thérèse Rey. Mr. E. Coombs took the second award, and Mr. G. Holden, gardener to Mrs. C. W. Izod, Esher, the third. For six Japanese, Mr. G. Mileham was first with good flowers; second, Mr. J. Quarterman; and third, Mr. Pead.

In the class for six Japanese of one variety there were no less than twelve entries. Out of these Mr. F. King was first with Mdlle. Thérèse Rey; Mr. G. Hunt second with Golden Gate; and Mr. W. Higgs third with Mdlle. Thérèse Rey. Well formed flowers, shown by Mr. W. Mease, were awarded the first prize in the class for twelve reflexed. Mr. H. W. Pitcher, gardener to Mrs. Dunnage, Surbiton, was a fair second; and Mr. H. Hawkes, gardener to G. B. Tate, Esq., Thames Ditton, third.

Mr. A. Turner, gardener to C. F. Murray, Esq., Epsom, was first with twelve Anemone-flowered, showing amongst others Sir Walter Raleigh, W. W. Astor, Enterprise, John Bunyan, and Delicatum in good form. The second place was taken by Mr. C. J. Waite, gardener to Hon. W. P. Talbot, Esher; and the third by Mr. G. Springthorpe. Anemone Pompons were well shown. Mr. J. Plowman was first for twelve, followed by A. Nagle, Esq., Surbiton, and Mr. G. Springthorpe, second and third in the order named. Mr. J. Plowman was also first for twelve bunches of Pompons, followed by Mr. G. Springthorpe, second. Mr. G. W. Forbes was first with twelve bunches of singles, showing superb flowers of Purity, Charming, Lady Churchill, Alphonse, and others. Mr. J. Plowman was a good second, and Mr. A. Felgate third.

For an arrangement of cut flowers and foliage for table decoration Miss B. R. Nuthall, Kingston, was first with an elegant stand. Miss Johnstone, Kingston, was second, and Mrs. Hugh Macan, Kingston, third. Mr. J. K. Miller was first with a hand bouquet of Chrysanthemums; second and third, Mr. C. J. Waite and Mr. G. Springthorpe in the order named. Mr. C. J. Waite was also first with a hand bouquet, second Mr. J. K. Miller, and third Mr. G. Springthorpe. The last named exhibitor was also first with a lady's spray.

Groups and Plants.—The first prize for a group of Chrysanthemums fell to Mr. J. French, gardener to Mrs. Barclay, Wimbledon, who showed good flowers, but lacking taste in arrangement. Mr. G. H. Sage, gardener to the Earl of Dysart, Richmond, was second, and Mr. G. M. Forbes, gardener to D. Nicols, Esq., Surbiton, followed with the third. Mr. F. King, gardener to A. F. Perkins, Esq., Holmwood, was first with three trained specimens, showing fine examples of Pink Christine, Vivian Morel, and Chinaman. Mr. W. Atkins, gardener to R. W. Monro, Esq., Coombe Warren, was a good second. For three trained Japanese Mr. J. Swan, gardener to G. Murray Smith, Esq., Weybridge, was first with Maiden's Blush, Margot, and Florence Percy.

Mr. J. Swan was a capital first with six trained specimens, showing fine examples of Florence Davis, Pink Christine, Mrs. Dixon, W. Stevens, and W. Tricker. Mr. Pead, gardener to R. S. Bond, Esq., Surbiton, followed with the second place. Mr. J. Swan was again first with four trained Pompons. Mr. J. Plowman, gardener to C. L. Lavers Smith, Esq., Long Ditton, second, and Mr. Pead third. Mr. F. King was first with a single Pompon specimen, showing Snowdrop; Mr. Swan followed with second, and Mr. Plowman third. In addition to the above, classes were provided for amateurs and local growers, which brought together some creditable blooms. Lack of space, however, forbids mention of them. Mr. R. Ridge was first with a group of mixed flowers and foliage, showing a rather pleasing arrangement. Mr. F. Hopkins, gardener to Mrs. Widderspoon, Walton-on-Thames, was second, and Mr. E. Tekell, gardener to B. F. MacGeagh, Esq., Kingston Hill, third.

FRUIT.—Mr. W. Davies, gardener to T. P. Chappell, Esq., Teddington, was first with four dishes of fruit, showing Apples, Pears, Grapes, and a Pine. Mr. C. J. Waite took the second prize, and Mr. F. A. Hicks, gardener to A. Cushney, Esq., Cobham, third. Grapes were exceedingly well shown. The premier prize for three bunches of black was awarded to Mr. G. Elliott, gardener to P. N. Graham, Esq., West Molesey. Mr. J. Bury, Byfleet, was a good second, and Mr. W. Taylor, gardener to C. Bayes, Esq., Forest Hill, third. The last named exhibitor was first with three bunches of white Grapes, showing fine examples of

Muscat of Alexandria. Mr. G. W. Cole, Feltham, was second, and Mr. J. Bury third. There were fifteen entries for six dishes of Apples, three dessert and three kitchen. Mr. W. Taylor, Hampton, took the first place with highly coloured fruit. Mr. G. Tubb, gardener to B. W. Currie, Esq., Farnborough, was a close second, and Mr. C. J. Waite, followed with the third. Pears were also shown in quantity, there being ten competitors for four dishes. Mr. W. Davies was first with superb fruit, Mr. W. Taylor second, and Mr. Pitcher third.

LIVERPOOL.—NOVEMBER 12TH AND 13TH.

"A GRAND exhibition!" was the verdict passed on the fifteenth annual exhibition opened in St. George's Hall on Tuesday last. The cut blooms were not so strongly contested as in former years, but the quality was of the very finest. And what must be said of the long lines of fruit, large and brilliant in colouring, quite outrivalling the best of American samples? and if ever English fruit-growing must come to the fore what greater incentive can our Liverpool fruit growers have placed before them? and it cannot fail to carry great weight. Several notable additions have been made to the schedule, particularly classes for twelve incurved and twelve Japanese, arranged for effect with their own foliage, three responding to the first and seven to the latter.

The great class in the show is for forty-eight cut blooms, not less than eighteen varieties of each, Japanese and incurved, and not more than two blooms of one variety, and here there were seven stands staged. The first position was won by Mr. J. Jellicoe, gardener to F. H. Gossage, Esq., Camp Hill, Woolton; Mr. Geo. Eaton, gardener to W. H. Shirley, Esq., Allerton House, being second; and Mr. C. Osborne, gardener to Henry Tate, jun., Esq., Allerton Beeches, third. Mr. Jellicoe's stand was a remarkably fine one, and comprised the following:—Japanese—Back row: Vivian Morel (2), Chas. Davis (2), Mrs. C. H. Payne (2), Col. W. B. Smith, Miss D. Shea. Middle row: Van den Heede, Violetta, W. Seward (2), Duke of York, Thos. Wilkins, Etoile de Lyon, Waban. Front row: Marie Hoste (2), Commandant Blusset, Col. Chase, E. Molyneux, Madame Carnot, Van den Heede, and Sunflower. Incurved—Queen of England (2), Baron Hirsch (2), Golden Empress (2), Lord Alcester (2), Empress of India (2), Prince Alfred, Lucy Kendall, Emily Dale, Beauty (2), Mrs. Heale, Violet Tomlin, Madame Darrier, Princess of Wales, Mr. Bunn, Madame F. Mistral, J. Agate, Lord Wolseley, and Miss M. A. Haggas.

Three staged eighteen incurved, distinct; a new exhibitor (Mr. J. Heaton, gardener to R. P. Houston, Esq., M.P., Aigburth) winning with a stand of good coloured blooms. Back row: Queen of England, Mrs. R. King, Baron Hirsch, Empress of India, Golden Empress, Lord Alcester. Second row: Miss M. A. Haggas, Princess of Wales, Jno. Doughty, Brookleigh Gem, Jeanne d'Arc, Madame Darrier. Front: Violet Tomlin, Mrs. Heale, Mrs. Coleman, Lucy Kendall, Mr. Bunn, and Robert Petfield. Mr. J. Haynes, gardener to Mrs. B. C. Nicholson, Oswaldcroft, Wavertree, was a good second; and Mr. Jas. Grant, gardener to W. S. Gladstone, Esq., a fair third. For the same number of Japanese Mr. Heaton was again a grand first with Vivian Morel, E. Molyneux, Mdlle. Thérèse Rey, Lord Brooke (magnificent), Marie Hoste, Mrs. C. H. Payne, G. C. Schwabe, Louise, Etoile de Lyon, W. Seward, Eda Prass, Boule d'Or, Mons. Panckoucke, Col. Smith, Col. Chase, Sunflower, Florence Davis, and Chas. Davis. For twelve Japanese, distinct, Mr. Chas. Sherlock, gardener to E. Edmondson, Esq., Woodlands, Aigburth, was an easy first; and Mr. J. Williams, gardener to C. J. Procter, Esq., Noctorum, a creditable second.

Anemone-flowered, reflexed, and Pompons were splendidly shown, the winners being Messrs. George Eaton and Edward Wharton, gardener to John Findlay, Esq., Sefton Park. Three staged twelve incurved blooms, Mr. P. Greene, gardener to Thomas Gee, Esq., Allerton, having first, and Mr. Wharton second.

Twelve incurved, arranged with their own foliage, Mr. J. Bracegirdle, gardener to W. H. Watts, Esq., Elm Hall, Wavertree, first; and Messrs. Littlemoore & Moore, Fazakerley, second. For the same number of Japanese, Mr. B. Cromwell, gardener to J. S. Timmiss, Esq., Cleveley, was distinctly ahead. Mr. Bracegirdle was a good second. Other smaller classes were filled up by Mr. W. H. Kirkby and Mr. Thomas S. Driver.

Chrysanthemums in pots were exceptionally good on the whole, but space will not permit of their being given in detail. The prizewinners were Mr. T. Gower, gardener to J. A. Bartlett, Esq., Lynton Lodge, Mossley Hill, who won in five classes; Mr. W. Wilson winning in another class; Mr. W. Lyon, gardener to A. Mackenzie Snitt, Esq., Bolton Hey, Roby, coming in with two seconds. Groups were very fine, Mr. J. Harrison, gardener to Mrs. W. G. Bateson, Aigburth, winning; whilst a splendid group of good flowers and foliage was that arranged for effect by Mr. J. Bracegirdle.

Ferns and other miscellaneous plants were in good condition and well contested. The trade, as usual, made a grand addition to the show, Messrs. Ker & Sons, Aigburth Nursery, having their superb Cyclamen in perfection and beautifully staged; Messrs. Charlesworth and Co., Heaton, Bradford, splendid types of *Cattleya labiata* and other choice Orchids; Messrs. Jno. Cowan & Co., Ltd., Garston, fine types of *Cattleya labiata* and other plants in capital form; Mr. Henry Middlehurst, Manchester Street, Liverpool, a collection of Potatoes; Messrs. Dicksons, Ltd., Chester, miscellaneous plants and forty dishes of Apples in excellent condition. It is pleasing to record the fact that George Dickson, Esq. (Dicksons, Ltd.), at the dinner very kindly gave a donation of 10 guineas, a gift most opportune and gratefully received by the Committee.

SEVENOAKS.—NOVEMBER 12TH AND 13TH.

THE above Chrysanthemum Society held its annual exhibition on Tuesday and Wednesday last. Groups of Chrysanthemums and specimen plants were the chief features in the show, these being numerous and of good quality. Cut blooms were fair on the whole, but the competition was not keen. Floral decorations, fruit, and vegetables were also shown in good form.

The chief attraction in the show was the competition for the 20-guinea cup, offered for the best group of Chrysanthemums occupying a space of 7 feet by 5. Seven competitors vied with each other for the premier position, which, after much consideration, was granted to Mr. A. Hatton, gardener to Mrs. Swanzy, Sevenoaks, for a compact group, containing many excellent flowers. The colours were blended with taste, white and yellow being predominant, while the collection consisted of well-known varieties. Mr. S. Cooke, gardener to De Barri Crawshay, Esq., Sevenoaks, was a very close second. His group contained many fine blooms, though not of such equal quality as the former. Mr. W. Tebay, gardener to Mrs. Rycroft, Sevenoaks, was accorded the third place; and Mr. A. Gibson, gardener to T. F. Burnaby Atkins, Esq., Sevenoaks, the fourth. In the continuation of this competition at subsequent shows the introduction of foliage plants in the groups would assist considerably in enhancing their attraction, as there is ample room for more taste in arrangement.

Four exhibitors competed in the class for a group of plants, occupying a space of 5 feet by 5. Mr. W. Read, gardener to Admiral Miller, Sevenoaks, was first with a fair group, but too flat in arrangement. Mr. A. Farmer, gardener to J. S. Norman, Esq., Sevenoaks, was second; and Mr. Heath, gardener to Mrs. Petley, Sevenoaks, third. Mr. E. Hughes, gardener to J. Dixon, Esq., Sevenoaks, was first with three bush-trained Chrysanthemums, showing well-flowered specimens, the second place being taken by Mr. A. Hutton. The last named exhibitor was first with a single specimen; Mr. S. Ryder, gardener to C. Young, Esq., following with second.

For three bush-trained incurved plants Mr. S. Huntly, gardener to Rev. S. Curtis, Sevenoaks, was first; and Mr. A. Farmer, gardener to J. S. Norman, Esq., Sevenoaks, second. For three Japanese Mr. S. Huntly was again first, Mr. H. Heath second, and Mr. W. Fox, gardener to H. Sowerby, Esq., Sevenoaks, third. Mr. S. Huntly was also first with three Pompons, followed by Mr. A. Farmer and Mr. G. Duberry, gardener to Mrs. Pye Smith, Sevenoaks, second and third. Quite a distinct and pleasing feature in the show were the exhibits in the class for twelve cut blooms with long stems, arranged with foliage or plants. Mr. R. Potter, gardener to Sir Mark Collett, Sevenoaks, was first with good blooms, tastefully arranged with Crotons, Grevilleas, and Adiantums. The second award fell to Mr. Hatton, and the third to Mr. S. Cooke. These exhibits were arranged along the hall stage, where they looked very effective.

Mr. A. Gibson was first with six blooms of one variety, showing Vivand Morel; Mr. W. A. Searing, Swanley, was second with International; and Mr. Vince, gardener to W. Llewellyn, Esq., Sevenoaks, third with Etoile de Lyon. The first prize for twelve Japanese blooms, distinct, fell to Mr. E. Hughes, gardener to J. Dixon, Esq., Sevenoaks, who showed good blooms of Mrs. E. W. Clarke, Sunflower, G. C. Schwabe, Eda Prass, Duke of York, Chas. Davis, Mrs. C. Harman Payne, Edwin Molyneux, Mdlle. Thérèse Rey, Etoile de Lyon, Vivand Morel, and Col. W. B. Smith. The second prize fell to Mr. A. Gibson, and the third to Mr. W. A. Searing.

Mr. S. Cooke was first with twelve Japanese of not less than eight varieties. Mr. A. Hutton was accorded the second place; and Mr. S. Ryder, gardener to C. Young, Esq., Sevenoaks, the third. Mr. W. Tebay, was a good first with twelve incurved, distinct, showing well formed flowers of Lord Alcester, Jeanne d'Arc, D. B. Crane, Queen of England, Baron Hirsch, Miss M. A. Haggas, Mrs. Robinson King, Mrs. Coleman, Lord Rosebery, Brookleigh Gem, Empress of India, and Princess Teck. For twelve incurved of not less than eight varieties, Mr. S. Cooke was first with moderate blooms; and Mr. S. Ryder followed with second. Mr. S. Ryder was first with twelve Anemones, Mr. E. Hughes second, and Mr. A. Hatton third.

Vegetables were exceedingly well shown. For a collection of six varieties Mr. W. A. Searing was first, Mrs. C. Potter second, and Mr. C. Edwards, third. Prizes were also offered by Messrs. M. V. Seale, Sevenoaks; F. Webber, Tonbridge, and Jas. Carter & Co., Holborn, for which Mr. S. Huntly, Mr. H. Heath, and Mr. J. Buckland were all first prizewinners.

THE TREE TOMATO.

AT the Torquay Chrysanthemum show, on a stand of fruit exhibited by Messrs. Curtis, Sanford, & Co., amongst other fruit was a dish of Tree Tomato from Ceylon, a sample of which I send you. The tree they were taken from was raised from seed sown about two years ago. Last year it did not produce any fruit; this year it is flowering and fruiting very freely, but almost too late to ripen in a cold house. The fruits when ripe are a dull red. There has only been two or three ripe yet; quite different in appearance, shape, and flavour to our ordinary Tomato. The trees at the present time are the height of the house,

12 feet, with branches from 8 to 10 feet long, fruiting at every joint in clusters.—THOS. PENDER.

[The clusters of fruit received are the finest we have seen of the species. Individually they exactly resemble a fruit which we figured a few years ago (see fig. 72), as grown by the Rev. W. Wilks, with the following references thereto:—

"The 'tree' on which the fruits shown have been grown is about 9 feet high, with a spreading much-branched head. The leaves when young are of a violet purple colour, changing with growth into a deep green. They are very large when fully developed. The blossom is precisely like a Solanum, being, in fact, to an ordinary observer

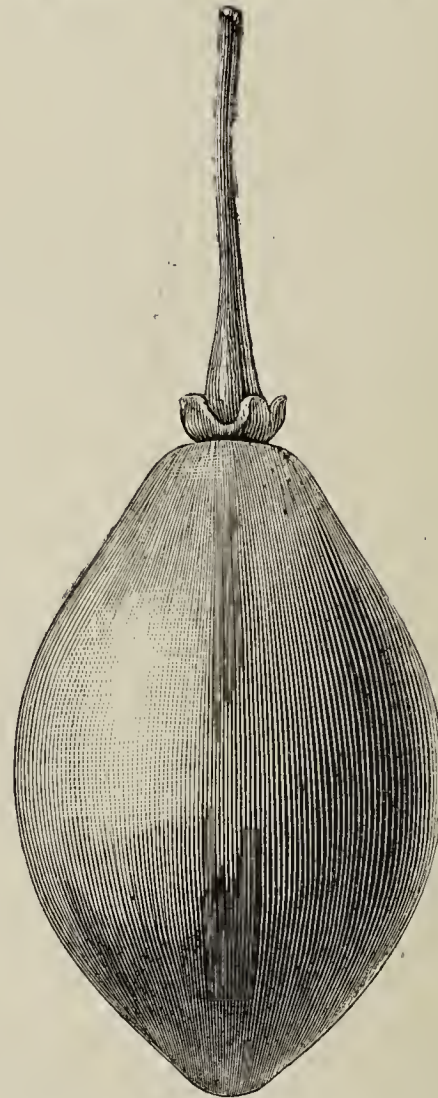


FIG. 72.—TREE TOMATO (CYPHOMANDRA BETACEA).

identical with that of the plant commonly known as 'Black' or 'Woody Nightshade.' It is an abundant bearer, the fruit ripening late in November and throughout December and January. The fruit when raw has a much firmer flesh than a Tomato, and is slightly more acid, but when cooked it is almost indistinguishable from the ordinary Tomato. The plant has been grown throughout in a cool orchard house, from which only frost is excluded.

"Cyphomandra betacea is a member of the Solanum family, and in Decandolle's 'Prodromus' about thirty species were described, chiefly from South America. The Tree Tomato has been known to botanists for many years, and has been cultivated in botanic gardens for a considerable time, but it is rarely seen in private gardens. As it succeeds in a cool house and is easily grown it is worth a trial as a fruit-yielding plant, and is very ornamental when its bright red fruits are ripe."



FRUIT FORCING.

Peaches and Nectarines.—*Earliest Forced House.*—Trees of the standard forcing varieties—Hale's Early, Stirling Castle, Dymond, and Royal George Peaches; Early Rivers, Lord Napier, Stanwick Elruge, and Dryden Nectarines, all of free setting and sure stoning proclivities, with capital colour and high quality in the fruits—must be started at the beginning of December to ripen the fruit in May. On the other hand, trees of Alexander, Waterloo, Early Louise, and Early Beatrice Peaches, Advance and Early Rivers Nectarines, to afford ripe fruit at the end of April or early in May, do not require to be started

until the beginning of January. With hard forcing, which is not advised with permanently planted-out trees, the fruit may be had in a month or even six weeks less time; indeed, fruit of Alexander Peach and Advance Nectarine have been produced in thirteen weeks from the time of starting. Such express work is best performed by trees in pots, specially prepared, and even selected for the purpose. Some trees, however, are much in the condition of potted ones—namely, the roots are wholly within the house, and confined to borders of limited area, so as to be completely under control, and treatment is essentially that of trees in pots, the growths being pinched, and the fruit borne largely on spurs or late-formed growths or laterals, thus obviating the anxiety about the buds dropping, which is peculiar to some varieties, especially early forced.

Whatever the varieties and the time of starting, the trees require a similarity of condition, therefore our advisements have relative cogency; but as we, rightly or wrongly, have regard only to certainty of crop and maximum of quantity, with high colour and quality—that is, substantial results over an extended period, instructions will be given on the old lines and with exclusive respect to the standard forcing Peaches and Nectarines, some of which are comparatively new, but of proved worthiness for including in the front ranks. The trees should be thoroughly examined for brown aphids, and if there be the least trace of the pest the affected parts should be brushed over with tobacco water the same way as the growths, and the house thoroughly fumigated or vaporised with tobacco smoke or nicotine vapour on two consecutive evenings. If the lights have been off, the border will be thoroughly moistened through to the drainage, but there must not be any mistake about this, for it is imperative that the trees have sufficient water at the roots; therefore, if any doubt exists as to the moisture of the soil, give a thorough supply at about the temperature of the house. Weakly trees will be benefited by an application of liquid manure, but avoid making the soil sodden and sour by needless supplies of water or liquid. Trees that have not been forced early before should have the houses closed about the middle of this month, they having had rest since the end of September.

Fire heat need only be employed at night to exclude frost, and by day to ensure a temperature of 50°. Commence ventilating at 50°, and close the house at that temperature, ventilating fully without lowering the heat below 50° in the daytime. Syringe the trees lightly in the morning and early afternoon of fine days until the buds begin to show colour, but then (and in dull days prior thereto) discontinue the syringing, yet maintain a suitable moisture in the atmosphere by damping the paths and borders on bright mornings and fine afternoons, admitting a little air constantly at the top of the house.

Aim at bringing the trees on gradually to secure sturdy, well developed blossoms, bold in petals, strong in the stamens, with anthers laden with perfect pollen, and the pistils stout, well advanced above the ovary, and perfect for fertilisation. These, however, will be perfect or imperfect as they were formed in embryo in the buds during the previous season, but they can be enfeebled by bringing them on too rapidly, and made thin in the petals, weak in stamens, and slender in pistil, with ill-developed ovary, by not affording time for their perfect development. Trees previously early forced will start readily at the accustomed time, they, if anything, being too eager for work, and require full exposure or ventilation to keep them back to the proper time.

Houses Started at the New Year.—Trees started early in the year for affording fruit at the end of May or early in June, the trees being the standard second early and midseason varieties of proved excellence for early forcing, must now be kept as cool as possible. This is best effected by keeping the roof lights off the house until the time of starting. The severest weather does not injure ripened and matured wood—such only affords satisfactory crops of fruit—and the trees are allowed complete rest so far as it is practicable in our climate. The lights, however, should be replaced about a fortnight in advance of starting the trees, and they must be cleansed, repaired, and painted as necessary.

The woodwork of the house must be washed with soapy water, and the walls limewashed. Pruning will be a light affair if proper attention has been given to disbudding, retaining growths only essential for extension and next year's crops, and cutting out, after the fruit is gathered, the useless wood. The trees, however, must be examined to remove wood not required, and that having been overlooked during growth. Brown scale is sometimes troublesome, and is impatient of extremes. Syringing with water at a temperature of 140° to 160° frees the branches of the pests, but the water must not be used excessively, it sufficing to reach every part with the hot water. Frost also has a decisive effect on brown scale, and trees exposed in the resting season are seldom affected with it, but it is often introduced from plant houses, by persons in charge of ventilation. Trees under fixed roofs may be cleansed of scale and other insects by dressing them with soluble petroleum and other advertised insecticides, using a stiffish brush, and taking care not to dislocate the buds.

Secure the trees to the trellis, allowing plenty of space in the ties for the swelling of the branches. Remove any loose inert soil, supplying fresh not more than a couple of inches thick on the roots, and on this afford a top-dressing of 4 ozs. per square yard of some approved fertiliser or of the following mixture—Seven parts or lbs. of bonemeal, and three parts or lbs. of kainit, mixed. Mulching should be deferred until the trees are somewhat in growth. Houses with fixed roofs should be kept as cool as possible, ventilating to the fullest extent except when severe frost prevails.

Houses Started in February.—The trees started at that time to ripen the fruit late in June or early in July will now require similar treatment

to that advised for those in the house to be started at the new year. The roof lights are better removed, but it is a common practice to use houses of this kind for plants requiring protection from frost, especially Chrysanthemums. It is not good practice, for the Peach trees are deprived of the rest essential to success, being often excited prematurely, and that followed by a check, as is usually caused when the Chrysanthemums are over by throwing the house open, inducing the buds to fall. It is a still worse system to leave houses and trees unattended after the leaves fall until the absolute necessity arises for starting the trees. The trees are never handled so safely as when the wood contains least sap, which is as soon as the leaves have fallen, and the delay is taken advantage of by red spider and thrips to find safe retreats. The house, therefore, should be thoroughly cleaned, the trees pruned, readjusted to the trellis, and every needful operation performed, so that a start can be confidently made when the time arrives.

Houses Started in March.—The trees in these structures if closed early in March, will ripen their fruit in July if brought forward by artificial heat, but where warmth is only given when the trees are in blossom, and to insure the safety of the young fruit from frost, the fruit will not ripen until August or September if kept cool. The house may be a glass-covered wall with sufficient hot-water piping to exclude frost; afford a genial warmth when the trees are in blossom, accelerating the ripening as may be necessary in cold districts. The trees are now leafless where they have been subjected to artificial heat to ripen the fruit in August, and should undergo the operation advised for the earlier houses. The roof lights should be removed, but hot-water pipes emptied, leaving the lights off until the blossoms show colour, unless it is desired to start the trees before. If the lights are fixed, the ventilators should be thrown open to the fullest extent except during very severe weather, or even then if the hot-water pipes are emptied.

Latest Houses.—Late Peaches are quite as valuable as early ones, considering that they are had at much less cost, for all that is necessary for late houses is a gentle warmth in spring and autumn, and not always heat at those times. Make no attempt to remove the leaves until they part readily from the trees by shaking the trellis. Cut out all the wood that has borne fruit, except extensions, and all superfluous growths. Do not allow the soil to become very dry, but if necessary give water to moisten the soil down to the drainage. Keep the house cool by free ventilation, clearing away the leaves as they fall. Trees that grow too luxuriantly should be root-pruned and lifted whilst the leaves are partly on the trees, but the wood being unripe, they must not be lifted until the leaves have for the most part fallen, or the unripe wood will shrivel and die. If the wood does not ripen well turn on the heat by day with moderate ventilation, and turn it off early in the afternoon, so as to have the pipes cool before night, and then open the ventilators, unless frost prevails, when ventilate according to circumstances, for a sudden collapse of the foliage is detrimental to the tree's health. When the wood does not ripen up to the points of the shoots a trench may be formed at some distance from the stem, and the roots be cut, which will check the tendency to growth and induce ripening. After remaining open ten days or a fortnight the trenches may be closed, making the soil firm, and giving a good watering.

Cucumbers.—Plants that have been in bearing some time can be invigorated by a top-dressing of turfy loam, to which has been added about a fifth of thoroughly decayed manure or sweetened horse droppings, and about a tenth of "nut" charcoal. A sprinkling of superphosphate on the surface will promote root formation and sturdy growth. Afford copious supplies of water, but let the soil be getting dry before any is given, then supply enough to moisten the bed through, using it at the same temperature as the house. Thin the old exhausted growths and lay in young, by which means the plants will continue bearing for some time longer. The autumn fruiterers are in full crop; these must not be over-burdened, therefore remove fruit as soon as it attains a fair size, and all deformed fruit when observed. Examine the plants at least once a week for the removal of bad leaves, stopping or cutting away surplus growths, keeping the foliage fairly thin, yet an even spread on the trellis.

Winter fruiterers should be allowed to become well extended over the trellis before pinching them for the production of fruit, training the growths evenly, and not more closely than to allow of the foliage being exposed to light. Stop after that at a few joints of growth or one or two joints beyond the show of fruit, but if the plants are weak allow more extension, and crop lightly at first. Remove most male flowers, and do not allow tendrils, but remove them as fast as they appear. Keep the beds replenished with soil, adding fresh and warmed as often as the roots appear at the sides of the ridges or hillocks.

Maintain a night temperature of 70°, 5° or 10° less in severe weather, 70° to 75° by day artificially, advancing to 80° and 90° or more with sun heat. Admit a little air at the top of the house whenever the weather is favourable, affording it, however, without lowering the temperature. Judicious ventilation, however, is highly beneficial in carrying off accumulated moisture and giving solidity to the growths, enabling the plants to tide over the trying ordeal of prolonged severe weather, when plants with thin-textured leaves often succumb. The syringe will only be necessary for damping paths and walls in the morning and afternoon in bright weather, which will give rise to the needful moisture, especially when the evaporation troughs are charged with weak liquid manure or water. On bright afternoons a light bedewing of the plants overhead will be beneficial, but care must be taken to practise it early and not make the foliage tender by its too frequent recurrence. All water used for damping, watering, or liquid manure applied to the roots must be of the same temperature as the house or bed.

THE BEE-KEEPER.

APIARIAN NOTES.

THE WEATHER.

AFTER two weeks' frost, varying from 7° to 12°, and about seven miles of bee flight in different directions, we had a slight thaw on October 30th, with a bitterly cold rain for a short time, afterwards changing to the mildness of summer. This occurred at an elevation of 1400 feet above sea level, near Leadhills, where I then was. There is a vast difference in the appearance of the Heather this year, there is not a single blossom; last year they were profuse, and much was in bloom up till Christmas. I learned, too, that the grouse are so wild that sportsmen cannot make good "bags." I mention these things simply for comparison by others, and to show the effect the weather has on both plants and animals. There is much to be learned in this respect from bees alone.

WORK DURING WINTER.

There are many bee-keepers who cannot well afford to purchase the cheapest of frame hives, which puts them to a disadvantage with those more fortunate. There is nothing to prevent the greatest tyro, if inclined, to make his own hives; a very little exertion and self-denial accomplishes and overcomes much at times, and may be extended greatly to bee-keepers and bee-keeping. Make your own hives, and follow our instructions, and success will follow.

It is worth remarking that some of the English hives are made after the American style, while, on the other hand, one of the most popular hives in America does not differ very much from the hive I sent to the first Crystal Palace bee and honey show, and I have good evidence now to believe it was a copy from that hive. Nor is this all. One of my oldest frame hives was made as early, if not before that of the late Mr. Langstroth. The frames of it are figured in an American publication, and for the second time, too, as a likely frame to adopt. It will be remembered by your readers how some of my early frames were patented a few years ago by various dealers, and the proof I produced regarding my priority. These facts ought to strengthen the faith of beginners and others in the teachings of the *Journal of Horticulture*, which was also the pioneer in describing the working two queens in one hive, known now as the "Wells system."

Some time since full particulars were given how to make the Lanarkshire storifying hive, the hive possessing many advantages to bees and bee-keepers. But as this article is more for economical bee-keepers than any one kind of hive I would rather advise bee-keepers to make hives to their own tastes and liking. In places where empty boxes of one uniform size can be obtained they should be secured; if of the proper size all the better, as single-cased hives are superior in every respect to double-cased ones. If these boxes are a little too large, and it is not practical to reduce them by breaking them up, insert inner walls of stuff about five-sixteenths, or at most three-eighths, and if these are let into a raggle or trench so as to be moveable a great point will be gained. Should any readers attempt the work and encounter difficulties, I shall be glad to advise how to overcome them and construct good serviceable hives. It is not absolutely necessary to stick to any specified frame, but be accurate in having those you do make exactly one size, and to have the top bars $1\frac{1}{4}$ broad by $\frac{1}{2}$ inch for every foot long; these sizes will give greater satisfaction in every respect than when they are thinner, as will the one-eighth by one-eighth groove for fixing foundation, and when put together you will learn the great advantage of having tacks or furniture nails as self-spacers, which I used nearly half a century ago.—A LANARKSHIRE BEE-KEEPER.

SEASONABLE NOTES.

THERE have been more rainy days during the past month, with the exception of January, than have been experienced since October last year, 2.79 inches of rain having fallen on eighteen days, not a heavy rainfall, but which has proved of great benefit to the young plants of White Clover, of which many acres are annually sown for sheep pastures, and which promise well for another season.

July has again proved to be the wettest month of the year, when upwards of 4 inches of rain fell on a less number of days, which will probably come as a surprise to bee-keepers residing in the south, where pastures at that time were dried up; but with the fine weather experienced from early spring onwards, both in the south and west of England, although the honey producing flowers were not very plentiful, the White Clover in particular only lasting

a short time. Still it enabled the bees to store a surplus, with the result that in some districts honey is absolutely a drug on the market, good samples remaining on hand, which had hitherto sold readily at remunerative prices.

But at that time, when pastures were parched up in the south, bee-keepers residing north of the Trent had abundance of bee herbage in all directions. Even the sides of the country lanes were in many places white with masses of white Clover in bloom, but during the whole of the honey flow, except for one brief day, the weather was dull and wet. Had we been favoured with glorious weather, similar to that experienced in September, tons of honey would have been gathered instead of hundredweights. But if the crop has been light there has been no difficulty in finding a market for what proved to be only a third of a crop.

There has, however, been no advance in the price, which should have been proportionately higher. But what is the cause of the difficulty so many bee-keepers have in certain districts where a fair average crop has been obtained in finding a market for their produce? Is it not owing to the great amount of foreign produce, which is often an adulterated article, and sold at a low price under the name of honey, and which I fear is often sold as British to the detriment of our home industry, which should be protected by having all foreign honey branded with the country of its origin? Bee-keepers in this country would then be competing on even terms, and the consumer would then obtain what he asked for. The day, I hope, is not far distant when this will take place, which will prove a benefit to the public at large, the bee-keeper will find a better market for his produce, and the consumer will obtain the genuine article, as no honey can compete with our own for quality.—AN ENGLISH BEE-KEEPER.

TRADE CATALOGUES RECEIVED.

W. Clibran & Son, Altrincham.—*Chrysanthemum List*.
W. Drummond & Sons, Stirling.—*Fruit and Other Trees*.
Fotheringham & Young, Dumfries.—*Trees and Shrubs*.
Hogg & Wood, Coldstream.—*General Nursery Stock*.
H. J. Jones, Hither Green, Lewisham.—*Chrysanthemum Guide*.
Little & Ballantyne, Carlisle.—*Trees*.
R. Owen, Maidenhead.—*Chrysanthemum List*.
H. Shoesmith, Claremont Nursery, Woking.—*Chrysanthemums*.



* All correspondence should be directed either to "THE EDITOR" or to "THE PUBLISHER." Letters addressed to Dr. Hogg or members of the staff often remain unopened unavoidably. We request that no one will write privately to any of our correspondents, as doing so subjects them to unjustifiable trouble and expense.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Bee subjects, and should never send more than two or three questions at once. All articles intended for insertion should be written on one side of the paper only. We cannot reply to questions through the post, and we do not undertake to return rejected communications.

Roses Infested with Mildew (J. F.).—The Roses that have been infested by this parasite in the summer are not likely to recover from its effects during the winter if they have any leaves or young growths, for the fungus will be more or less active, and it should be destroyed by dusting the plants with flowers of sulphur. If that is objected to syringe the plants with a solution of softsoap, 2 ozs. to a gallon of water, and repeat occasionally. During the winter months dusting with flowers of sulphur is the preferable method, and if carefully and not excessively used need not be an eyesore.

Mulching Beds of Bulbs with Short Manure (T. F.).—It is not a good plan to cover the beds after planting with short manure, unless thorough sweetened and decayed so as to resemble fine mould, then it acts as protection from frost and nourishment to the bulbs, as the manurial elements are washed into the soil, whilst the manure itself will be so acted on by the weather as to form a fine tilth, through which the growth will push without prejudice. Cocoa-nut fibre refuse is a much better substance than manure for covering beds of bulbs, being neater in appearance; while the manure, if at all rank or fresh, is best reduced before use, and even then better mixed with the soil than placed on the surface. A little, however, will not do any harm, but by protection and nourishment benefit the plants.

Cassia corymbosa Culture (Novice).—This is a member of the natural order Leguminosæ, and bears the name given above. It succeeds well in a greenhouse or other cool house, and also does well out of doors in the summer; but it is not hardy, and it would not be safe in a border during the winter unless the situation is very warm and sheltered. A compost of turfy loam, a little well-decayed manure, leaf soil, and sand meet its requirements; but it will grow fairly well in almost any ordinary garden soil. Your plant is in excellent health, the foliage being remarkably vigorous. The best plan would be to transfer it to a conservatory, where it could be trained to a wall, pillar, or roof.

Roses for Arches (G. R. P.).—The free-growing Ayrshire Roses, such as Alice Grey, Bennett's Seedling, and Splendens, are suitable for covering arches and arbours, as also are the Boursault Roses Amadis, elegans, and inermis. You may add also the evergreen Rose Félicité perpétué. These are all free, indeed more or less rampant growers, and are very effective when covered with their great clusters of flowers. If you desire Roses less floriferous, but to produce better blooms over a longer period, plant such varieties as Gloire de Dijon, Belle Lyonnaise, Reine Marie Henriette, Cheshunt Hybrid, with the climbing forms of Victor Verdier, Jules Margottin, Bessie Johnson, and Charles Lefebvre, also the vigorous-growing Madame Clemence Joigneaux. You do not say how many you require, but probably we have named sufficient.

Coping for Garden Wall (G. R.).—No material answers so well for coping as stone, it being of a composition not liable to be injuriously affected by frost, nor perish by exposure to the weather. Yorkshire stone and some others are of that description. You could not have anything better. Cement copings are excellent, but some which are so called are worse than useless, because they are composed of too much sand (much of it loamy) and too little cement. Properly constructed they are as durable as stone. Tile copings are very serviceable, and cheaper than stone or cement, but they should be 2½ inches thick, and made in one piece, so as to project over the wall 3 inches or more, and have a groove in them three-quarter inch from the edge to prevent the wet running down the wall, and be sufficiently burnt to resist weather influences. The groove is of very great importance.

Potting Lilliums (Amateur).—A compost of two-thirds of turfy loam and one-third of turfy peat with sufficient sand and crushed charcoal to keep the soil porous will be suitable. The bulbs may be potted now, surrounding them with sand, and covering them an inch or more deep. If you place them at once in the pots in which they are intended to flower the pots should not be quite filled with soil, but space should be allowed for top-dressings. If the pots can be buried in moist cocoa-nut fibre refuse or ashes there will be less danger of the bulbs being injured by mistakes in watering. A cold frame or the floor of a greenhouse will be suitable for accommodating the pots until the plants commence growing, when they must have a light position and abundance of air. They thrive well plunged in ashes in the open air in summer—better indeed than in a greenhouse, unless the structure is very light.

Osier Peelings as Manure (Provincial).—The bark of the Willow is rich in potash and soda, and reduced to vegetable mould is a good manure. The peelings should be thrown into a heap, and to every cartload of them add a bushel of salt and a similar quantity of quicklime. By keeping them damp but not wet, and turning at intervals, outside to inside, the decay of the material would be accelerated. If the peelings get dry damp them with urine, which will increase the manurial value of the heap. If burned there would at once be available mineral substances of great value to fruit trees, and your soil being low and damp, or containing vegetable matter or humus, it would be a better dressing for fruit trees than vegetable soil. The organic matter, however, is lost in the burning, which it is desirable to retain, particularly when the application of the debris is to be made on light soils or those deficient in humus.

Anomatheca cruenta (E. F. T.).—Although this pretty little bulbous perennial is quite hardy in the South of England when planted in warm sunny situations in the open border, it is only in the extremely favoured parts of that district that the plant is satisfactory. In Kent we should consider the bulbs would be best treated by lifting them in the autumn, and storing in frost-proof quarters until the following March, when they may be planted in their flowering positions. In that way it does well in some localities farther north. The hand-light would not be of much use, as it is absolute freedom from frost that this plant requires. The Alstromeria aurantiaca is really killed with drought and heat on the south border. We have had it quite a weed on strong loam in the West Riding of Yorkshire, seedlings springing up abundantly from self-sown seeds. In the Midlands we quite failed with it simply because it was planted about 2 feet from a south wall, and the soil was a gravelly loam. Make the soil firmer for the Sternbergia lutea, then it will probably flower.

Grubs Infesting Cyclamen (E. Critchley).—The larvæ are those of the grooved or black Vine weevil (Otiorynchus sulcatus). The cause of the attack is that of the Cyclamen roots and corms affording food; the female weevil, instinctively knowing that, selects the soil in which Cyclamens are growing for the deposition of her eggs. We do not know of any other cause, and you can verify it by destroying the parents, when there will not be any attack. The grubs are not easy to kill in the soil except by poisons which we do not care to mention in connection with plant culture, as there is great danger of accidents and even of misuse by evil disposed persons. If you can procure some ammoniacal liquor from gasworks, dilute it with six times the quantity of water, and

supply it to the pots after plugging the holes with clay till it appears on the surface, leaving the plants for two or three minutes to make sure that the gas-liquor water acts on the grubs or moistens the soil where they usually are at the base of the corms, and then removing the plugs, letting the water run off freely, the grubs will be destroyed. Or water with nitrate of soda, 2 ounces to a gallon of water; but it is necessary to get it at the grubs in the manner described, and after a few hours water with clear water to get rid of the excessive amount of nitrate.

Names of Fruits.—Notice.—We have pleasure in naming good typical fruits (when the names are discoverable) for the convenience of regular subscribers, who are the growers of such fruit, and not collectors of specimens from non-subscribers. This latter procedure is wholly irregular, and we trust that none of our readers will allow themselves to be made the mediums in infringing our rules. Special attention is directed to the following decision, the object of which is to discourage the growth of inferior and promote the culture of superior varieties. *In consequence of the large number of worthless Apples and Pears sent to this office to be named, it has been decided to name only specimens and varieties of approved merit, and to reject the inferior, which are not worth sending or growing.* The names and addresses of senders of fruit or flowers to be named must in all cases be enclosed with the specimens, whether letters referring to the fruit are sent by post or not. The names are not necessarily required for publication, initials sufficing for that. Only six specimens can be named at once, and any beyond that number cannot be preserved. *They should be sent on the first indication of change towards ripening. Dessert Pears cannot be named in a hard green state.* (G. B.).—1, Rotten; 2, Beurré Clairgeau. (E. D'O.).—Probably a local seedling of the Bess Pool type. We have other fruits in from correspondents, but space precludes our naming them in this issue.

Names of Plants.—We only undertake to name species of plants, not varieties that have originated from seeds and termed florists' flowers. Flowering specimens are necessary of flowering plants, and Fern fronds should bear spores. Specimens should arrive in a fresh state in firm boxes. Slightly damp moss, soft green grass, or leaves form the best packing, dry wool the worst. Not more than six specimens can be named at once, and the numbers should be visible without untying the ligatures, it being often difficult to separate them when the paper is damp. (Junior).—Lælia anceps. (W. G.).—Maxillaria picta. In future communications kindly favour with your name and address, in accordance with the rules printed above.

COVENT GARDEN MARKET.—NOVEMBER 13TH.

FRUIT.

TRADE keeps quiet; supplies lighter.

	s. d.	s. d.		s. d.	s. d.
Apples, per bushel	2	0 to 3	6	Lemons, case	35 0 to 45 0
„ Nova Scotia, per barrel	13	0	17 0	Pears, Californian, per case	13 0 14 0
Cobs, per 100 lbs.	35	0	37 6	Plums, per half sieve ..	0 0 0 0
Grapes, per lb.	0	6	1 6	St. Michael Pines, each ..	2 0 6 0

VEGETABLES.

	s. d.	s. d.		s. d.	s. d.
Beans, per lb.	0	4 to 0	6	Mustard and Oress, punnet	0 2 to 0 0
Beet, Red, dozen	1	0	0 0	Onions, bushel	3 6 4 0
Carrots, bunch	0	3	0 4	Parsley, dozen bunches ..	2 0 3 0
Cauliflowers, dozen	2	0	3 0	Parsnips, dozen	1 0 0 0
Celery, bundle	1	0	0 0	Potatoes, per cwt.	2 0 4 0
Coleworts, dozen bunches	2	0	4 0	Salsafy, bundle	1 0 1 6
Cucumbers, dozen	1	6	3 0	Seakale, per basket	2 0 0 0
Endive, dozen	1	3	1 6	Scorzonera, bundle	1 6 0 0
Herbs, bunch	0	3	0 0	Shallots, per lb.	0 3 0 0
Leeks, bunch	0	2	0 0	Spinach, bushel	1 0 1 6
Lettuce, dozen	1	3	0 0	Sprouts, half siv.	2 6 0 0
Mushrooms, punnet	1	0	1 6	Tomatoes, per lb.	0 3 0 6
				Turnips, bunch	0 3 0 0

AVERAGE WHOLESALE PRICES.—OUT FLOWERS.—Orchid Blooms in variety.

	s. d.	s. d.		s. d.	s. d.
Acacia or Mimosa (French) per bunch	1	0 to 2	0	Orchids, various, dozen blooms	1 6 to 12 0
Arum Lilies, 12 blooms ..	4	0	6 0	Pelargoniums, 12 bunches	4 0 9 0
Asparagus Fern, per bunch	2	0	4 0	Primula (double), doz. spys	0 6 1 0
Bouvardias, bunch	0	6	1 0	Roses (indoor), dozen ..	1 0 2 0
Carnations, 12 blooms ..	1	0	3 0	„ Tea, white, dozen ..	1 6 2 6
Chrysanthemum, doz. blms.	1	0	4 0	„ Yellow, dozen (Niels)	3 0 6 0
„ doz. bunches	3	0	6 0	„ Safrano (English), dozen	1 6 3 0
Eucharis, dozen	4	0	6 0	„ Red, dozen blooms ..	1 0 1 6
Gardenias, dozen	2	0	4 0	Smilax, per bunch	2 6 4 0
Geranium, scarlet, doz. bunches	4	0	6 0	Stephanotis, dozen sprays	2 0 4 0
Lilac (French) per bunch	4	0	5 0	Tuberose, 12 blooms ..	0 4 0 6
Lilium lancifolium, twelve blooms	2	0	4 0	Violets Parme (French), per bunch	3 6 4 6
„ longiflorum, 12 blooms	4	0	6 0	„ Czar (French), per bunch	2 0 3 0
Lily of the Valley, dozen sprays	1	0	2 0	„ Victoria (French), 12 bunches ..	1 6 2 6
Maidenhair Fern, doz. bchs.	4	0	6 0	„ English, 12 bunches	1 6 2 6
Marguerites, 12 bunches ..	2	6	4 0		

PLANTS IN POTS.

	s. d.	s. d.		s. d.	s. d.
Arbor Vitæ (golden) dozen	6	0 to 12	0	Ferns in variety, dozen ..	4 0 to 18 0
Aspidistra, dozen	18	0	36 0	Ferns 'small' per hundred	4 0 6 0
Aspidistra, specimen plant	5	0	10 6	Ficus elastica, each	1 0 7 0
Chrysanthemums, per doz	6	0	18 0	Foliage plants, var. each	2 0 10 0
Dracæna, various, dozen ..	12	0	30 0	Lycopodiums, dozen ..	3 0 4 0
Dracæna viridis, dozen ..	9	0	18 0	Marguerite Daisy, dozen ..	6 0 9 0
Ericas, various, per dozen ..	9	0	24 0	Myrtles, dozen	6 0 9 0
Euonymus, var., dozen ..	6	0	18 0	Palms, in var., each	1 0 15 0
Evergreens, in var., dozen	6	0	24 0	„ (specimens)	21 0 53 0



AN EXTRAORDINARY HOME FARM.

"BOWES HOUSE" farm of 609 acres, and "Over the Hill" farm of 150 acres, farmed together as one home farm for the Earl of Durham, form a remarkable example of successful high farming, and afford such valuable lessons in farm management that we devote an article to a brief account of it taken from a description of Northumberland and Durham farms that were brought into competition for the Royal Agricultural Society's prizes in 1887.

Only eight years ago, be it remembered, when the agricultural depression was at its worst, and successful farming was coming—nay, had come—to be regarded as an impossibility. But then that was by the extreme men, who always take extreme views, do not believe in the possibility of changing with the times. Born and bred to corn farming they pinned their faith to it, and could not, or rather did not, change. Yet everything pointed to mixed farming as the only safe course to adopt, involving no really radical change, only a curtailment of the corn area, an extension of pasture temporary and permanent, of other fodder and root crops, and a considerable increase of live stock. It is to an example of such mixed farming that we now call attention.

Of the 759 acres of the combined farms 277½ were in pasture, 69½ Clover, 172¾ meadow, 108 Wheat, 62¾ Oats, 10½ Potatoes, 79 Turnips, 8 Mangolds, 7 Tares, and 5 stack yards and occupation roads. The live stock consisted of fourteen farm horses, three breeding mares, two fillies, sixty fattening bullocks and heifers, seventy six store beasts, thirty-three store beasts under two years old, 170 wethers and breeding ewes, 285 lambs, thirty rams, 315 gimmers, 104 mule sheep, twenty pigs, thirty-seven ponies—total, 1149. Truly an admirable arrangement, which under the light of the subsequent eight years more of hard times could only be modified to advantage by a reduction of the Wheat area, an extension of that under Oats, and a considerable addition to the ewe flock. The ponies are the only extraordinary local feature, their presence being explained by the requirement of such stock for Lord Durham's coal pits.

About 3200 loads of manure are annually made, and 150 purchased, which is chiefly applied to the Turnip crop, and to about 20 acres of old grass cut for hay; 33½ tons of chemical manure are also used in Turnip cultivation at a cost of 31s 6d. per acre, consisting of 2 cwt. of raw bones, 2 cwt. superphosphate, 1 cwt. guano, and 2 cwt. dissolved bones; to the old grass and seeds 17 tons superphosphate, 7 tons salt, 3½ tons nitrate of soda, and 2½ tons of superphosphate; this costs 14s per acre. About 100 loads of gas lime are also used on the old grass land, at the rate of 8 to 10 tons per acre.

The cattle and sheep are all well fattened and the cake and corn bills amount to nearly £1200 annually. It is the practice to hold an auction sale of fat stock at Christmas and Midsummer every year. In 1887 at the Midsummer sale fifty-eight fat steers and heifers made £1459 5s., an average of £25 each, and 145 wethers averaged 53s. 3d. each, sixty-five gimmers 60s., twenty-five fat lambs 46s. 3d., and seven fat ewes 59s. each. We give these detailed prices as being both interesting and instructive. Since 1887 prices have fluctuated, but the lesson of experience here is, certainly stick to the flock for every good reason. Even when sheep were down in value they always were profitable if turned to full account by folding. Sustained fertility of soil and correct flock management are coincident, and cannot be separated with impunity.

The December sale of that year realised £3634 15s. for 140 fat cattle, and £1652 16s for 626 sheep, some being brought to the sale from other land in hand. The report well says that the extent of these sales, which had then been in existence for thirty-seven years, and the sums realised justify the outlay on the land cultivated, and prove more than ordinary skill on the part of the manager in feeding so large and such varied stock. Another factor to the success of the sales is the excellence of the stock, and the good faith which exists between buyers and salesmen.

There is admirable provision of shelter for cattle, and an excellent lambing yard. The workmen are capable, intelligent men taking a personal interest in their work, and the whole thing—manager, workmen, stock and crop combine to form an admirable example of such farm management as is calculated to meet the times. With farms so equipped, so managed, there would be no migration of labourers to towns, and, we venture to add, no further talk of farming being a dying industry. The one difficulty to so stocking farms is a lack of capital, among tenant farmers at any rate.

WORK ON THE HOME FARM.

In this last month of autumn cold and wet often do much harm to cattle—harm that is not perceptible to the casual observer. The thickening coats tend to mislead, and to induce a belief that improvement continues when there is a positive loss of condition. Abundance of herbage on pasture now does not mean anything like a proportionate quantity of nutritious food. The grass if rank is growing more discoloured daily, is becoming poorer in quality, and just when cattle require more and better food they are kept out on what is really inferior food, and suffer accordingly. It is good management during the present month that prevents the commencement of poverty of condition, and insures store cattle going out of the yards next spring so fresh and kindly in condition as to derive full advantage of the nutritious herbage of early summer.

We are finishing a small number of fattening beasts for Christmas, as they came off the pasture so forward in condition as to make it worth while tying them up for a couple of months. Really prime beasts are always in demand—always go well at market, better still if sold at the farm. It is the half finished beasts on which graziers lose so heavily always, but especially in autumn. If only they could be kept on and fed to maturity they must prove more profitable. Keep this well in mind now, and all winter let it be an incentive to giving store cattle close attention, so that by causing a gradual improvement from the present time till they are turned out again they may go off the pasture direct to the butcher, or only require a short time to finish them in the autumn.

Such management proves profitable, because it is well timed, and the beasts are kept going steadily on to that early maturity which is so easy and so certain if only we breed well, feed well, shelter well, and then crown our work by selling well. We repeat, really prime beasts are always in demand. The want of them is now felt on the markets, as it has so often been, and the quotations mainly for inferior beef are not reliable as an indication of the present value of prime beef. That is practically very scarce as a home supply, the foreign article continues more plentiful.

METEOROLOGICAL OBSERVATIONS.

CAMDEN SQUARE, LONDON.

Lat. 51° 32' 40" N.; Long. 0° 8' 0" W.; Altitude 111 feet.

DATE.	9 A.M.					IN THE DAY.				Rain.
	Barometer at 32° and Sea Level.	Hygrometer.		Direc- tion of Wind.	Temp. of soil at 1 foot.	Shade Tem- perature.		Radiation Temperature		
		Dry.	Wet.			Max.	Min.	In Sun.	On Grass.	
1895. November.	Inchs.	deg.	deg.		deg.	deg.	deg.	deg.	Inch s.	
Sunday .. 3	30.002	42.8	41.2	N.	43.0	49.7	33.2	53.8	28.0	0.025
Monday .. 4	29.778	47.6	47.2	N.	43.9	51.9	42.6	54.1	41.9	0.285
Tuesday .. 5	29.538	46.1	45.8	N.E.	45.0	53.8	40.1	63.2	34.7	0.144
Wednesday 6	29.570	55.6	51.2	W.	46.7	60.0	46.2	77.1	46.2	0.159
Thursday .. 7	29.889	51.6	50.9	N.	47.8	60.0	50.9	62.8	46.9	0.202
Friday .. 8	29.978	52.7	51.2	E.	49.0	57.2	51.4	57.7	48.9	0.351
Saturday .. 9	29.687	52.0	50.9	W.	49.9	56.0	51.2	62.8	50.3	—
	29.777	49.8	48.3		46.5	56.2	45.1	64.5	42.4	1.166

REMARKS.

3rd.—Overcast morning; a little rain in afternoon and evening.
4th.—Dull and damp early; incessant rain from 10.30 A.M. to 6 P.M., and generally more or less foggy, and very dark at times.
5th.—Rainy from 7 A.M. to 9 A.M.; dull day, damp in morning; rain again from 6 P.M. to 10 P.M., gale at night.
6th.—Bright sunshine in morning; generally cloudy after noon.
7th.—Almost incessant rain or drizzle until 2 P.M. and after 5 P.M., overcast between.
8th.—Almost incessant rain till 2 P.M. and drizzle after.
9th.—Rain from 4 A.M. to 8 A.M., bright sunshine from 10 A.M.
Another oscillation of temperature, that of this week having been considerably above the average.—G. J. SYMONS.

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Journal of Horticulture.

THURSDAY, NOVEMBER 21, 1895.

MISTAKES IN FRUIT CULTURE.

BEING situated in a district where comparatively little systematic attention has been paid to fruit culture, I am occasionally requested to visit old orchards or advise respecting new plantations. It may be of some interest to intending planters if the results of my observations be stated briefly, for both a warning and a guide are evidently necessary. From experience covering a wide area I am persuaded that what is recorded here is only too general, and this opinion has been frequently corroborated by what has appeared in the *Journal of Horticulture*.

It sometimes happens that a land owner or farmer, having become impressed with the importance and value of fruit, proceeds to plant an orchard, possibly with good varieties, and under efficient superintendence. But that, apparently, is the utmost that is considered necessary, and too often both these points are neglected. Assuming, however, that the start has been properly made, in nine cases out of ten the trees are henceforth left entirely unattended, except when it is necessary to gather the fruit, and then the numerous branches broken in the rough and ready methods adopted is all the thinning the trees are likely to receive. Perhaps they are planted in pasture, or the land is laid down to grass, and a few sheep are turned in for a short time each year, the manure thus obtained being considered an ample return for whatever injury may be done to the unprotected trees, whereas very little ever reaches their roots.

Then, also, in the majority of instances, the trees are planted too closely for a permanent orchard; just when they are becoming of profitable size they are also getting crowded, and it is then a struggle for existence between tree and tree or branch and branch, with the natural result—a diminution of usefulness following drawn, weakened, immature growth, readily subject to both insect and vegetable pests.

A short time ago I was desired to inspect an orchard of which the greater part had been planted about fifty years; a few acres were twenty years old, and a still smaller portion had been planted six or seven years. Amongst the oldest trees were some grand specimens of Blenheim Pippin, struggling with the strength of

giants against the attacks of lichens, moss, and other enemies which were gradually extending over every portion of stem and branch. Add to these innumerable insect foes, for which such ample concealment is provided, and it becomes a matter of extreme surprise that the trees are in any degree healthy. They are, indeed, examples of what a vigorous tree can endure, for this season they gave abundant crops of fruit, and the average crops are considered by the owner very satisfactory, so they are left to themselves. The soil is good, and the climate favourable for Apples and fruit trees generally, or total failure would, ere now, have followed such neglect; but the evils are seen in the fact that, fine as the trees are, they have never been, nor ever will be, at their best, and will steadily deteriorate during the years when they should have been in their most profitable condition. Beyond this they overpower and weaken their younger neighbours with which they are closely surrounded, and further provide a convenient nidus for insects to increase and infest fruit trees in the whole of the surrounding district.

The later planted trees are in a still worse plight, for they have not had a chance to make any progress, being crowded amongst the older trees, and it is only a few here and there which have succeeded in making headway, growing into well furnished trees, and proving, though at the expense of their immediate neighbours, what could be effected under good cultivation in such a soil. The weaker trees have completely succumbed, and have been used for firewood, while cartloads of dead wood could now be cut out of the remaining trees, the result of crowding starvation and want of attention that is deplorable to witness. Canker is spreading rapidly, and in a few years the orchard will be practically worthless.

There seems to have been a partial awakening a few years ago to the necessity of replanting to fill up vacancies and provide for the future; but the work was done in a half-hearted and inconsiderate manner, so that the labour and expense were almost thrown away. For instance, in nearly every case the young trees were planted in the exact spots where the other trees had died. No attempt was even made to remove the foul, infested, germ-laden soil in which the old roots were decaying; but digging a hole, covering the roots with soil, and securing the stem to a stake was deemed "planting" of a sufficiently advanced character. What could be expected from such treatment? Yet the owner, an intelligent man and a successful farmer (no slight indication of ability in these times), points to the trees with the remark, "I cannot understand why these young Apple trees do not make any progress. I bought them at one of the best nurseries, gave a good price for them, and the varieties are all said to be free growers of high quality and good constitution." The reply might have been, that it was more difficult to understand why a man so well versed in the cultivation of the land and the requirements of ordinary crops should ignore the most elementary principles when dealing with fruit trees.

It is very extraordinary, but it is a fact nevertheless, that outside gardens and market plantations there seems to be a general idea that fruit trees are not subservient to the same laws which govern the rest of vegetable creation, or that they are natural products of the soil, and thrive best without the aid of man. Unquestionably, there are thousands of small and large orchards throughout the country under similar conditions to those described, and the usual complaint is that it does not pay tenants to go to any expense for the benefit of their landlords without security. But in the case specially noted here the occupier is also the owner, and that difficulty does not apply. Strange to say, several other instances have come to my knowledge under precisely the same conditions. For example, in one of the southern counties a farmer acquired a considerable extent of good agricultural land, upon a portion of which, near the homestead, was an old orchard of Apples in an extremely unsatisfactory state, the trees badly cankered; in fact, it would have been difficult to find worse

examples of this disease, judging by the few trees that were retained, and which I subsequently saw. Rather than attempt a partial renovation, it was decided to remove the whole of the old trees except a few near a walk; this was done, and the wood stacked for burning, but the young trees were mostly planted in the same sites, although a top-dressing of farmyard manure was given, an act that was looked upon as an almost unwarrantable piece of extravagance. Three or four years had elapsed from the time of planting when I saw the orchard; some of the trees had started into vigorous growth, but without exception the evidence of canker was apparent in every case, and in several had assumed a serious form. The soil, it is true, was heavy and cold, the subsoil being still worse; but as an example of what cultivation could do, a cottager's garden within a hundred yards or so, in precisely the same soil and with the same aspect, contained some dwarf and standard Apples and Pears as healthy and as satisfactory in all respects as could be wished. Not only has this man secured good supplies of fruit for his own use, but he has been able to compete with the produce at several important shows, and has taken a large proportion of first prizes.

When the produce of trees under such different treatment (mostly bad) is offered for sale is it surprising that prices are low? The astonishing part is that they can be sold at all, yet at the present time in our local market very ordinary Apples are being sold at 5s. and 6s. per bushel, while Pears that are not fit to place on any table are priced at 7s. per bushel. Can it be said truly that really good fruit cannot be sold profitably when rubbish is vended at such prices?—A BRITISH GARDENER.

HARDY FLOWER NOTES.

FROST has come, and at its icy breath leaves and flowers have shrivelled and grown black. Many flowers which lingered with us as if desirous of balking winter of his prey have at length had to confess themselves worsted in the unequal struggle, and hang forlorn, their beauty not sufficing to defend them from their cruel foe. We do not, however, mourn over most of these, as we would did we not know that they will spring afresh and greet again the delighted world. We may have passed away, but they will re-appear at the magic touches of milder airs and brighter skies and warmer sunshine. Now, when sharp winds blow and skies look cold and the briefly shining sun gives but scant warmth, we are fain to leave the garden walks for the shelter of the greenhouse with its protected flowers, bright as though naught but summer reigned, to admire the exotics to which our northern clime untempered would prove an unkindly foster mother. Still the heart proves true to the outdoor flowers, and we must look among blackened stems and on the rockwork's slopes and nooks to see what rays of pleasure can reach us from the hardy blooms which, as yet, remain to give us cheer.

Some of the Michaelmas Daisies still stand and look bright despite wind and rain, frost and sleet. *Aster grandiflorus* and *A. diffusus* *horizontalis* are the brightest; the former with fine violet flowers, and the latter with charming sprays of tiny white blooms with red centres. Around are many others, nearly all of which show by their wool-like heads that a plentiful store of seed is preparing for the increase and improvement of the race.

The great Moon Daisy, *Chrysanthemum uliginosum*, though injured by the frost, still yields some perfect blooms, with their greenish-yellow centre and white rays; but, light and pretty as they are, they cut but a poor figure beside their cousins, the florists' Chrysanthemums, which receive the homage of so many lovers of floral beauty, and reign unrivalled as queens of the winter flowers. Some of these florists' Chrysanthemums are still in bloom outside, but cannot now compare with those which have opened under the friendly shelter of a glass roof.

Seemingly almost unmindful of the frost we have had as yet a fine plant of *Androsace lanuginosa* trails its satin-like leaves over the rock garden ledges and, reared slightly above, its delicate rose flowers with tiny yellow eye, which are still nearly unscathed. Should damper weather come with cold, sleety showers, I shall place a little above it a sheet of glass or slate to ward off the unkindly rains. Thus it will pass the winter months unharmed, and be prepared to give another year its delicate and beautiful flowers.

The white Cornish Heath, *Erica vagans alba*, looks happy yet, and stands long in its flowering garb, though the rockery on which

it grows yields next to nothing else in the way of flowers. When it is over the pink and white winter Heaths—*E. carnea* and *E. c. alba* or herbacea—will follow, and help us through the nearly flowerless days. They are covered with buds, and in several places in the garden will soon open and show their wax-like flowers.

The autumn or winter Snowdrops are the objects of much admiring interest. Writing in the beginning of November only the two mentioned on page 407 as grown under the names of *Galanthus corcyrensis* and *G. montanus* are in bloom, and many a look is given to them as we pass by and see their pure flowers spreading in the midday sun. The others are being delayed by the hard crust formed by the frost on the surface of the soil. Of one—the true *G. Rachelæ*—which Mr. F. W. Burbidge so generously sent me in 1893—it has to be said that for the first time it has shown for flower. Alas! however, that “hope deferred,” which we so often experience in gardening, once more “makes the heart grow sick,” as an unkindly slug or snail has devoured the flower while in the bud stage. Rare epicures are these enemies of ours, with a keen appreciation of the newest and choicest flowers of the garden. One of the race afterwards found in suspicious nearness to the wasted flower was promptly sacrificed in our hot wrath, but the deed was done, and we must perforce hope another season to see this cherished Snowdrop in bloom.

The frost is checking the Crocuses, and the best at present are some late clumps of *C. longiflorus*, which are opening daily to the sun, but are to some extent shielded from rough weather by small hand-lights with free ventilation. *C. Imperati*, which looked as if it would come prematurely into flower, has been delayed by the cold, and looks now as if it would come in the time it is most welcome—early in January. Several others are making slow progress.

In the more sheltered parts of the garden there are a good many flowers which have more or less satisfactorily resisted the severity of the weather. Late sown *Godetias* are still bright, but the more tender *Tropæolums* hang from the trellis and hedges with a desolate look, inviting removal to the rubbish heap. The quaint Snapdragons show no sign of injury, and redeem many a corner from dullness. Stray plants of *Hutchinsia alpina* yield a few spikes of bloom, and alpine *Auriculas* give some untimely flowers. The *Anthemises* are still bright with their second crop of flowers which come in well for cutting, although, of course, the *Chrysanthemums* monopolise the general admiration. The old pot Marigold, which, for all its commonness, is worthy of a place in many gardens, and which comes up of itself in my garden, gives a few of its orange-coloured flowers in sheltered spots still, and we cannot join with the poets or gardeners of modern days who neglect it. Canon Ellacombe says, “From the time of Withers the poets treated the Marigold very much as the gardeners did, they passed it by altogether as beneath their notice.”

Then we still have some flowers of *Campanula muralis* in various corners among the rockeries, where it is sheltered from the cold blasts, and where the pretty blue flowers look well on their own foliage. The alpine *Linaria* still keeps in bloom, with *L. anticaria* as its companion, and the white flowerlets of *Androsace coronopifolia* still look out from their home in one of the pockets of the rockery. *Achillea argentea* still produces flowers above its silvery leaves, and one need not look far to see a considerable number of other flowers which have survived the general decay.

Now is it, too, that we can find time to look more carefully at the exquisite beauty and variety exhibited by the foliage of the plants, especially those of dwarf and evergreen habit. While some are red and brown of various shades, there are silvers and greys and greens, which seem to shine with greater brightness in these short days than when all around is bright with light and colour. Mossy *Saxifrages* are emerald green, save when the hoar frost covers them with its silvery powder. The Encrusted *Saxifrages* show their grey leaves with their silvery dots and margins. *Sedums* are green or red or glaucous blue. New Zealand *Veronicas* have leaves of shining, polished green, or glaucous tints in great variety, and countless other plants are beautiful with silvery grey, all adding to the many true pleasures to be found within the garden.—S. ARNOTT.



CYPRIPEDIUM MILO VAR. GRANDIS.

ONE of the finest hybrid *Cypripediums* that has been exhibited lately at the Drill Hall, Westminster, was that shown under the above name at the last meeting by Messrs. J. Veitch & Sons, Royal Exotic Nursery, Chelsea, and which is portrayed in the woodcut (fig. 73). The Orchid Committee unanimously awarded to it a first-class certificate. The petals are bright yellowish brown with a green margin. The pouch, of medium size, is bright reddish brown, while the dorsal sepal is yellowish green, spotted and patched brown, and with a broad pure white margin. It is the result of a cross between *C. × cænanthum superbum* and *C. insigne Chantini*.



FIG. 73.—CYPRIPEDIUM MILO VAR. GRANDIS.

THE STRAWBERRY BEDS, DUBLIN.

NOT with the prolific yield of the luscious fruit as illustrated by a daily output of tons during the season, nor with the culture this heading might suggest, but with a run by road from the Milesian metropolis to a locality famed for—what? In truth, I hardly know. One thing is certain, that is, if our visitors to Dublin have come and gone their ways without doing the Strawberry beds they have left undone one of those things which they ought to have done, and which if done properly they will not regret. There is, indeed, but the one proper way, and by this route my reader, who is perhaps a stranger to the Green Isle, shall, if he so pleases, accompany me.

In starting from the city for our few miles drive negotiations are attempted with a driver of that ubiquitous vehicle, the jaunting car, but no amount of parleying with prices can elicit more than the vague response “I leave it to yer honour.” Stifling, for the time, any misgivings anent prospective differences of opinion, yet

duly impressed that our honour is at stake, we are off with a bound at the mercy of our cheery and loquacious driver. Perhaps at the final disbursement we hardly know how much we are indebted to him for our pleasant trip this smiling morn. Anyway, it is not his fault if due regard is not given to the points of interest he is continually pointing out.

Ah! my friend, it is easy to see by your frantic clutches at the rigging of the car—gondola of the Green Isle—that you have not your sea legs. "Sit so, with your feet firm on the foot-board, and an equal distribution of the bumping will be afforded to your poor bones over the stones. We shall soon exchange these for smoother ways." Skirting the Liffey along the northern line of quays our driver smacks his whip and lips simultaneously as Guinness's great works are pointed out for your approval. "Hould tight, yer honour," is the remark specially addressed to the novice by our pilot, who, with a grin and a grip at his headgear to tighten it in the teeth of the wind, puts on a spurt. "Sojers," is the laconic reply to our look of inquiry, and we note a body of infantry crossing a bridge towards us at right angles. Hurroo! we are clear without stopping. Nothing but "sojers" in the pedestrian way could check our career this day which bids fair to make a record. Lesser infantry scamper off in bare feet with a few defiant war whoops flung after us.

Parkgate Street is suggestive of the grand expanse we are now in sight of. Before entering note the Lucan Dairy, a marvel of white enamel, plate-glass and conscientious cleanliness. "Oh! this matter is quite relevant to the *Journal of Horticulture*, 'Home Farm,' you know, and I am sure readers would be interested in seeing how our modern Brian Borus, the Messrs. Nash, are fighting the Danes who have been invading us with dairy produce. Co-operation and agitation with sound practical exposition of the ethics of dairy farming are the lines of defence being laid down through Ireland to protect this most important industry. The subject, though, must be merely skimmed over. It will, at least, provide cream for our Strawberries; but the beds are not yet reached. We are, indeed, but at the gates of "the finest park in Europe"—"in the world," says the charioteer; well he ought to know if he has travelled long at the present pace.

Discount the eulogium as you will, nought but admiration can remain for the noble stretches of greensward, the broad handsome roads, to which but a passing thought must here be given. A day would hardly suffice to explore the Phoenix Park with its Viceregal, Chief, and Under Secretary's gardens, to the privacy of which a brother of the craft would not be denied; and "the people's gardens" for all sorts and conditions of folk. Herds of deer canter down the glades, and there are lions and tigers too. Do I tax your credulity too much, my fellow voyager? then note that sign-post, "To the Zoological Gardens." Real gardens, too, with Lily-decked ponds, stately trees, winding walks, and sylvan scenery.

But on—on by the Viceregal Lodge embowered in trees. As we pass our driver points with his whip to the grass verge on our left hand. A rude cross scored in the turf. Ah! you know.

Passing the Phoenix, a column with that mysterious fowl perched on its summit, we bend to the left on a branch road, through acres of Thorns, venerable and far famed, out through Knockmaroon gate on to the public road, with a sharp descent in front, at which prudence prompts a general dismount. We are now in the region of the Strawberry beds. Here on our left is the dark silent Liffey, not dirty, but bearing the stains on its bosom of contact with the peat bogs. This in its turn suggestive of Irish peat moss litter. That's all, Mr. Printer; patience, I prithee. See that swirl in the water, and the flash of a silver side in the sunshine. A fish? Yes, one of the princes of his tribe, a salmon, making his annual trip on family interests intent.

On our right the Strawberry beds are now in evidence, not conspicuously so; patches, maybe of but a few square perches, sloping to the sun at sharp angles. Homely little cottages, intensely white from liberal lime-washings. Did you think a mud cabin could look so attractive? Mud? Yes, many of them, most of them, as you may observe where a dismantled ruin reveals a section of the material. Yet how bright and attractive this autumn day are these humble homes of the Strawberry bedders. Nor is the secret hard to seek. Nasturtiums with bright red, yellow, or soft brown blossoms peering through leaves of vivid green, and so on at intervals for two miles, more or less.

Elder bushes, with a profusion of purple-black fruit, line the road. Elder wine? No, I think not, at least I have never seen them thus used in the country. Perhaps the topic has something to do with our pilot steering hard a port, and dropping anchor at the Wren's Nest. Refreshments for man and beast, so we—the bipeds—hop inside, with a little, just a little, demurring at the earliness of the day for refreshers; but we thirst for knowledge as well, and are enabled to find out from a Strawberry bedder that Keens, Presidents, Napiers, and the Doctor are the staple of

varietal grown. The chief feature is the earliness of the locality. Before long before, the much more extensive plantings on the plateau of higher grounds are being picked the fruit are in perfection here, or rather as near perfection as allowed to attain; for I must confess that what are dispensed by comely damsels off neat-spread tables by the roadside look far from ripe. A somewhat small building bears the legend in very large type of "Strawberry Hall." It is now closed, but the Wren's Nest is always open to birds of passage, and judging by the migrations prolonged far into the season when Strawberries are not, there is ample attraction found in this delightful suburban drive by city folk; sufficient, too, I trust to justify the way—the only proper way—being pointed out by an—OLD TRAVELLER.

ROYAL HORTICULTURAL SOCIETY.—Nov. 12TH.

SCIENTIFIC COMMITTEE.—Present: Dr. M. T. Masters (in the chair); Mr. McLachlan, Mr. Michael, Rev. W. Wilks, Dr. Bonavia, and Rev. G. Henslow, Hon. Sec.

Death of Prof. Riley.—Mr. McLachlan spoke of the great loss sustained by the death of this eminent entomologist of the Museum of Natural History, Washington. He was the State Entomologist of the Agricultural Department, and formerly for that of Missouri.

Hybrid Asters.—With reference to the specimens sent to the last meeting by Rev. C. W. Dod, Mr. Dewar reports as follows:—"Although not quite prepared to agree with him, neither am I disposed to materially differ from his suppositions. The chief difference was one of colour; the flowers of the supposed hybrids are undoubtedly somewhat larger than I have before seen; the colour, however, is quite distinct from that of typical *A. Thomsoni*. The cross between *A. Thomsoni* and *A. Pyrenæus* (?) is in every respect, except its large flowers, typical *A. Thomsoni*. The other cross (?) differs little except in colour of flower from seedlings. *A. Thomsoni* is a very variable species, becoming of course considerably more so by cultivation." Mr. Dod having kindly forwarded fruiting specimens of *A. Thomsoni* (*Clarke*) and of the hybrid to the Secretary, he found that they differed as follows:—The leaves selected from similar places were much larger and broader in the former, with more serratures; the hairs on the stem were shorter, but the involucre bracts were less hairy, the tips being nearly glabrous. The pappus was markedly shorter than that of the hybrid; a few bore ripe achenes. In the hybrid several of the ray florets were bisexual with perfectly free stamens, the anthers being more or less rudimentary; a few of the ray corollas were of the quilled form. All the ovaries, disk and ray, were abortive. The above characters might be varietal only, but the presence of stamens, &c., perhaps indicate the effect of crossing.

Fungus on Pears.—With reference to the specimens received from Messrs. Veitch of Exeter, at the last meeting, the following report was received from Kew:—"The fungus on the Pear is *Monilia fructigena*, *Pers.* The individual patches of fungus are limited in extent; the first formed exhausts the necessary food for a limited distance beyond its fruiting area. Its spores germinate and grow just beyond this sterile zone, hence succeeding crops are more or less concentric, and separated by narrow sterile zones without fungi." They thus resemble Fairy-rings.

Cocos australis.—Dr. Masters exhibited orange-coloured Plum-like fruit received from Antibes, and sent by M. Naudin, and also by Mr. Hanbury. It is a native of Paraguay and Chili. It was the first occasion of its ripening in S. Europe. The flavour resembled that of a Pine Apple.

Cypripedium, Hybrid.—Mr. Veitch sent plants of *C. minosa* and cut flowers of the parents—viz., *C. × Arthurianum* (male) and *C. Spicerianum* (female). The former is the result of *C. insignis* × *C. farianum*. Two offspring from the same pod showed considerable "dissociation," in that one more resembled the male, and the other the female; but the peculiar purple and white staminode of the male was lost, the green one of the female parent being present in both. The spotted perianth of the male was very pronounced in one, while the white sepal of the female was reproduced with no spots, though the purplish labellum of the female appeared on both.

Rhododendron, Hybrid.—Mr. Veitch also sent a new form, *Numa*, the result of crossing the "bigener," indico-javanicum by *R. multicolor* var. *Curtisi*. Indico-javanicum resulted from crossing Lord Wolseley (a hybrid containing the three true species, *R. jasminiflorum*, *R. javanicum* (twice), and *R. Brookianum* var. *gracile*) with *Azalea indica*, "Stella." This produced rather contracted flowers of a brick red colour.* This was crossed with the small crimson-flowered (1 inch) *R. mult.* var. *Curt.*, *Numa* bears large flowers (2 inches) of a deep red orange, with a shorter tube than that of the female parent. Hence the effect of the male is to transmit the form of the corolla; but that of the female, the colour as well as the foliage, which is lanceolate, larger and broader than the leaf of *R. mult.* var. *Curtisi*.

Black-skinned Apple.—Dr. Masters exhibited an Apple, the rind of which was of a deep purplish black colour, the cellular tissue within being light brown, apparently due to fermentation. It was forwarded to Kew. Mr. Michael remarked that he had known Blenheim Oranges to assume a similar appearance.

Flies, Dead, Adhering to Barley.—Mr. Henslow exhibited a specimen prepared by the late Prof. J. S. Henslow, in 1840, of flies attacked by a fungus, and which had died upon ears of Barley. It was also forwarded to Kew for further investigation.

* Figured and described in *Jl. R.H.S.*, vol. xiii., pt. ii., p. 21 (1891).



EVENTS OF THE WEEK.—Now that the Chrysanthemum shows are practically over for this season horticulturists will experience a welcome lull, the only meeting of interest in the neighbourhood of London being that of the Royal Horticultural Society.

— **WEATHER IN LONDON.**—At last we have more seasonable, and, it is hoped, more healthful weather. The latter half of last week was wet and boisterous, but on Monday morning there was a fairly sharp frost accompanied by fog which did not clear until midday. Tuesday, however, opened bright, clear, and frosty, these conditions prevailing up to the time of going to press on Wednesday.

— **WEATHER IN THE NORTH.**—Dull showery weather with occasional high winds has prevailed for the week ending the 19th inst., with the exception of Monday, which was fair till the evening, when rain fell. On the morning of Monday there was a slight tendency to frost, and on Tuesday morning 2° were registered.—B. D., *S. Perthshire*.

— **ROYAL HORTICULTURAL SOCIETY.**—The next fruit and floral meeting will be held on Tuesday, November 26th, in the Drill Hall, James Street, Westminster, and at 3 P.M. a lecture will be given by Mr. James Mason on "Asparagus Culture." The Committees will meet as usual at twelve o'clock.

— **WITLEY COURT.**—It was currently reported at the Hall Show, on what was alleged to be good authority, that Mr. J. Austen is retiring from the charge of the gardens and beautiful pleasure grounds at Witley Court and going into business; also that Mr. A. Young will shortly leave Abberley as Mr. Austen's successor. Only a first-class gardener would be competent to follow Mr. Austen, and undoubtedly Mr. Young ranks amongst the best cultivators and worthiest men in the gardening community.

— **COOPER'S BLACK AND GROS COLMAN GRAPES.**—I desire respectfully to acknowledge Mr. Kirk's note in the *Journal of Horticulture* (page 432). I am sorry that home duties preclude my calling at Norwood to see the Grapes Cooper's Black and Gros Maroc growing side by side with bunches still on them. I may inform Mr. Kirk that I had the pleasure of seeing the Grapes he condemned growing on the Vines side by side a short time previous to their appearance on the exhibition table, and the distinction between the two varieties was quite visible.—**RUSTICUS.** [We have more matter on this subject.]

— **THE DUKE OF BEDFORD** was last week unanimously elected to the chairmanship of the Bedfordshire County Council, an appointment which was received with greatest satisfaction throughout the district. In addition to the Woburn experimental fruit farm, established by His Grace last year, a farm of 200 acres at Ridgmont has been presented to the County Council and a building erected to serve as a farm school, the expense of the erection being defrayed by the duke, but it will subsequently be entirely under the direction of the Council. The Royal Agricultural Society's experimental farm close by, presented by a former duke, in addition to the above, renders the neighbourhood of Ridgmont highly interesting to those concerned in experimental or technical work.

— **THE ROYAL BOTANIC SOCIETY.**—The announcement of the apparently enforced retirement of Mr. Coomber from the service of this Society comes with exceeding suddenness and surprise to that gentleman's friends. The assumption is that this retirement is being brought about from motives of economy. That assumption is borne out by a recent report of the Society's proceedings, in which mention was made of a proposed application to Government for an annual grant of money on the ground of the service the Society had rendered to science. What then about the Royal Horticultural Society, and its great and practical service to the nation, at half the annual outlay of the Botanic, which is said to be £6000 a year? Public grants involve free public access as at Kew and the parks of London. The Royal Botanic Society is a close corporation, with pleasure grounds for the enjoyment of its affluent subscribers. So far as horticulture is concerned there has been no evidence forthcoming that a Government could do better what horticulturists can do so admirably for themselves, and with an absolutely free hand.—D

— **THE CHRYSANTHEMUM SEASON.**—Brilliant but brief is the show season of Chrysanthemums, and as evidence of public interest in the contests we received no less than twenty manuscript reports in one day, in addition to more newspapers than could be opened. We are obliged to all who have given their willing co-operation during a busy time, and the more so, as recognising the pressure, so few have complained of the compulsory abridgment of their reports, and none of the postponement for a week or two of other communications, which will shortly appear.

— **THOSE PRINTERS!**—A trade list of plants has been sent to us which is unique in its way. The following plants are specially offered and displayed in large type. "Cinerias," "Hydrania," "Dracænas," Lomaria "glibbas," Pteris "agreas," "Arim" Lily, Lily "of Vally," Climing Nephosis, Glorie "D. Digon" Roses, and "Chrysanthemums." More peculiar samples could be given, but the above will suffice as a lesson in orthography. Our P.D. enters a protest, and avers that the printers ought not to be blamed, as he feels sure they "followed copy."

— **HORTICULTURAL CLUB.**—The usual monthly meeting and conversazione took place on Tuesday evening, the 12th inst. The chair was occupied by Mr. George Paul, and there were present Messrs. Philip Crowley, H. Self Leonard, Geo. Monro, Peter Kay, H. Turner, J. Walker, and others. An address was given by Mr. D. T. Fish on "Flowers, Fruit, and Plants in the Life and in the Home." It ranged over a wide area, and many interesting facts were brought forward. At its conclusion a hearty vote of thanks was proposed by the Chairman. The table was decorated with Chrysanthemums from the Royal Nurseries, Slough, and some dishes of well-grown fruit of Emile d'Heyst Pear were added to the dessert by the kindness of Mr. James Walker. We hope to give the purport of Mr. Fish's paper in a future issue.

— **SHIRLEY GARDENERS' ASSOCIATION.**—The monthly meeting was held on the 18th inst. at the Parish Room, Shirley, Southampton, Mr. E. J. Wilcox presiding. There was a good attendance of the members to hear a paper given by Mr. F. D. Woolf, Totton, Southampton, on the "Culture of the Mushroom." Mr. Woolf said that there was only one royal road to success in the culture of this fungi, and that was personal experience. No amount of reading or instruction would take the place of attention to small details of culture, such as is necessary in this branch of horticulture more perhaps than any other. He gave directions for the making up of a bed, and the attention necessary as should, if properly carried out, insure a valuable return, based on his own experience. A long and useful discussion followed, and a vote of thanks was accorded the contributor of the paper.

— **NATIONAL ROSE SOCIETY.**—A prize of 5 guineas, presented by Alexander Hill Gray, Esq., will be awarded by the above Society for the best essay on "The Hybridisation of Roses." Intending competitors are requested to forward their essays to one of the Hon. Secretaries, the Rev. H. H. D'Ombrian, Westwell Vicarage, Ashford, Kent; Mr. Edward Mawley, Rosebank, Berkhamsted, Herts, on or before March 1st, 1896. The name of the competitor must not appear on the essay itself; but the motto of each competitor is to be plainly written on the top of his essay, while his name and address with motto are to be sent, under seal, in a separate envelope. Any departure from this condition will disqualify for competition. The National Rose Society reserves to itself the right of withholding the prize should none of the essays sent in be considered by the judges worthy of it. The essay to which the prize may be awarded to become the property of the Society.

— **GUERNSEY WEATHER.**—The weather here for the past fortnight has been very wet, yet for the most part a high temperature has prevailed, and one might imagine from the fresh look of vegetation that we were yet in the early days of autumn. Frost has, so far, given us a wide berth, and save for the damage by wet, the gardens are still cheerful with Hydrangeas, Dahlias, Marguerites, Geraniums, Chrysanthemums, and various other autumn flowers. Grass is abundant. Root crops have been very good, and at our annual autumn show of the Guernsey Agricultural and Horticultural Society, held on Wednesday and Thursday recently, there were shown excellent specimens of roots of every kind. I was especially struck with the beauty of the Carrots, both red and white; perfect in every respect. This, no doubt, is due in great measure to the free use of seaweed, which, in addition to being a good manure, materially helps to keep down insect pests, and sweetens the soil. The exhibits of Chrysanthemums also, considering there are so few private enthusiasts here, were very good indeed. Fruit, save the Pears, was not of any particular merit.—X.

— A MILK-WHITE CALLA.—Mr. W. J. Godfrey sends us from Exmouth samples of Callas, including one of four that he originated from seed named "The Godfrey Calla." One of the spathes is particularly fine and free from the greenish tinge of the type; in fact, a clear milk white. The plant is said to be dwarfier in habit and extremely floriferous.

— GARDENING APPOINTMENT.—The vacancy at Glewston Court consequent upon Mr. S. T. Wright's appointment as Superintendent at the Royal Horticultural Society's Gardens, at Chiswick, has been filled by the selection of Mr. A. Bayford, who has been foreman for nearly five years at Madresfield Court Gardens, and previously three years at Floors Castle.

— HOME-GROWN COFFEE.—This was served to the Fellows of the Royal Botanic Society who were present at the meeting held on the 9th inst. The Coffee trees growing in the plant stove in the gardens having fruited very freely this year, the Secretary made the experiment of roasting and grinding the berries and preparing coffee. The beverage offered to the Fellows was of excellent quality, and a very favourable opinion was expressed upon it.

— SCHOOLBOYS' GARDENS AT HAMPTON.—A local paper states that Mr. W. Denning, a well-known horticulturist and member of the local District Council, has intimated it as his intention to propose that in connection with the Hampton allotments one or more plots shall be set apart for the best boys attending the local schools who may be recommended by the head teachers, and who may desire to practise gardening on such plots. We hope Mr. Denning will be successful; but remembering that in the County of Surrey, and established by the County Council, are no less than 450 of these school or boys' gardens situate in twenty-nine centres, it is pertinent to ask, What is the Middlesex County Council doing with its technical education fund that so important a matter should be left for a local council to promote? Obviously the county authority of Middlesex needs a stimulus.

— THE VALUE OF ACORNS.—"In my neighbourhood," writes a gardener in the Midlands, "some of the children manage to add several shillings weekly to their parents' earnings by collecting the acorns, and selling them to the farmers or others who keep pigs. They obtain 10d. and 1s. per bushel for them, and I know one family of three girls who collected 4 bushels in a week, which they sold for the former price, 3s. 4d. being a substantial addition to the rural weekly wage of 12s. At the same time cottagers and farmers were selling Potatoes at 1s. per bushel."

— QUERCUS COCCINEA.—The Scarlet Oak always comes into mind with the thought of the splendours of our autumn forests. No other American tree flames into more brilliant colour or retains it longer than this Oak, which often is in full glow after the leaves of its companions have fallen, and not infrequently its scarlet tints are retained until the ground is white with snow. The tree, however, is beautiful at all seasons of the year. At its best it is 70 or 80 feet high, with a trunk 2 or 3 feet through, comparatively small branches, and a somewhat open head, so that it has not the appearance of rugged strength which characterises some other Oaks. It has a certain grace of outline, however, and its thin glossy leaves and dark smooth bark are distinct and attractive. It is not so commonly planted in pleasure grounds as the Pin Oak or the Red Oak, but it can be moved without difficulty; it will grow rapidly on thin light soil, and it makes an admirable street tree.—("Garden and Forest.")

— SWEET GUM.—In the basin of the Lower Mississippi and in the maritime region of the Southern Atlantic States the Liquidambar, or Sweet Gum, is one of the most common forest trees of low rich lands, where it develops into tall, straight trunks, free from branches, to the height of 70 or 80 feet above the ground. The smooth and satiny wood, however, is difficult to season, and shrinks so badly in drying that the commercial demand for gum lumber has been limited. For special uses, as, for example, for door panels or veneers in cabinet work, it is utilised to some extent, and in England the clear timber is considerably used under the name of Satin Walnut. Nevertheless, this is in a large measure a neglected wood, because of its tendency to warp, which renders it unprofitable for careless dealers and consumers to handle. A recent number of the *North-western Lumberman* states that gum logs when quarter sawed become tractable and reliable. The wood loses in this way its characteristic grain effects, but it still could be finished with a fine rich surface, and it could be largely employed for flooring and other plain use where durability is required. The vast amount of this timber which is still standing certainly makes it worth while to study and experiment with the wood so as to discover how it can be manufactured and dried in the most profitable way.

— ANTHRACITE COAL.—We have received information of much interest on this subject from correspondents, in reply to "W. S.'s" query on page 435, but, owing to the Chrysanthemum shows being so numerous, we are compelled to hold it over until a later issue.

— RAILWAY RATES.—The rate for the carriage of manure over the South-Eastern Railway has been reduced 25 per cent. in the case of loads of not less than six tons. We are informed that the Directors of this Company have under consideration the question of reducing the rates for garden and farm produce.

— A LARGE BRAMLEY'S SEEDLING APPLE.—Mr. G. Summers, Sandbeck Park Gardens, Rotherham, writes:—"I read remarks *re* large Apples on page 435. From a small tree worked on the Paradise stock of Bramley's Seedling Apple, and transplanted last spring, I lately gathered a fruit that weighed 23 ozs., which is the largest Apple of this variety that I have known grown so far north."

— COREOPSIS DELPHINIFOLIA.—Although one of the smallest members of this beautiful genus, this species, has, says an American contemporary, great value as a decorative plant. It grows to a height of 10 or 12 inches, and measures often as much across. It is very bushy, and produces innumerable small heads of pale yellow flowers in August and September. The leaves are small, three-parted or linear and smooth. The heads are produced in leafy corymbs, and measure about an inch across. It grows in dry barren soil, and is a typical plant of some of the poor sandy districts of the south. Like all the Coreopses, it is easily increased by seeds. This is a most useful plant for naturalising in large parks and grounds where rocky and gravelly soil abounds. It will add life and colour to the landscape without obstructing the scenery in any way.

ADIANTUM CUNEATUM.

INTRODUCED into British gardens from Brazil about 1820 the *Adiantum cuneatum* has enjoyed an unbroken spell of popularity until the present time, and is now, if anything, more esteemed than ever by the great majority of plant lovers. That it will grow freely under a great variety of circumstances has been proved, and this, no doubt, has had a great share in popularising it. But there always seems to be just an ideal (if the term is permissible) kind of treatment for this as for all other plants, which can only be discovered by long experience in their cultivation.

Many growers advocate cool, and some few even cold treatment; but my experience points to neither of these methods if the very best results are desired. At the same time it cannot be denied that the cool treatment has far more to recommend it than the stiling stove temperature so often used, which causes a rapid growth of long, weak fronds, generally of a very poor colour and of no lasting quality when cut. In either case it only remains for the advocates of the extreme systems to try the mean to prove its value above either. Given a temperature of 60° to 65° in which to make its growth, and a gradual reduction to 55° with abundance of air in which to mature it, and the best results may confidently be anticipated. Of course, the question of soil is an important one, and must receive careful consideration. Too often this grand Fern is treated to a compost in which peat is the predominating element. Use a good fairly heavy loam, with plenty of fibre for preference. To this add a little flaky leaf mould and enough sharp sand to render the whole porous, as anything approaching stagnation or sourness in the soil is fatal to successful cultivation.

In many instances old plants are split up and divided to form young stock, and the mistake in so doing cannot be too strongly pointed out. A far better plan will be found in raising young plants from spores annually, an operation if properly gone about entailing no more trouble than that expended in raising many another far less valuable plant. Prepare a pan by placing a good layer of crocks over the bottom, making the drainage secure by adding a covering of moss. On this place about half an inch of finely sifted loam, and water the whole with boiling water to kill anything that may be living in the soil or moss. When cool, the spores should be scattered thinly and evenly over the surface, and the pan be covered with a sheet of glass. The best position is where a large amount of moisture is constantly maintained, and in my experience the space below the path gratings in a stove or intermediate house is without a rival for these. Owing to the constant damping of the pathway scarcely any attention is needed as regards watering. Afford a light shade as protection from the brightest sun at all times. When the first young frond is discernible springing from the prothallus, prick them out in small clumps into other pans, still covering for a time with glass to prevent excessive evaporation. Do not allow them at any time to become crowded, but keep gently growing by successive prickings into other pans.

A mistake very prevalent amongst growers is that of commencing pot culture far too soon, as many seedlings, and particularly Ferns in a young state, grow far better and reach a useful size much quicker when grown in pans or boxes until large enough to easily fill a 3-inch pot. Small shifts and rather firm potting should always be the rule, for with the help of feeding large plants may easily be obtained in comparatively small pots.—FILICES.

DORYOPTERIS PALMATA.

THE specimen sent by "Fern Grower" is *Doryopteris palmata*, a Fern that when well grown has a distinct and pleasing appearance. Small plants in little pots, as shown in fig. 74 (page 487), are very ornamental and useful for decorative purposes, owing to the distinct appearance of the foliage. The fronds differ greatly in size; in young plants they are only a few inches across, but in older and stronger specimens they attain a height of 10 or 12 inches. They are of a bright glossy green colour, deeply divided in palmate fashion. The Fern is an evergreen from tropical America, and requires the temperature of a stove or a warm greenhouse, with a compost of peat and sphagnum and good drainage.



NATIONAL CHRYSANTHEMUM SOCIETY.

ON Monday evening last the General Committee of this Society held a meeting at Anderton's Hotel, Fleet Street, when Mr. B. Wynne presided. The minutes of the former meeting were read and confirmed, and after the disposal of several other matters of routine business, the Secretary reported that the prize money awarded to exhibitors at the recent Aquarium show amounted to the sum of £245 14s., which would be paid over to the winners in the course of a week or ten days. The following awards, made on the recommendation of the Arbitrators, were also confirmed:—Gold medal to Messrs. H. Cannell & Sons; silver-gilt medals to Messrs. B. S. Williams & Son, Cutbush & Son, Sutton & Sons, J. Veitch & Sons, and W. G. Tidy; silver medals to Messrs. W. J. Godfrey, Lea & Son, Spooner, and N. Davis; small silver medals to Mr. T. Berridge and the Jadoo Fibre Company; and bronze medals to Messrs. D. W. Buchanan and H. Shoesmith.

Mr. Harman Payne reported on the proposed new issue of the Jubilee edition of the Society's catalogue, which will be ready early next autumn, and as a result of the discussion thereon it was resolved to invite the assistance of a number of Chrysanthemum experts in the country, who will send in returns, and these will be tabulated, and the varieties thus chosen will form the basis of the select lists for exhibition. Several other suggestions and alterations were proposed, to all of which effect will be given in due course.

New members and Fellows were elected, bringing up the number for the year to eighty-four Fellows and 115 ordinary members.

HAIRY CHRYSANTHEMUMS.

THERE seems to be a lull in the popularity of these varieties. During the present season I have only met with a few, most of them well-known varieties. Mr. Jones of Lewisham has some in very good form—that is, for those who appreciate them. Chief among these hairy sorts are Louis Boehmer, Vaucanson, Hairy Wonder, and a capital bloom of the far-famed Mrs. Alpheus Hardy. A new one is Perle d'Or, rather thin in the petal, of a very clear shade of pale yellow, but only slightly hairy. Papa Bertin is another, but the form of this is peculiar, it having long tubular florets, which are open and curly at the tips, colour pale silvery pink. Also of this season's introduction is P. Marieton, a Japanese, large and solid in build, colour golden yellow shaded bronze. Abbé Pierre Arthur, a Japanese, with long tubular florets, is the only other to which attention might usefully be drawn.

SOME NEW AMERICAN CHRYSANTHEMUMS.

Next to the continental introductions, these will always command some attention from our importers and exhibitors. The peculiarly hot dry summer of 1895, but especially the almost tropical September, has no doubt been favourable to many of the American varieties, for in some cases I do not remember ever to have seen better blooms. Philadelphia, the Japanese incurved variety, about which so much has been heard early in the year, is disappointing, for the flowers are certainly not white wherever I have seen it, but rather of a sulphur or dirty primrose tint. Mrs. R. C. Kingston, a capital incurved raised by Mr. H. Surman of Philadelphia, something between a Princess of Wales and a Princess of Teck, has, however, maintained its reputation of last year, when it was certificated. G. W. Childs, the rich velvety crimson Japanese well known, is brighter in colour and larger in size than ever. Mrs. E. G. Hill, the large globular Japanese, colour pale blush, is also good in several places, and will be valuable for October shows. Niveus also maintains the high opinion formed of it last season. Major Bonaffon, quite new but not fully out at the time of writing these notes, looks like being a Japanese incurved, and its colour, a pure golden yellow, is very rich and clear. Mutual Friend, a new white, has already been certificated by the N.C.S. International is very large, but loose and wgly, and very inconstant in colour, sometimes being white, while at others sulphur streaked with purple. King of the Chrysanthemums is a striking novelty, but it is not truly an American, having been imported there from Japan; it is a buff chestnut, with golden red reverse. Sarah Hill, rather early, a Japanese incurved, having broad florets pointed at the tips, colour pale yellow buff, is worth looking out for.—P.

A JUDGING INNOVATION.

I WAS an exhibitor at the Sheffield show last week, and I wish to ask through the medium of your paper whether it is right and just for judges to be exhibitors at the same show they are called upon to adjudicate? At the show mentioned one of the judges was an exhibitor, and a successful one. Under the rules of the Society every one of the exhibitors is supposed to leave the hall during the judging. This was done so far as I was concerned, but not in the case of the judge in question. I do not for one moment wish to impute partiality or bias on the part of the other judges, but I consider it is altogether wrong and not calculated to impart confidence and encourage competition when matters are arranged in the manner described.—G. W. DRAKE, 44, Cathays Terrace, Cardiff.

[At some Rose shows exhibitors in the nurserymen's classes judge the blooms in the amateur section, and the amateur exhibitors judge the nurserymen's blooms. Possibly something of the same nature may have been permitted at the show in question; but if the rules say that "all exhibitors must leave the room during the judging," the practice indicated obviously involves an infringement of the regulations.]

PROLONGING THE CHRYSANTHEMUM SEASON.

CHRYSANTHEMUMS at Christmas are admittedly some of the most useful flowers we have for decorative purposes at that time, and they are often not very plentiful then, hence market growers use every effort to retard some, so as to have them in flower at the festive season.

Much may be done to accomplish the object in view by selecting late varieties, such as Ethel, Meg Merrilies, Mrs. E. Beckett, Mrs. E. D. Adams, and the various varieties of the Teck family; but frequently, when these are housed at the usual time, the flowers are beginning to lose their freshness at the time they should be at their best. We do not I think, as a rule, take as much advantage as we might of opportunity to leave the plants in the open air till very severe frosts occur. If they are placed in sheltered position, and have a rough wooden framework erected over them, and frigi domo or other similarly warm covering material is provided and used, it is surprising what a great amount of frost may be kept out. Of course the weather must be closely studied, and when there is the least indication of frost the covering ought to be placed on.

But during the warm showery nights we have lately experienced the plants are greatly benefited by being left uncovered. We have a number of bush plants still in the open air, and are looking forward to be amply repaid for the little trouble entailed in covering, when required. As soon as the flower on any plant begins to unfold its petals that particular plant is, of course, taken under glass, but they are always left in the open air till that stage has been reached, unless we get very severe frosts, but I find they can be made quite proof against 9° or 10°.

I have repeatedly found that, as a rule, gardeners have more difficulty in meeting the demand for cut flowers at Christmas time than at any other period of the year, and I think there are many instances where this difficulty may be lessened by following the course suggested in this short note.—H. D.

INCURVED JAPANESE CHRYSANTHEMUMS.

THESE are now very numerous, and their big solid blooms seem to find great favour with exhibitors. A few years ago there were scarcely any in cultivation at all, and it was not until the year 1881, when Messrs. Veitch & Sons of Chelsea imported Comte de Germiny from Japan, that such a subdivision of the Japanese section became possible.

Most of the earliest varieties of this type came either direct from Japan or from America, but in later times no grower has so successfully added to the lists as M. Ernest Calvat; in fact, the whole strain of his seedlings seem to run in that direction.

Of course, in some natures the artistic element is grossly offended at such huge lumpy looking blooms, and they are voted coarse and ungainly; but some of us who love the Chrysanthemum for itself welcome any new departure that tends to popularise more widely the object of our floral affection. The incurved Japanese has done this in a great measure, and is deserving of our gratitude, as, indeed, is any other novel departure from old-established paths which will enable us to maintain our chosen motto of "Floreat Chrysanthemum!"

In going the rounds of the trade displays and floral meetings this season one cannot fail to have noticed the large number of fine noble looking incurved Japanese Chrysanthemums that have recently been sent out. The flat straggly Japs of twelve to fifteen years ago Meg Merrilies, Baronne de Prailly, and even the Jeanne Délaux type, beautiful as that was, are all giving place to flowers in which great depth of build is an important feature.

A few notes on recent novelties may be interesting, and the following varieties seen up to the end of October may be useful:—

Noeas d'Or (Calvat).—Grooved florets of medium width, large flower; colour pure golden yellow.

President Armand (Calvat).—Very solid and substantial; inside colour crimson chestnut, reverse brassy yellow.

Louise (Calvat).—Always good. Too well known to require description.

Boule d'Or (Calvat).—Figured in the Journal a few weeks ago. A golden buff or amber Louise.

A. H. Fewkes (Hatfield).—An American variety, not over-large in size. The florets are grooved and pointed. The colour is pure without shade or marking; a golden canary yellow.

Lady Esther Smith (Owen).—Very long grooved florets. A fine show flower. Colour very pure white.

Mrs. Chas. Blick (Blick).—Narrow grooved florets, curly at the tips. Very large. Also very pure white in colour.

Lady Byron (Weeks).—Large globular blooms with broad grooved florets, very strongly incurving. A cross between Puritan and Mrs. Alpheus Hardy. Pure glossy white.

Mutual Friend (Mann).—Another monster bloom. Very long wax-like florets of great breadth, curly at the tips, and deeply grooved. A white variety.

Leviathan (Lacroix).—Broad florets, a fine solid flower; inside colour violet amaranth, reverse silvery.

President Carnot (Calvat).—Medium size, with good florets; carmine crimson inside, reverse buff.

Souvenir de Jambon (Calvat).—Florets of medium width, a globular and massive flower; colour chestnut crimson, reverse old gold.

Vice-President Calvat (Calvat).—Large and solid; deep crimson inside, with reverse of golden; pointed, grooved florets.

Préfet Robert (Calvat).—Very broad florets, a large globular flower; colour carmine amaranth, reverse silvery pink.

Souvenir de Petite Amie (Calvat).—Semi-globular in form, very long narrow florets, outer ones partly tubular; pure white.

Souvenir de Toulon (Calvat).—Large and solid as shown at the October show, grooved florets; pale amaranth, reverse silvery.

Kentish White (Cannell).—Semi-globular, grooved florets of medium width; clear paper white, centre tinted yellow.

Queen of Buffs (Owen).—Large and solid, good petals; salmon, gold, and buff.

Mrs. B. Ironside (Briscoe Ironside).—A fine chaste looking variety of perfect form, and very regular in the petal; colour salmon blush.—C. H. P.

ROYAL GARDENS, WINDSOR.

CONSIDERING how well the great majority of plants and fruits are grown by Mr. Owen Thomas for the Royal household, it would be a matter for the utmost surprise if Chrysanthemums did not at this season of the year receive a large share of attention on account of their undoubted utility. Anyone visiting the Windsor Gardens now will find such a display as cannot be seen in many establishments, and flowers will be forthcoming in abundance until February, the earliest plants having been in bloom in September, thus giving a constant show for upwards of four months. This is prolonging the season of the Chrysanthemum quite sufficiently, and no true lover would desire them longer, as such would only tend to bring about their downfall through giving so much as to engender distaste, where, with a limited season, love should ever remain supreme.

But let us return to the "Royal" plants. Remembering the extended season, growers of the autumn queen will be sure that not only is a very large number of plants grown, but also that different styles of training must of necessity be adopted. And such is, indeed, the case. On the one hand may be seen tall, stately plants carrying three or four blooms, while on the other are diminutive little specimens, not exceeding 12 inches in height and bearing perhaps a dozen flowers. Supposing these to represent respectively east and west, then on the north we see other plants to give blooms to Christmas, and to the south still more to carry the feast onward thence to February. It will readily be perceived by this that judgment must be exercised on all points of culture, be they large or small, in order that success may be recorded instead of acknowledging that "the best laid schemes of mice and men gang aft agley," for truly a goodly amount of scheming must needs be done.

Upwards of 3000 plants are cultivated in the various styles and for the different seasons of flowering. Dwarf and tall, early and late, are all alike in splendid health. The leafage throughout is tough, and of a dark green, while all the shoots are composed of thoroughly matured wood, and it would be nothing short of penal to omit to record the fact that all are clothed with foliage down to the pot. In stating that all had dark green leafage, Philadelphia should have been held as a reservation, for, as has been recorded by writers in the *Journal of Horticulture* during the past week or two, the leaves are of a sickly yellowish green hue, such as does not by any means promise the good blooms that are eventually produced.

Having these objects in view, the necessity of cultivating many varieties will be readily apparent, as it would obviously be practically impossible to insure such an extended season of flowering were only two or three sorts grown. The majority of the varieties are Japanese, though Pompons and incurved also receive a fair share of attention. Considering their far greater utility it cannot be a matter for surprise that Japanese occupy the most space, and that they are trained in so many different styles, including those for large blooms, and large numbers for decorative purposes in smaller sized pots.

Let us first of all glance over the Japanese grown usually with about four blooms on a plant, and which plainly evidence the best cultivation. Here the varieties are very numerous, and comprise all the best of last season's novelties, and, of course, large numbers of the older ones that are of proved merit. It would, of course, be an impossibility to give a list of all just now when pressure on the space is so tremendous owing to the shows, so mention will only be made of those that are doing particularly well, without troubling at all whether they come under the magic category of "new" or not.

Arranged on each side of a span-roofed structure the plants look very imposing, and as conspicuous as any is the well-known Edwin Molyneux, which seems to be a perennial favourite. Adjacent to this is International, noticeable by reason of its immense blooms; the same remark applying with equal force to Mrs. C. Harman Payne. Then

there are Robert Flowerday, Rose Wynne, Préfet Robert, beautiful examples of Mdle. Thérèse Rey, Col. W. B. Smith, Owen Thomas (a yellow incurved Japanese, that promises well), Hairy Wonder, White Louis Boehmer, Mrs. Dr. Ward, Mrs. Libbie Allen, Coronet, Eda Prass, Amos Perry, Vice-President Calvat, with Mrs. W. Stowe, and many others.

The incurved section, though not receiving such a large amount of attention, is by no means neglected, and many splendid examples of culture are to be seen, several of the blooms being well up to the best standard, and this despite the fact that they are bound to be content with practically the same treatment as is accorded to their more easily grown Japanese brethren. As the plants are so much less numerous, so naturally are the varieties, all of which have been well tried and are known to be fairly satisfactory growers. These include Golden Empress, Lord Wolseley, Alfred Salter, Perle Précieuse, J. Agate, Mrs. Heale, Lord Rosebery, Mrs. R. C. Kingston, Robert Petfield, besides other equally well known sorts.

Passing from the large to the smaller blooms we find an entirely different state of affairs, for here the plants are mostly dwarf, ranging from about 12 to 36 inches in height. Though small in size they are large in quality, and are admirably adapted to the decorative purposes for which they are grown. Amongst the most popular varieties are Old Gold, Souvenir d'Elsham (a handsome pink flower), Belle Hickey, Coquette de Castille, Wm. Stevens, Lady Fitzmaurice, with L. Canning and Golden Gem for providing the necessary after Christmas supplies.—H.

CHRYSANTHEMUMS AROUND PERTH.

PERHAPS it may be interesting to your Southern readers to learn how their brethren in the far North are faring with the queen of autumn, hence my reason for my intruding on already well filled pages with a brief note regarding two collections which I had the pleasure of inspecting in the end of last week.

PITCULLEN.—Although the name of Mr. Leslie is generally associated with the magnificent Grapes which he annually produces in the vineries at Pitculen, and with which he carries off many of the chief prizes at the principal Scottish shows, it must not be imagined that Grapes are the only things which are well done in the gardens over which he so ably presides.

Peaches and Tomatoes in their season are well worthy of a journey to see, not to mention stove and greenhouse plants in variety, and at the present time Chrysanthemums of which there is an excellent display. Amongst a few of the varieties I noted as especially fine were President Borel, a finely built flower with long drooping petals, carmine rose in colour; Commandant Blusset, a magnificent solid bloom, deep carmine, a splendid acquisition; Richard Dean, crimson and gold, very large, a capital exhibition sort of striking effect; Florence Davis, just opening and promising to be very good; Souvenir la Petite Amie, a very fine white; Madame E. Labat, another fine white of massive size; Elaine, which is still unsurpassed for purity was represented by deep massive blooms; Ed. Molyneux, good; Gloire du Rocher, very fine in colour; Mrs. Walters, G. W. Childs, Mrs. E. G. Hill, and many others equally good which could be enumerated did space permit, all of which combined to make the greenhouse exceedingly gay and attractive, and reflect great credit to Mr. Leslie.

ROSSIE HOUSE, FORGANDENNY.—Mr. David Nicol, the gardener at Rossie, is now pretty well known throughout Scotland as an expert Chrysanthemum grower, and during the past few years his name has occupied a prominent position in the prize lists of the Chrysanthemum shows held in Edinburgh, Glasgow, and Dundee. Consequently, it was with the expectation of enjoying a treat that a number of gardeners Chrysanthemum fever stricken sallied forth on Saturday afternoon to have a peep into the Rossie greenhouses.

Nor were we disappointed, as the blooms were never finer, Mr. Nicol having this year eclipsed all his previous efforts in Chrysanthemum culture. The best of all the newer sorts as well as the cream of the older ones were well represented, and so fine are the blooms generally that it is difficult to select a few representative varieties to enumerate. Amongst whites, Mrs. W. H. Lees was very prominent with fine, massive, yet graceful flowers; Mdle. M. A. de Galbert, a pure white broad petalled sort; Madame A. Chatin, a creamy white incurving variety, very fine; Madame Carnot, with beautiful long drooping florets, very chaste; Mdle. Thérèse Rey—this lovely sort was represented by a number of beautiful blooms, yellows were well in evidence, very fine being Amos Perry; and Pallanza, gorgeous in colour but scarcely broad enough to come up to exhibition standard; Duchess of York Mr. Nicol feels a little disappointed with, as it hardly comes up to expectations; Golden Gate has fine broad deep flowers of a rich bronzy yellow; Col. W. B. Smith is very fine, as also is Philadelphia, a large incurved Jap of beautiful primrose colour; Miss Maggie Blenkiron is a huge incurved bloom of a pleasing bronzy yellow shade, very attractive.

Amongst other shades we noticed extra fine blooms of Viscountess Hambleton, a grand sort; Eda Prass, a beautiful salmon pink; and Mrs. C. H. Wheeler, which is seldom seen at its best, was represented by really magnificent blooms; Mrs. C. H. Payne, very large and highly coloured, so much so indeed that some declared it to be a sport; Primrose League, very good, with a distinct yellow sport, which we hope Mr. Nicol will be able to fix. I might go on enumerating as there were many equally good, but I am afraid I have already trespassed too much on your valuable space; but I cannot close this note without expressing our thanks for the very kind and courteous manner in which we were received by Mr. Nicol, and wish him every success in the future, both in the cultivation and exhibition of his favourite flowers.—WM. LITTLE.

CHRYSANTHEMUM SHOWS.

MARKET HARBOROUGH.—NOVEMBER 6TH AND 7TH.

THE tenth annual show was held on the above dates, and was pronounced to be the finest exhibition that the Society has held. Competition in the principal classes was very keen, especially for eighteen Japanese, distinct. Mr. W. Pearce, gardener to S. Loder, Esq., Floore, Weedon, took first prize in this class for a remarkably good stand, the blooms large without coarseness, and very fresh in colour. Mr. J. Gould was a close second, and Mr. Duncan third. In the class for twelve Japanese Mr. Duncan, gardener to Miss Turville, Bosworth Hall, was a good first. For eighteen incurved blooms, in not less than twelve varieties, Mr. J. Gould was first with a grand stand, the flowers in the front row being of extra size. Mr. Pearce was second; and in the class for twelve incurved, distinct, the positions were reversed. Mr. Pearce had a grand flower of Empress of India in his stand, which received the National Society's certificate as the best bloom in the whole class.

Very fine groups were staged. The first prize for Chrysanthemums only was won by Messrs. Plowman & Son, and contained some fine flowers, which were well arranged. In the group of Chrysanthemums and foliage plants Mr. Duncan took first prize with a very pretty arrangement of Crotons, Pandanus, and Eulalias, and some fine Chrysanthemums.

Some very pretty baskets of Chrysanthemums were staged. Messrs. Perkins & Sons were placed first with a very tasteful arrangement; Mrs. Wartnaby second, Mr. Clarke third. Messrs. Perkins also won first prize for hand bouquet of Chrysanthemums, their exhibit consisting of a shower bouquet faultlessly arranged in gold and brown.

Vegetables were also remarkably fine and shown in abundance. For a collection of nine distinct kinds Mr. Duncan took first prize. Many special prizes are given by various members for allotment-grown vegetables, the cottagers showing great skill in cultivation, a proof that these prizes do much good in the neighbourhood.

GODALMING.—NOVEMBER 6TH AND 7TH.

THE Godalming and District Chrysanthemum Society held its twelfth annual show at the Public Hall, Godalming, on the 6th and 7th of the month, when the various classes were well filled, and a good show resulted, there being an advance of fifty entries over that of last year.

Mr. Neal, gardener to Captain Wyatt, Shackleford, was first in the class for groups with a very creditable arrangement, Mr. R. Jordan, Lanaway, being a close second. For miscellaneous groups Mr. Mitchell, Godalming, was first with a light, elegant arrangement; and Mr. Burfoot, gardener to Mrs. Ewart, Northbrook, second.

In the class for twelve incurved blooms Mr. Paddon was first with a fine exhibit; second, Mr. Osman, Ottershaw Park; third, Mr. Neal. For eighteen Japanese Mr. Paddon was again first, showing Col. Smith, Col. Chase, Lord Brooke, Mrs. C. Harman Payne, Charles Davis, Mdlle. Thérèse Rey, Van den Heede, President Borel, Madame Molin, Ethel Addison, Thos. Wilkins, W. Seward, International, Princess Victoria, Robert Owen, Duke of York, and W. H. Lincoln. Mr. Neal, an amateur of Puttenham, was a good second, his best being Madame Ad. Chatin, Sir Ed. Smith, Mons. Panckoucke, A. H. Fewkes, Viscountess Hambledon, and Madame Carnot. Third, Mr. Jordan; and fourth, Mr. Osman.

For twelve Japanese, Mr. Needs, Woking, was first with a very fine exhibit, having in it a grand W. H. Lincoln, which was given the prize as the premier Japanese in the show. Second, Mr. Neal; third, Mr. Baxter, Woking. For six Japanese, one variety, Mr. Neal was first with a grand board of Edwin Molyneux. Second, Mr. Jordan with Charles Davis; and third, Mr. Burfoot with Mrs. H. Payne. Primulas are always well shown at Godalming. Mr. Neal was first with six doubles, also with six singles, with grand plants over 2 feet through; Mr. Steel second with doubles; Mr. Paddon third for singles; Mr. Jordan second.

The classes for fruit were well filled, Pears and Apples being grand throughout. The principal prizewinners were Messrs. Mitchell, Jordan, Osman, and Bond, gardener to C. Ingram, Esq., Elstead. The classes for cottagers were well filled, and some very creditable vegetables, fruit, and flowers were shown. Unfortunately, the unpropitious weather proved a great drawback to a very fine show.

PLYMOUTH.—NOVEMBER 12TH AND 13TH.

As usual the autumn exhibition was held in the Guildhall, and was a decided success. A marked improvement was manifest in the quality of the exhibits over any previous show held here. Noteworthy were the groups of Chrysanthemums and miscellaneous plants in the advance made, which should be highly gratifying to the management and creditable to the exhibitors also. The competition was keen in all sections. The arrangements were, as always here, perfect under the able direction of Mr. C. Wilson, the Hon. Secretary, aided by an efficient Committee.

Cut blooms were numerous and well staged. The principal class was that for forty-eight Japanese in not less than twenty-four varieties, £23 being offered in prizes in this class alone. Mr. Page, gardener to J. B. Fortescue, Esq., was awarded the post of honour with an admirable collection, the blooms being large, fresh and well staged. The most noteworthy examples were Mrs. T. Denne, G. C. Schwabe, Mons. Panckoucke, E. Molyneux, Violetta, and Col. Chase. Mr. G. Foster, gardener to H. Hammond Spencer, Esq., Teignmouth, was a good second, and Mr. Humphrey, gardener to W. H. Fowler, Esq., Claremont, Taunton, was third. Devon, Somerset, Dorset and Cornwall had a special class

set apart for societies in those counties, to consist of twenty-four Japanese and twelve incurved, all to be distinct. The Teignmouth Society was awarded premier honours for a fairly good lot of blooms, the Newton Abbot Society coming second.

The incurved section was not well represented. For twenty-four in not less than eighteen varieties Mr. G. Foster won the first prize with a tolerably good stand, Lord Alcester was his best bloom. In the class for six white Japanese, one variety, there was brisk competition, Mr. W. H. Fowler winning with Mdme. Ad. Chatin in prime condition. Mr. Foster was second with Madame Carnot, and Mr. Page third with Mdlle. Marie Hoste. In the class for six Japanese, one variety other than white, Mr. Page was first with Mons. Panckoucke, Mr. Fowler following with Duchess of Wellington.

Groups of Chrysanthemums interspersed with foliage plants were most attractive. Mr. C. Watts, Globe Hotel, Plymouth, was an easy first with well-grown Chrysanthemums effectively intermingled with Crotons, Eulalias, and other plants. Classes were provided for residents within fifteen miles of Plymouth, the principal one being for a group of Chrysanthemums in pots, not less than twelve varieties, in a space of 12 feet by 8 feet, an edging of Ferns and foliage plants allowed. Seven competed, making a capital display, Messrs. Bennett Bros. taking the leading position with a charming arrangement of well-grown suitable plants. An interesting class was that for the best display of floral designs. Mr. W. E. Jordan won the first prize with a collection of beautifully made wreaths, crosses, harps, bouquets, and baskets, Messrs. Tomlinson and Arnold following in the order named.

The exhibits "not for competition" sent by local nurserymen and others were very creditable. Mr. W. J. Godfrey, Exmouth, staged a collection of Chrysanthemum blooms and Carnations; Mr. C. J. Slater, Exeter, staged seventy dishes of fruit; Messrs. R. Veitch & Son, Exeter, fifty dishes of Apples, Orchids, and the new Physalis Francheti; Messrs. Jarman & Co., Ltd., an extensive exhibit of vegetables; Mr. A. Westlake and Mr. J. Lethbridge, horticultural sundries; Mr. F. H. Hodgers, a fine group of Orchids; and Messrs. Groombridge, a stand of miscellaneous plants.

AYR.—NOVEMBER 13TH.

HELD in the Town Hall, this exhibition was a great advance on former shows. The culture of Chrysanthemums in the West of Scotland is evidently spreading. The county challenge cup for four plants was won by Mr. M. Ganly, gardener to P. Davidson, Esq., Glendoon, with magnificent plants that reminded one of Birmingham. For two plants, Japanese, Mr. James Thomson, gardener to R. Niven, Esq., Airlie, was first, Mr. Ganly taking the first for two plants of Anemone-flowered varieties, and also for two plants grown on single stem, and for one plant.

Cut blooms were grand, Mr. H. Stewart, gardener to Mr. R. Goudie, Alloway Place, taking the "Land o' Burns" challenge cup with splendid flowers, solid, and well coloured. They were:—Stanstead White, Com. Blusset, Duchess of York, Wm. Tricker, Lady Saunders, Chas. Davies, Mons. Bernard, Vivian Morel, Mdlle. Marie Hoste, Madame C. Molin, Sunflower, H. Jacotot fils, and Mons. Panckoucke. For six blooms the same exhibitor was a good first for Mons. Panckoucke, Etoile de Lyon, Commandant Blusset, Duke of York, Lady Saunders, and Duchess of Wellington. Mr. M. Ganly was first for six incurved and six Japanese, and Mr. H. Stewart was first for six blooms, four varieties. For six incurved Mr. Melville, Beith, won with Mons. Bahuant, Empress of India, Madame Darrier, Lord Wolseley, and Mrs. S. Colman. The best bloom in the show of Japanese was Mdlle. Marie Hoste, exhibited by Mr. Noble. Best incurved, Baron Hirsch, shown by Mr. J. H. Scott.

Fruit was very well shown, as also were table plants, sprays, and bouquets. Tables of flowers and plants not for competition were exhibited by Messrs. Samson, Kilmarnock; Mr. Byden, Ayr; and a stand of forty-eight Japanese Chrysanthemums, mostly new varieties, by Messrs. Dobbie & Co., Rothesay.

LEOMINSTER.—NOVEMBER 13TH.

A VERY attractive exhibition was held by the above Society, reflecting the highest credit on the capable and energetic Secretary, Mr. Glansant, and the Committee. Mr. R. Morrow, Leominster, the *Journal of Horticulture* silver medallist, was well to the fore with a fine group of Chrysanthemums and foliage plants. Second, Lord Rodney, with a good group, but heavier than the premier one. Mr. Morrow also staged a fine lot of wreaths, crosses, cut flowers, and plants not for competition.

In the cut bloom classes C. Lee Campbell, Esq., Glewston Court, Ross, secured first place for twenty-four blooms, with C. Davis, Mrs. R. W. Caldwell, Mrs. C. H. Payne, Madame Carnot, Florence Davis, Hairy Wonder (excellent), Commandant Blusset, Etoile de Lyon, Silver King, Niveus, Vivian Morel, W. H. Lincoln, R. Cannell, Princess of Wales, Baron Hirsch, Miss Campbell, Empress of India, Lord Wolseley, Flora Macdonald, Brookleigh Gem, M. A. Haggas, Mrs. Heal, Madame Darrier, and Prince Alfred. Second, J. Rankin, Esq., M.P., Brywyn, Hereford; and third, P. F. Phillips, Esq., Whitfield. For twelve incurved Lord Rodney was first, followed by P. F. Phillips, Esq., and J. Rankin, Esq., in the order named. For twelve Japanese Robert Moreton, Esq., Ludlow, was a splendid first; second, Lord Rodney; third, P. F. Phillips, Esq. Lord Rodney and Mr. R. Morrow were the most successful in table decorations, taking the prizes as named with very tasteful arrangements.

In the Grape classes P. F. Phillips was first with Gros Colman for

black Grapes; and J. Rankin, Esq., M.P., the same for white Grapes, with very large bunches of Mrs. Pearson. In the Apple classes nearly all the leading honours went to C. Lee Campbell, Esq., whose fruit was large and well coloured. Mrs. Williams, Tenbury, was the best exhibitor of Pears, her fruit being remarkable for size, colour, and cleanliness, Louise Bonne of Jersey being particularly well developed. In the class for the best flavoured Pears, Doyenné du Comice took the post of honour, followed by Louise Bonne of Jersey. Vegetables were well staged, Mr. W. J. Clayton, Moor Court, Ludlow, being first for a collection, admirably grown and arranged. Second, J. Rankin, Esq.

Mr. J. Watkins and the English Fruit and Rose Co. put up some magnificent collections of Apples and Pears, not for competition. We would like to suggest to this thriving Society that it would be an improvement to put the name of the gardener on the prize cards in future; at present they are not mentioned.

RUGBY.—NOVEMBER 13TH AND 14TH.

IN such a celebrated scholastic town as Rugby it is especially fitting that the art of floriculture should be freely encouraged, and so we find that under the presidency of Linnaeus Cumming, Esq., M.A., of the Rugby Schools, the local Society has obtained considerable support during the nine years of its existence, and now holds a prominent place amongst the best in the Midlands. With a continuance of the good management which has guided the Society so well until now, still further progress may be confidently looked for, and such useful work is worthy of substantial aid from all concerned in the improvement of horticulture in the locality. For the maintenance of interest, however, fresh features should be occasionally introduced, and one department might be extended at Rugby with advantage, for it already furnished a great and increasing feature at many shows. This is the development of classes to indicate the value of Chrysanthemums for floral decorations at this time of year. Open classes (in addition to those already in the schedule) for bouquets and baskets with better prizes would soon raise the standard of competition, while a class for vases of Chrysanthemums, or for an arrangement suitable for the centre of a table, would form a most interesting addition to the attractions. We have judged at shows where it is usual to have from twelve to twenty entries in similar classes, and no part of the show is viewed with greater interest.

The cut blooms were arranged on tables in the upper apartment of the Town Hall, and included some fresh and good specimens, especially amongst the Japanese, which were admirably represented in nearly every case. The first class in the order of the schedule was for eighteen cut blooms, nine each of incurved and Japanese, in not less than six varieties. This is an easy class for exhibitors, and with cash prizes, in addition to the silver challenge cup, value £7 10s., the competition ought to improve. The cup has to be won three times, not necessarily in consecutive years, and this season it was awarded to Mr. Newman, gardener to Mrs. M. Molesworth, Bilton Road, Rugby, who had neat, even, and fresh blooms. Mr. B. Robinson, gardener to Mrs. Caldecott, The Lodge, Rugby, followed very closely; and Mr. McKay, gardener to E. Edwards, Esq., Horton Crescent, Rugby, was third. The best class in the show, as regards the quality of blooms, was that for thirty-six in twenty-four varieties, with which Mr. Blakeway, gardener to P. A. Muntz, Esq., M.P., Dunsmore, Rugby, won the first place, showing excellent blooms of Etoile de Lyon, Eda Prass, Princess May, Mrs. E. W. Clarke, C. Shrimpton, Silver King, International, G. C. Schwabe, Good Gracious, Condor, Stanstead White, Sunflower, W. Seward, Florence Davis, Niveus, Vivian Morel, and G. C. Schwabe. Mr. Tustin, gardener to C. James, Esq., Coton House, was second; and Mr. F. J. Blake, gardener to G. Singer, Esq., Coundon Court, Coventry, was a good third.

Twenty-four incurved, in eighteen varieties, were well shown by Mr. Blake, who easily won premier honours for neat, even, not large but refined blooms of the following, arranged in the order named. Back row: Golden Empress, Violet Tomlin, C. H. Curtis, Camille Flammarion, Lord Alcester, Madame Darrier, Globe d'Or, and Princess Teck. Middle row: Jeanne d'Arc, Mrs. N. Davis, Princess Teck, Mrs. Coleman, Lord Rosebery, Mrs. N. Davis, Brookleigh Gem, and Lady Dorothy. Front row: Violet Tomlin, Mrs. Heale, Lady Dorothy, Hero of Stoke Newington, Brookleigh Gem, D. B. Crane, Hero of Stoke Newington, and M. P. Martignat. Mr. Tustin was second, also with a creditable stand. Two classes were provided for twelve Japanese, one open to all exhibitors, in which Mr. Knights, gardener to D. Brownlow, Esq., Lutterworth, was a good first, followed by Mr. Blakeway; while in the local class Mr. Kilbourn, gardener to Mrs. Bridgman Simpson, Bilton Hall, was the most successful, showing very bright and handsome blooms, Mr. Newman and Mr. Robinson were second and third respectively.

Only two groups were shown in Class 1; both were extremely good and close in merit in the three points enumerated in the schedule—i.e., "number of varieties, quality of bloom, and general effect." Mr. Newman's group was placed first, a very bright tasteful display of well-grown plants, and Mr. Kilbourn was second with a handsome arrangement, but losing a point or two in the quality of the blooms. The plants in the other classes generally showed an improvement as compared with previous years, especially those which gained the prizes for Messrs. Newman, Kilbourn, Fenley, and Tew. A few good baskets of Chrysanthemums were shown, Mr. W. J. Hipwell and Mrs. Molesworth having the two best arrangements in the order named.

The Secretary, Mr. W. Bryant, has conducted the affairs of the Society admirably for some years, and has deservedly earned the confidence of the Committee and members generally.

BIRMINGHAM.—NOVEMBER 13TH AND 14TH.

IN days gone by exhibitors at this great Midland show have achieved many cultural triumphs, but the general opinion expressed by competent judges is that for extent and high quality of the exhibits no previous show at Birmingham has surpassed the thirty-fifth annual exhibition held in the Town Hall on the above dates. I question if anywhere in England such magnificent groups of Chrysanthemums can be met with. The specimen plants also were extremely good, but blooms, as usual, were numerous shown, the competition being wonderfully keen, and a great amount of careful scrutiny was necessary to determine the relative positions of the prizewinners. To win in any of the classes was a great honour; to lose no disgrace.

Quality of the highest excellence characterised the vast array of fruits and vegetables, and the contests were keen; indeed, in some of the classes were many giants met to defeat or be defeated, and not a few younger aspirants to fame learned how sweet is victory when the vanquished are foemen worthy of their steel. To deal with the exhibits in the exhaustive way their merits deserve would require many columns of the Journal, so I trust none will feel slighted if their successes are apparently unheeded. In condensing my report I shall keep steadily in view this principle—viz., that Chrysanthemums must have the prominence of these autumn shows.

SPECIMEN PLANTS AND GROUPS.

For nine large flowering Chrysanthemums (Japanese excluded) £5 was offered as first prize. This was well won by Mr. J. Maldrem, gardener to G. Cadbury, Esq., Northfield, with examples from 4 to 5 feet in diameter carrying very fine blooms. The varieties were White Venus, J. Salter, Guernsey Nugget, Barbara, Golden Empress, Lord Alcester. Mr. C. Brazier, gardener to Lady Martineau, came in second, and Mr. G. Cryer, gardener to J. Kendrick, Esq., Edgbaston, third. For six Mr. Maldrem again led, Mr. Brazier second, and Mr. Cryer third.

The class for three Japanese, dissimilar varieties, was a good one. Here Mr. Brazier came to the front with grand plants of Vivian Morel (5 or 6 feet through), C. Davis, and W. Seward, Mr. Maldrem being a good second. The latter exhibitor won first honours for a single specimen (Japanese excluded), with J. Salter, Messrs. Brazier and Cryer following in the order named. Mr. Cryer came to the front for three Pompons, with good plants, and was also first for three single varieties, and for one Japanese specimen, in the latter class Mr. Maldrem followed.

The handsome prize of £10 is offered for the best group of plants, arranged in a space not exceeding 100 square feet. This was well won by Mr. Thomson, gardener to J. Whittfield, Esq., Moseley, who had grand blooms, good enough for exhibiting in a cut state. The arrangement was also unique and beautiful, the surface presenting a series of glowing curves, light Grasses springing up here and there between the plants. Mr. Brazier was a good second, and Mr. H. Jones, gardener to T. Jenkins, Esq., Olton, third, each showing splendidly.

Prizes of £4, £3, £2, and £1 were offered for groups of Chrysanthemums arranged with Ferns and foliaged plants, in a space not exceeding 40 square feet. This brought out a spirited competition. Mr. Toureved, gardener to Mrs. J. Cary, King's Heath, was declared the winner, Mr. Maldrem being a close second, and Mr. G. Batchelor, gardener to Mrs. Armfield, Edgbaston, third.

CUT BLOOMS.

For twenty-four incurved, distinct, prizes of £10, £7 10s., £5, £2 10s., £1 10s., and a sixth prize of £1 were offered. Twelve exhibitors entered the fray, and a sharp tussle it was, as some very weighty blooms were staged. Mr. Pearce, gardener to J. Loder, Esq., Floore House, Weedon, was deservedly awarded the premier position. His blooms were solid, deep, and fairly well finished. The varieties were—Back row: Empress of India (grand), Mrs. R. King (good), Queen of England, Lord Alcester, Lord Wolseley, J. Lambert, J. Doughty, and Jeanne d'Arc (large and solid). Middle row: Robert Cannell (extra good for variety), Princess of Wales, Mrs. Coleman (grand), John Salter, Violet Tomlin, Novelty, Golden Empress, and Lucy Kendal. Front row: Alfred Lyne (fine), Princess Teck, Hero of Stoke Newington (splendid), Mrs. N. Davis, R. Petfield, Refulgens, Brookleigh Gem, and Mrs. Heale. Mr. C. Crooks, gardener to the Dowager Lady Hindlip, Droitwich, came in second with large blooms, somewhat rough. Mr. B. Calvert, gardener to Col. A. Houblon, Bishops Stortford, was placed third. The fourth prize fell to Mr. N. Molyneux, gardener to J. C. Garnier, Esq., Wickham, whose blooms throughout were clean, highly coloured, and well finished. Fifth, Mr. G. Smith, gardener to Colonel P. Noel, Belbroughton; sixth, Mr. W. Wells, Earlswood, Redhill.

For twenty-four Japanese, distinct, six prizes were offered, the amounts being respectively the same as those in the preceding class. Eighteen splendid stands were staged, and a great victory was won by Mr. P. Blair, gardener to the Duke of Sutherland, Trentham, whose blooms were large, deep, and highly coloured, the varieties being—Back row: Vivian Morel (very deep), Mons. Panckoucke, Eva Knowles (grand), Primrose League (very large), E. Molyneux (highly coloured), T. Wilkins, Madame Ad. Chatin (superb), and Mrs. C. Harman Payne (large and deep). Middle row: Edelweiss, Miss Dorothy Shea, Rose Wynne, Van den Heede, Mrs. Dr. Ward, Mdlle. Thérèse Rey, Col. Smith, W. H. Lincoln. Front row: Chas. Shrimpton, Sunflower, Mdlle. M. Ricoud, Miss Rose Shotta, Duchess of Wellington, Good Gracious, W. Bolia (grand in colour), and Niveus. Mr. C. Crooks was a good second. Third, Mr. J. Deacon, gardener to the Right Hon. J. Chamberlain, Moseley. Fourth, Mr. Bellis, gardener to Sir C. R. Broughton,

Ludlow; fifth, Mr. J. Robins, gardener to R. Horley, Esq., Hereford; sixth, Mr. Pearce. The prizewinners followed each other very closely, and of necessity many splendid lots were left unrewarded.

Good prizes were offered for eighteen incurved, distinct. Eight lots were staged. The first prize went to Mr. C. Crooks with a stand of large solid flowers. The varieties were Golden Empress, Brookleigh Gem, Chas. H. Curtis, C. B. Whitnall, Empress of India, and Lord Alcester in back row; Hero of Stoke Newington, Jeanne d'Arc, Mrs. Coleman, Princess of Wales, Miss M. A. Haggas, and Violet Tomlin in middle row; Mrs. N. Davis, Mrs. Heale, Lord Rosebery, Mr. Kearne, Lady Dorothy, and Princess Teck, front row. Second, Mr. B. Calvert, whose stand contained many fine blooms of the Teck family. Third, Mr. R. C. Townsend. Mr. Crooks secured the premier position for twelve incurved with grand blooms of Lord Alcester, C. B. Whitnall, Empress of India, Golden Empress, Mrs. Heale, Mrs. Coleman, Brookleigh Gem, Violet Tomlin, Hero of Stoke Newington, Miss Haggas, Princess Teck, and C. H. Curtis. Second, Mr. Bellis, whose stand contained grand examples of Lord Rosebery and H. Curtis. Third, Mr. Calvert.

Twelve stands of eighteen Japanese were tabled, and here Mr. R. Jones, gardener to C. A. Smith Ryland, Esq., Barford Hill, Warwick, secured a meritorious victory with heavy, solid, and fresh blooms. The varieties were—Back row: Mons. G. Bron, grand; International, Thos. Wilkins, Mdle. Carnot, Mrs. Gruyer, Mdle. Thérèse Rey. Middle row: Etoile de Lyon and G. C. Schwabe, very fine; Chas. Davis, Wilfred Marshall, superb; Vivand Morel, Thos. Hewitt. Front row: Le Ministère, L. de Bruyn, Mrs. H. Payne, Madame de Gulbert, Duke of York, Pear Beauty, very fair; and President Borel. Mr. Blair was a good second. The third prize fell to Mr. Sceany, gardener to E. L. Cope, Esq., Redditch, who also staged fine blooms.

A class was provided for twelve Japanese blooms cut with long stems, and arranged with Ferns and Palms in pots. The first prize was well won by Mr. Deacon, whose flowers were fixed in a groundwork of Ferns, with light Grasses and Eulalias rising here and there above the blooms. For twelve Anemones, in not less than six varieties, Mr. R. Jones, Barford, was a good first with well centred blooms of Sir Walter Raleigh, W. G. Drover, Enterprise, J. Bunyan, Oliver's Perfection, Grand Alveole, and Queen Elizabeth. Second, Mr. Liney, gardener to W. Low, Esq., Wellesbourne, Warwick. Third, Mr. Hewitt, Solihull.

The principal prizewinners for Primulas were Messrs. Thomson and Co., nurserymen, Spark Hill; Mr. R. Jones, gardener to F. Jenkins, Esq., Olton; and Mr. G. Hancock. Messrs. Perkins & Sons of Coventry won for a hand bouquet; Mr. J. Palmer, gardener to J. Earle, Esq., King's Norton, for six specimen Orchids; Mr. Cryer for Cyclamen; Mr. C. Brazier for Poinsettias; and Mr. Deacon for table plants.

MISCELLANEOUS.

First-class certificates were awarded to Messrs. Cutbush & Sons, Highgate, London, for new Japanese Chrysanthemum Charles Blick; to Mr. J. Weeks, Shrimpton Hall, Derby, for new Japanese Mrs. J. Weeks; also to Messrs. Earp & Sons, Hereford, for a yellow Japanese. A silver medal to Messrs. Thompson & Co., nurserymen, Birmingham, for an artistically arranged group of plants; another for floral arrangements. Messrs. Cannell & Son, Swanley, Kent, were also awarded a silver medal for a display of Zonal Pelargoniums, and a certificate for a fine variety named Oceana. Mr. Pearson obtained a certificate for seedling Potato; and Mr. Crook a bronze medal for floral design. It is, perhaps, needless to say that the arrangements were admirably carried out by Mr. J. Hughes, the energetic Secretary, and his efficient Committee.

BOURNEMOUTH.—NOVEMBER 13TH AND 14TH.

THIS capitally managed Society held its annual show of plants, cut blooms, fruits, and vegetables in the Winter Gardens, attached to the Hotel Mont Dore, Bournemouth, on the above-mentioned dates, and was a success in every respect, the arrangements of same reflecting great credit on the Committee and Secretary, Mr. J. Spong.

Mr. N. Molyneux, gardener to J. Carpenter Garnier, Esq., Rooksbury Park, Fareham, succeeded in winning the chief prize (£10), which was offered for thirty-six cut blooms, to include eighteen Japanese and a like number of incurved specimens, not more than two of any one variety to be shown. £6 and £4 were offered as second and third prizes, and these were won respectively by Mr. Woodford, gardener to Major Blount; and Mr. Prosser, gardener to H. J. Mills, Esq., The Knolle, Wimborne, both showing well. Mr. Molyneux's stand contained uniformly large, fresh, solid blooms, admirably finished and set up, of incurved: C. Curtis (2), Empress of India, Lord Alcester, Golden Empress (2), Queen of England, John Lambert (2), Hero of Stoke Newington (2), C. B. Whitnall, and Lady Dorothy; Japanese: Mons. Panckoucke, Silver King, Rose Wynne, Mdle. M. A. de Galbert, Mrs. C. H. Payne, Edwin Molyneux, Lady E. Saunders, Vice-President Audiguer, G. C. Schwabe, A. W. Tricker, Charles Davis, Vivand Morel, Alberic Lunden (2), and Mrs. Drewett.

Mr. Grace, gardener to W. R. Neave, Esq., Fordingbridge, had the best out of seven stands of Japanese, distinct varieties; Mr. Woodford was a good second. Mr. N. Molyneux was a good first in the corresponding class for a like number of incurved blooms, showing good all-round specimens; Mr. Grace taking second place with good blooms. Mr. Boots, gardener to F. Ricardo, Esq., Bournemouth, had the best stand of six Japanese, one variety, with fine blooms of Charles Davis; he was also first for a like number of incurved blooms, staging neat specimens of Hero of Stoke Newington; Mr. Grace was second in each

class. In the class for twelve Japanese, distinct, Mr. Boots was again to the front, taking, in addition to the money prize, the N.C.S. bronze medal with an admirable stand; Mr. T. Chefev was second.

Groups are always well done at this show. In the open class—a group of Chrysanthemums and foliage plants grown in pots and arranged on a space of 100 square feet—Messrs. G. Watts & Son, Palace Nurseries, Bournemouth, were first; Mr. T. K. Ingram, The Nurseries, Parkstone, second; and Mr. William Earp, gardener to J. Sellon, Esq., Hume Towers, Bournemouth, third.

The groups arranged in the local classes, on a space of 50 square feet, in competition for the 6-guinea challenge cup, given by Messrs. Enoch White & Son, Bournemouth, in addition to a money prize of £3, to the best arrangement, were very good indeed; the cup to become the absolute property of any exhibitor winning it three times, not necessarily consecutively. Mr. W. Stretch was first, and Mr. Eldridge, gardener to G. W. Young, Esq., was an excellent second. The groups arranged by single-handed gardeners were highly creditable, the plants having been well grown as well as tastefully placed. Mr. Newell, gardener to William Petch, Esq., was first; Mr. Frampton being an excellent second.

CARDIFF.—NOVEMBER 13TH AND 14TH.

IN addition to the usual large hall, the lesser Park Hall had on this, the ninth show of the above Society, to be called into requisition. The number of entries was larger and the quality of the general exhibits at least quite equalled that of former shows. A commendable alteration in the general arrangements has this year been made to the advantage of both public and exhibitors. Semicircular groups occupied both sides the entire length, the centre devoted to specimen plants and tables running parallel between, the lesser hall being devoted principally to fruit, which, by the way, was of the finest possible, both in points of colour and size.

For twenty-four Japanese, distinct, Mr. G. W. Drake, Cardiff; Mr. Joy, gardener to R. A. Bowring, Esq., Cardiff; and Mr. Robinson, gardener to R. W. D. Harley, Esq., Brampton Bryan, Herefordshire (in the order named), were successful, the competition being very close, the difference being more apparent in the mounting than in the quality of blooms. For twenty-four incurved Mr. Williams, gardener to Rt. Hon. Earl of Lisburne, Aberystwyth, with beautiful blooms, took first, followed by Mr. Dumble, gardener to Sir Chas. Phillips, Bt., Haverfordwest; and Mr. Robinson second and third respectively. For twelve Japanese, Mr. Lockyer, gardener to J. C. Hanbury, Esq., Pontypool, was first, Mr. Joy second, and Mr. Williams third. This order might have been somewhat reversed but for an unfortunate accident to a grand bloom of Viscountess Hambledon on the third stand, which occurred between the time of staging and judging.

The class for twelve incurved, distinct, brought together a splendid competition, resulting in favour of Mr. J. Howe, gardener to T. J. Masters, Esq., Llantrissant, first; Mr. Dumble and Mr. Robinson second and third. Much interest was centred in the cup competition for twenty-four varieties, distinct. This was well won by Mr. Robinson with grand blooms of Madame Carnot (which also secured honours for best bloom in show), Mrs. C. H. Payne, M. Panckoucke, Mons. Ch. Moulin, Duke of York, Duchess of Wellington, and Mrs. E. G. Whittle (Japs); and C. B. Whitnall, Mrs. Robinson King, John Lambert, Golden Empress, and Lord Alcester (incurved); Mr. Dumble, who has won on previous occasions, running second.

Mr. Giddings, gardener to Mr. Dean, Westgate Hotel, Newport, was very successful with specimen plants, his Sunflower, Louis Boehmer, and Florence Davis being perfect. Mr. Mabbott, gardener to E. P. Martin, Esq., Dowlais, also put up very creditable specimens, particularly when bearing in mind the unfavourable locality in which they were grown. In other classes, in addition to those already named, we noticed Mr. Hockey, gardener to Colonel Page, Dulwich House; Mr. Malpass, gardener to J. Lynn Thomas, Esq.; Mr. Clarke, gardener to Colonel Sir E. Hill, Bart., Llandaff; Mr. Williams, gardener to A. Thomas, Esq., M.P.; Mr. Wall, gardener to E. Lewis, Esq., Llandaff; and Mr. Carpenter, Llanelly, as successful exhibitors. Groups for effect resulted in Mr. Clarke being placed first; Mr. McLaw, gardener to J. Gunn, Esq., Llandaff, and Mr. Hockey being second and third. The same names occur among the successful in the fruit classes, and in the several special classes for Roman Hyacinths, Bouvardias, Primulas, and Cyclamen.

Mr. Godfrey of Exmouth staged several novelties; and Messrs. W. Cutbush & Son plants of their new white Mrs. Charles Blick. Messrs. W. Clibran & Son, in addition to their hardy fruit, showed a bank of their new single varieties and several other novelties, among them a good sport from Van den Heede, named Olwen Lewis, and a seedling which has already been favourably noticed, Lord Lisburne.

TUNBRIDGE WELLS.—NOVEMBER 13TH AND 14TH.

IF small, this show was very prettily arranged and of good quality. A class for six Orchids, with the groups of Chrysanthemums and miscellaneous plants were among the main features. A silver cup for eight plants in pots of 12 inches went to Mr. J. Smooker, gardener to Mrs. Hall, Broadwater Down, and a second silver cup for a large group of Chrysanthemums was secured by Mr. J. Howes, gardener to W. Cobb, Esq., Dulcote, Broadwater, had some really fine blooms. This was a pretty group, well finished off at the bottom but a little too formal in arrangement. A group of miscellaneous plants from Mr. Berwick, gardener to J. Godden, Esq., Tunbridge Wells, was also very pretty, but

if the second, from Mr. L. Dupond, gardener C. B. Powell, Esq., Southborough, had a little more colour it would have surpassed it.

For six dwarf trained plants Mr. J. Smooker was well in front, also for single specimens of incurved and Japanese. A new class for twelve Japanese blooms on long stalks, to be arranged with Ferns and other plants on a table, space 4 feet by 2½ feet, brought out nine stands. These were very pretty, and the first went to Mr. J. Howes, gardener to W. Cobb, Esq., Broadwater, Down, but the second, so far as taste in arrangement was concerned, was far behind many others.

There were no competitors for twenty-four incurved, but twelve blooms were shown in good form by Mr. J. Legg, gardener to Rev. E. H. Boardman, Groombridge. Mr. J. Snow, The Gardens, Wadhurst Park, was first for six varieties. For twenty-four Japanese, Mr. Harris, gardener to O. A. Smith, Esq., Hammerwood, East Grinstead, was in front, but closely followed by Mr. J. W. Moss, gardener to Mrs. Robinson, Matfield. Mr. E. Dove, gardener to J. N. Hardcastle, Esq., Edenbridge, was first for twelve Japanese; and Mr. Harris for six. Mrs. H. Payne, in good form, won for Mr. J. Snow in a class for six of one variety. Solanums and Poinsettias were not so numerous as usual, but the first prize lots in each case were good, Mr. G. Tickner winning for Solanums and Mr. W. Austin for Poinsettias. Six Orchids were good, some grand Cattleyas being shown by Mr. Earl, gardener to Sir J. Goldsmid, Tonbridge, who just beat Mr. Howes, gardener to W. Cobb, Esq., Broadwater Down. This was a very close fight.

Fruit, if not in any quantity, was sound and well coloured. Here Mr. Bridges, gardener to Lord de Lisle, was very prominent, taking first for six dishes of dessert Pears, for three dishes, for six dishes of dessert Apples, for one of the same, for three dishes of cooking Pears, a similar quantity of Apples, and for a single dish of dessert Apples. Vegetables were good throughout. A grand exhibit of these was put up, not for competition, by Mr. Charlton, Tunbridge Wells.

BRISTOL.—NOVEMBER 13TH AND 14TH.

AN excellent exhibition of Chrysanthemums was held in the Colston Hall on the 13th and 14th inst. Competition in most of the classes was keen, the latter being also generally well filled with numerous exhibits. A handsome challenge vase was this year offered to competitors, to be won three times before becoming the property of the winner. This prize is given in addition to £5 for thirty-six Japanese in not less than twenty-four varieties, and was won by Mr. J. Macdonald, gardener to Captain Marling, his stand comprising some really fine flowers, though much too crowded. Mr. J. Dumble, gardener to Sir E. C. Phillips, took the first place with twenty-four incurved varieties, having clean even stands of fair sized flowers. In the smaller classes for cut blooms Lord Justice Lopes (gardener, Mr. Wm. Robinson) was the principal winner.

Specimen plants were rather above the average. In the class for four Mr. J. West had well-grown examples; Mrs. Gibson (gardener, Mr. Ayres) also showing well in some of the other classes.

Groups of Chrysanthemums alone were good, though a lack of freshness was noticed in one or two instances. Mixed groups were also well staged and closely competed for. The following is a list of some of the prizewinners:—For four large-flowered varieties Mr. J. West was first; Mr. Sutton, gardener to W. A. Todd, Esq., being second with larger plants, but not so well finished; Mrs. Miller third. For three Japanese Mrs. Gibson, W. A. Todd, Esq., and R. B. Brain, Esq., were the winners in the order named; W. A. Todd, Esq., taking first prize for one with a specially fine plant of Etoile de Lyon. R. B. Brain, Esq., was first for three standards, and Mrs. Gibson was first for three large-flowered varieties.

In the class for the best group of Chrysanthemums, A. Shipley, Esq. (gardener, Mr. W. J. Bunker), was awarded first prize for a splendidly grown lot of plants; the second group, of J. Dole, Esq. (gardener, Mr. J. Marshall), being a good one, but the flowers were not quite so fresh; J. C. Godwin, Esq., being third. H. St. Vincent Ames, Esq. (gardener, Mr. Bannister), took first for a group of Chrysanthemums and foliage plants mixed; being closely followed by J. Saunders, Esq., second, and R. B. Brain, Esq., third. For a miscellaneous group of plants, Chrysanthemums excluded, Mr. Newbery, gardener to J. Saunders, Esq., was placed first for a fine exhibit, including many Orchids, in good condition; W. K. Waite, Esq., being second.

Foliage plants and Ferns, Primulas, Cyclamen, Orchids, &c., were all well shown in the respective classes. For thirty-six Japanese blooms Captain Marling obtained the premier position, becoming the holder of the previously mentioned challenge vase of the value of 12 guineas, the following varieties comprising this exhibit:—International, Thomas Wilkins, Stanstead White, Madame Carnot, Roslyn, W. H. Lincoln, E. Molyneux, Primrose League, Eda Prass, C. Davies, Noces d'Or, Mademoiselle Thérèse Rey, Mrs. C. H. Payne, Rose Wynne, Mephisto, Van den Hede, Florence Davis, Sunflower, Vivand Morel, Duke of Wellington, Lily Love, W. G. Newitt, W. Seward, Good Gracious, G. W. Childs, and Col. W. B. Smith; Sir C. E. Phillips being a good second; and W. M. Baker, Esq. (gardener, Mr. J. Aplin), third.

In the incurved class for twenty-four blooms Sir C. E. Phillips was placed first with J. Agate, Baron Hirsch, Lord Alcester, J. Lambert, Prince Alfred, Princess of Wales, Lord Wolseley, Golden Empress, Empress of India, R. C. Kingston, Miss Haggas, W. Tunnington, Queen of England, Robert Petfield, J. Talfourd, Mrs. Coleman, and Brookleigh Gem; R. Kidd, Esq., being second with a rather uneven stand, and Captain Marling third. For twelve Japanese Lord Justice Lopes was first, Mrs. H. A. Smith second, and W. Marshall, Esq., third. Lord

Justice Lopes was again first for twelve incurved Japanese, having good Duke of York, Hairy Wonder, Mrs. Wheeler, and Madame Ad. Chatin. For twelve and six incurved Lord Justice Lopes was placed first, the same exhibitor being awarded first prize for twelve large-flowering Anemones. The latter was also first with twelve reflexed and six Japanese blooms of 1894 and 1895. Captain Marling won the premier award for one bloom of any Japanese variety sent out in 1894 or 1895 with a very fine flower of Madame Carnot. In the class for eight varieties, Japanese, three flowers of each, arranged with Ferns, W. A. Todd, Esq., was awarded first prize, Lord Justice Lopes second, and Mrs. Beddoes third.

Fruit in all classes was well shown, Mr. Marshall, Bath, being one of the principal winners with Grapes. Apples, both dessert and culinary, were strong in numbers and good in condition, Pears also being fairly well shown.

Messrs. Parker & Sons had many fine Palms, Crotons, &c., not for competition, the same firm also showing numerous Orchids, wreaths, &c. Messrs. J. Garaway & Co., Clifton, showed sixty-two dishes of Apples as a trade exhibit, all of which were in good condition.

The Bristol Amateur Horticultural Society held its second show in connection with the older Society, and a distinct advance may be recorded both as to numbers and quality of the exhibits; many of the cut flowers would have been creditable to professional growers.

HULL.—NOVEMBER 13TH AND 14TH.

ALTHOUGH many very fine exhibitions of Chrysanthemums have been held in the past in the Artillery Barracks, there can be no question whatever but that this year's was the best of all. Perhaps more cut blooms have been seen here, but not of better quality. As a set off against any diminution of numbers in the cut bloom classes, there was a manifest improvement in the plant classes. It would be safe to say that the entries were almost doubled in this section. This latter must be gratifying to the executive, who labour hard to merit success in all departments. Nowhere can such elaborate arrangements be found for the accommodation and display of the classes devoted mainly to ladies—namely, table decorations, baskets, bouquets, and such like floral ornaments. A special room is fitted up, so that the display in this section can be seen under artificial light. For years now Hull has taken the lead in displaying the Chrysanthemum as a decorative plant in association with other plants interesting and useful in gardens and in dwelling houses alike. Nowhere can such magnificent groups of plants arranged for effect be found. This year was no exception to this rule, if it was, it is on the score of further improvement being manifest. Not that the first prize exhibit was superior to those of the past, but a marked advance was apparent in the other prize-winners, all coming much closer in point of merit, thus affording a distinct proof of the value of such exhibitions in an educational point of view. The past issues of the *Journal of Horticulture* have dealt so fully with the superior method of management adopted by the officials that little that is fresh can be said.

Nowhere can such punctuality be found as to clearing the halls at a given time to allow the judges to commence their labours. At two minutes to ten o'clock Mr. Dixon, one of the energetic, courteous, and experienced of hon. secretaries, can be found in the main hall stationed in front of the clock, with bell in hand, waiting to give the signal for clearance, and woe betide the laggard exhibitor when the first tinkle of the bell is heard. By adopting straightforward and firm measures the exhibitors respect the management, all working smoothly together. By a system of telephonic aid, the names of prizewinners are in the hands of the printers within five minutes of the time of the awards being made, and a complete list of the awards printed and circulated in catalogue form by 1.30. Mr. Harland, co-Secretary with Mr. Dixon, is also a master in the duties of management, looking specially after the wants, rights, and convenience of exhibitors, that nothing but smoothness reigns at the Hull autumn shows.

Cut blooms made a very fine display, no less than thirty classes being provided in this department alone. The Japanese were the most numerous shown, therefore demand first notice. For twenty-four, distinct, there were six competitors, the first prize being somewhat easily won by Mr. W. H. Lees, gardener to F. A. Bevan, Esq., Trent Park, New Barnet, Herts, with very fine blooms exceptionally well staged. The varieties were Vivand Morel, Madame Ad. Moulin, Mons. Panckoucke, this was recognised as the premier bloom in the show; Miss D. Shea, Mrs. C. H. Payne, Madame Carnot, Charles Shrimpton, Reine d'Angleterre, very fine; Henri Jacotot fils, Charles Davis, Mutual Friend, chaste; G. C. Schwabe, International, M. C. Molin, Mrs. C. Wheeler, rich; Mephisto, Mdle. Thérèse Rey, deep; Etoile de Lyon, grandly coloured; Beauty of Castlewood, Duchess of Wellington, Deuil de Jules Ferry, Miss Rita Schroeter, Sunflower, and Mdle. M. A. de Galbert. Messrs. J. R. Pearson & Sons, Chilwell Nurseries, Nottingham, were a good second, and Mr. W. Wells, Earlswood Nurseries, Surrey, third. For twelve Japanese, distinct, Mr. Thompson, gardener to C. J. Ringrose, Esq., Cottingham Grange, Hull, was first with a capital stand of blooms, E. Molyneux and G. W. Childs being especially noteworthy; Mr. Corbett, gardener to the Marquis of Normanby, second.

In the leading class devoted to the incurved section twenty-four blooms were required in not less than eighteen varieties. Four competed. Here Mr. Lees again occupied the premier position with medium-sized, fresh, even blooms, beautifully staged. The varieties were R. Petfield (2), C. H. Curtis (2), premier bloom; W. Tunnington (2), Major Bonnafron, Globe d'Or, Jeanne d'Arc, John Doughty, John Fulford, Empress of India, Madame Darrier, Beauty, M. C. Martignac, Hero of

Stoke Newington, Lady Dorothy, Queen of England, Lucy Kendall, Empress Eugénie, L'Amethyste, and Brookleigh Gem. Mr. Leadbetter, gardener to Arthur Wilson, Esq., Tranby Croft, Hull, second; and Messrs. Pearson & Sons a close third. Mr. Lees again won for twelve incurved with even blooms of leading varieties, Mr. Leadbetter second. A class was set apart for the "Rundle" family, three blooms of each of the three varieties. Mr. Sinclair, gardener to B. Mackrill, Esq., Thwaite, Cottingham, was awarded first honours; Mr. Cook, gardener to E. Harland, Esq., The Sycamores, Cottingham, second.

Anemone varieties were remarkably well shown. For twelve in the Japanese section Mr. F. Mason, gardener to A. Smith, Esq., Woodleigh, Hessle, was easily first with grand examples of leading varieties; Mr. Burrows, gardener to Lady Bennett, Westlands, Grimsby, second; and

much merit. Space, however, forbids more than a passing notice. Mr. Walker secured the silver cup offered by Messrs. E. P. Dixon & Sons for twelve Japanese, distinct, with good blooms, and the leading prize in the class for twelve incurved blooms. In the amateur section Miss Veal, Westland Corner, Bargate, Grimsby, won the first prize for twelve Japanese in not less than nine varieties; Mr. W. Gillett, 96, Plane Street, Hull, occupying a similar position in the class for twelve blooms.

Plants filled the whole of one large room. For three trained specimens of any variety, Mr. J. Clarke, gardener to A. Mayfield, Esq., Beverley Road, Newland, won with freely flowered examples of Mrs. G. Rundle, G. Glenney, and Mrs. Dixon; Mr. G. C. Coates, gardener to W. Wheatley, Esq., Anlaby Road, Hull, second; Mr. W. Mason, gardener to Col. A. K. Dibb, Kirk Ella, third. For six bush grown plants, dis-



FIG. 74.—DORYOPTERIS PALMATA. (See page 481.)

Mr. W. Gillett, Plane Street, Hull, third. For twelve show Anemone blooms Mr. Mason was again the most successful with extremely fine examples; Mr. Burrows second; Mr. Murchison, gardener to F. B. Grotrian, Esq., West Hill House, Hessle, third. In the class devoted to reflexed varieties there was a brisk competition and good blooms staged. Mr. Walker, gardener to Colonel Clitheroe, Hotham Hall, Brough, won first prize with well developed examples.

Pompon and Anemone Pompon in bunches of twelve made a pleasing display. Mr. Walker here also won the premier position with small but perfect blooms; Mr. Sinclair second, and Mr. Cook third. Single flowered varieties produced six entries for twelve bunches with foliage. Mr. Wells easily won premier place with a really fine exhibit, Messrs. Sinclair and Picker following in the order here given. For thirty-six blooms in twelve varieties, arranged in vases with 12 inches of stem and foliage there were three entries. Mr. Leadbetter easily secured the leading place with fully developed blooms of Japanese varieties neatly arranged, and Mr. A. Mason second.

The competition in the local classes was keen, the exhibits displaying

ting, Mr. F. Pape, Butcher Row, Beverley, secured the leading position with capital examples of Val d'Andorre, W. H. Lincoln, Sunflower, and Vivand Morel, fully 4 feet in diameter, freely flowered. Mr. H. Taylor, Newland, Hull, second, Mr. Mason third. An interesting class was that for six "cut back" plants, any varieties. Mr. E. C. Coates was deservedly placed first with dwarf plants carrying extremely fine blooms of Japanese varieties. Mr. H. Taylor second. The plants in the amateur division were extremely well grown, and profusely flowered. Mr. R. Thirsk, Grovehill Road, Beverley, won the premier position for six and two plants, Mr. Pape winning for three "cut backs" and three any variety.

For a group of Chrysanthemums arranged for effect and interspersed with foliage plants in a space of 100 square feet, there were four entries, producing a magnificent effect in the main hall. The first prize was a challenge vase, value 20 guineas, with a money prize of £6, to be won three times in all. Mr. E. C. Coates, gardener to W. Wheatley, Esq., was placed first, and as he has now won the premier award three times the vase becomes his property. It would be difficult to imagine a more effective combination of Chrysanthemums and foliage plants, and

exhibited to what extent and usefulness this flower is capable from a decorative point of view. The only point that could be urged against the groups was a slight want of coloured blooms, just one here and there to brighten up the yellow and white would no doubt have added to the effect. The blooms would have done credit to many stands, so fine were they, and were lightly dispersed among suitable foliage plants, such as Crotons and Palms. The idea was to create mound-like groups in a free and graceful manner, thus avoiding the too frequently seen sloping flat bank. The next best group, and a handsome one, was arranged by the Hull Corporation Park gardeners. This public body could not, however, take any prize, but the judges were emphatic as to the intrinsic merit of the exhibit, and they will be glad to learn that a handsome honorarium has been granted by the Society to the three men who assisted in growing the plants and displaying them so effectively. Mr. F. Deering, gardener to Mr. E. Poulson, The Nurseries, Hull Road, Cottingham, was awarded the second, and Mr. G. Cottam, jun., Alma Gardens, Cottingham, the third prize for highly creditable arrangements of well-grown plants.

In the centre of the hall were arranged three groups of miscellaneous plants arranged for effect in a space of 100 square feet. Mr. G. Wilson, gardener to Sir J. Reckitt, Bart., Swanland Manor, Brough, was distinctly ahead with one of the finest arrangements of plants in such a small space that could possibly be found. The Crotons were marvels of culture, from 3 to 5 feet high, single stems, and clothed to the base with richly coloured leaves. These standing on small mounds were displayed to the best advantage. From the centre of a mound at each end towered healthy half-specimen Palms, *Kentia Fosteriana*; the mounds were clothed with *Calanthe Veitchii*, *C. vestita oculata*, *Asparagus*, and Ferns. The base between the mounds was covered with Orchids, small Palms, Crotons, Ferns, and *Pandanus Veitchii*, all most suitable for the purpose. Mr. Murchison was a most creditable second, this group only lacking the boldness of effect of the premier.

The classes devoted to ladies only, as previously noted, were interesting. A piece of challenge plate was offered as first prize for the best dressed dessert table, 8 feet by 4 feet, completely laid out for six persons with Chrysanthemums and any kind of foliage. Four entered, the first prize being awarded to Mrs. F. Topham, Hotham Hall, Brough, for a pleasing arrangement of yellow and terra cotta coloured single-flowered varieties agreeably associated with Eulalias and Grasses. Four small plants of *Cocos Weddelliana* were employed, one at each corner of the table. Mrs. T. Fawley Judge, Helmsley, Cottingham, was a good second, the centrepiece being rather too heavily dressed at the base; Mrs. H. Leonard, Preston, Hull, third. The best hand bouquet came from Miss Lynette Harland, Wolfreton Lodge, Kirk Ella; the second prize falling to Miss F. M. Judge, Brooklands, Newland Park, Hull, and the third to Mrs. Mackrill Thwaite, Cottingham. Messrs. Perkins, Coventry, were awarded premier honour for table bouquets, exhibited in their usual form.

We are glad to learn that Mr. Wheatley, the winner of the challenge cup in the group class, has promised another twenty-guinea cup for competition in the same class next year.

BARNESLEY.—NOVEMBER 13TH AND 14TH.

THE ninth exhibition was held in the Harvey Institute, and proved to be the best held by the Society. The open classes exhibits of cut blooms were especially good, and the local class exhibitors give evidence of marked improvement on their previous efforts.

The first prize for twenty-four distinct varieties, twelve Japs, twelve incurved, in the open class was won by J. Brocklebank, Esq., Woolton, Liverpool (gardener, Mr. J. Vaughan). The Japanese stand carried massive fresh specimens as follows:—Van den Heede, Madame Carnot (exceedingly fine), Mrs. H. Payne, C. Davis, G. W. Childs, W. H. Lincoln, E. Molyneux, Vivian Morel, Madame Octave Mirbeau, Mons. Bernard, T. Wilkins; incurved — Emily Dale, John Doughty, Lord Alcester, Queen of England, John Salter, Princess of Wales, Baron Hirsch, Empress of India, Brookleigh Gem, C. H. Curtis (in fine form), Madame Darrier, Violet Tomlin, all fine solid fresh blooms. The second prize was won with good stands by J. D. Ellis, Esq., Sparkin, Worksop (gardener, Mr. Alderman). His finest blooms Harman Payne, Duke of York, Princess May. The incurved included a superb specimen of Robert Cannell. The third prize was obtained by C. H. Simpson, Esq., Ackworth Moor Top (gardener, Thos. Ketchell).

For twelve incurved Mr. Vaughan was again to the front with Queen of England, Emily Dale, Empress of India, John Salter, Golden Empress, C. B. Whitnall, Baron Hirsch, R. C. Kingston, Princess of Wales, Brookleigh Gem, Robert Petfield, Mrs. Heale. The second prize went to R. H. Jones, Esq., Badsworth Hall (gardener, J. Findlay); the third prize to Messrs. Johnson & Wheeler, Chesterfield. For twelve Japanese Mr. Vaughan again secured first prize with Mrs. C. H. Payne, Primrose League, E. Molyneux, Vivian Morel, W. H. Lincoln, Colonel W. B. Smith, Thérèse Rey, Duke of York, G. W. Childs, Rose Wynne, Mrs. F. Jameson, Sunflower. Mr. Findlay was second, and Mr. M. Alderman third. Twelve reflexed.—First prize, Mrs. G. J. Burnley, Birthwaite Hall, Barnsley (gardener, Mr. A. Popplewell); second prize, Mr. Ketchell. Stands for twelve Anemones were exceptionally fine. First, Mr. J. Vaughan; second, Mr. Ketchell.

Special challenge cup value 12 guineas, open to exhibitors within a radius of eight miles of Barnsley, for twenty-four cut blooms, twelve Japanese and twelve incurved, not less than eight varieties, nor more than two blooms of one variety. The competition between the first and second prize was exceedingly close, Mr. Ketchell eventually winning

with fine specimens as follows:—Japanese—Hairy Wonder, Dorothy Shea, Vivian Morel, G. C. Schwabe, Mrs. H. Payne, Thérèse Rey, Good Gracious, Mdlle. Thérèse Rey, C. Davis, Louise, Peter Blair. The second prize went to Mrs. H. L. Jones, Elmsale Lodge (gardener, Mr. Thos. Dunn), whose Japanese blooms were somewhat lighter than those in the winning prize stand.

Groups of plants, miscellaneous, first prize, Mrs. Fox, Henbro Hill, Barnsley (gardener, Mr. T. Balanger); second, Rev. Elmhirst (gardener, W. Hancock). Groups of Chrysanthemums, first prize and National Chrysanthemum Society's certificate, C. Lingard, Esq., Barnsley, (gardener, Mr. C. Winter); second, J. H. Gratton, Esq. (gardener, Mr. C. H. Ridley); third, Mrs. F. Crossley, Barnsley.

LEWES.—NOVEMBER 13TH AND 14TH.

A VERY pretty little show was held here in the Town Hall and Corn Exchange, the cut flowers being of good quality. For twelve large-flowered plants, untrained, Mr. Smith, gardener to C. M. Kemp, Esq., Bedford Lodge, Lewes, was well in front. By far the best group in a space not exceeding 60 square feet was put up by Mr. C. Fennell, gardener to Mrs. Thorne, The Grange, Lewes, but the plants were arranged too loosely. A group of Ferns with stove and greenhouse plants was an attractive feature, Mr. Adams, gardener to the Rev. Sir G. Shiffner, Coombe Place, being just in front of Mr. W. Head, gardener to A. Russell, Esq., great taste was apparent in both groups.

Cut Flowers.—The strongest competition of the show lay here. For twenty-four Japanese, Mr. J. Harwood just passed Mr. A. Slaughter in a very strong class. Mr. J. Heasman, gardener to Mrs. Oxley, Turner's Hill, was a good first for twenty-four incurves, and Mr. C. Sayers, gardener to the Misses Cook, Nutley, first for twelve varieties of incurved. For twelve Japanese, Mr. A. Slaughter, Jarvis Villa, Steyning, put up a grand lot, Mrs. C. H. Payne, Madame Rozain, and Waban being particularly good. Mr. J. Coles, gardener to H. F. Walker, Esq., Balcombe, beat Mr. Slaughter in an extra strong class for six Japanese, having Mdlle. T. Rey, Mrs. Carnot, and Lord Brooke in grand form. Mr. J. R. Heasman was first for six distinct, incurved. Mr. J. Hopkins, gardener to Mrs. Thornton, High Cross, Framfield, putting up a grand lot of Empress of India in a class for six incurved of one variety. Mr. A. Slaughter won for six Japanese in a strong amateurs' class.

Fruit was not so good or so numerous as we expected this season. The best Grapes were Muscat of Alexandria from Mr. C. Watkins, gardener to W. L. Christy, Esq., Glynebourne, who was well in front of several stands of black varieties. Mr. G. Helman, gardener to Lord Gage, Firle, was in front for three dishes of dessert Apples, and Mr. G. Mercer, High Street, Lewes, for a similar quantity of dessert Pears. Mr. G. Helman, gardener to Lord Gage, Firle, had the best collection of vegetables in the open classes, and was also first in a special class from Messrs. Sutton & Sons, Reading. Mr. J. McBean & Sons, Cooksbridge, had a good stand of small Orchids and table plants, and Messrs. Woollard & Son, Lewes, a collection of shrubs, greenhouse plants, and fruit.

LEIGHTON BUZZARD.—NOVEMBER 14TH.

ALTHOUGH the Corn Exchange at Leighton has a large hall and there is also a good room available besides, the space at the command of the Committee appears to be insufficient for either exhibits or visitors. Certainly, though the Society issues a small schedule and does not offer extravagant prizes, the exhibition obtained last week was very satisfactory both as regards the number and quality of the plants, flowers, fruit, and vegetables. The special feature of the show was, however, afforded by the decorative classes provided for arrangements of Chrysanthemums and other flowers with autumn foliage in stands, baskets, and bouquets. There were numerous exhibits in each class, some very tasteful others quite the opposite. Altogether a large space was occupied by these classes in the upper hall, but we cannot refer to them in detail, but the baskets were the most pleasing, one of the tables, in which bronze Chrysanthemums with Croton leaves were freely used, was effective. The chief prizes were taken by Mrs. Hancock, Berkhamstead; Miss Gibson, Linslade; Mrs. M. E. P. Bassett, Mrs. E. Sherman, and Miss Capper.

Amongst the cut blooms, which were fresh and bright, but not remarkable in other respects, the leading class was for twenty-four blooms of not less than twelve varieties, with no stipulation as to what section should be represented; in consequence the stands were very mixed, and such a class is rarely satisfactory either to competitors or judges. Major Benning, Dunstable, was awarded the first prize, and included some fine Japanese amongst his blooms, one example of Vivian Morel being particularly handsome. W. W. Ostler, Esq., Dunstable, was a close second; and E. E. Dymond, Esq., Aspley Guise, was third for well-grown blooms. Major Benning was again first with twelve Japanese, followed by Mr. E. E. Dymond and Mr. Carter Wren, Luton. These competitors carried off several more prizes, and others who were successful were Mr. E. Edwards, Mr. W. Pratt, and Mr. G. L. B. Calcott, who won the silver-gilt medal given by Mr. H. J. Jones of Lewisham for the best cut blooms in the amateur classes. Plants and groups were not very numerous, but the best were staged by Mr. W. Tompkins, gardener to Francis Bassett, Esq.; Mr. Carter King, and Mr. J. Tindall.

Apples and Pears were represented by good fruits from Mr. A. Macnamara (Billington), Mr. F. Poland, Mr. E. Edwards, Mr. F. Willis, and Mr. G. B. Tait. Messrs. Lane & Son, Berkhamstead, also contributed a large collection of fine Apples in many varieties.

Vegetables were extremely well shown, and the competition was so

keen in some classes that only a point or two separated first and second prizetakers. Major Benning, Mr. W. W. Jeffs, Mr. W. Potter (Dunstable), Mr. Carter Wren, and Mr. Haskins were awarded honours for praiseworthy produce. The Hon. Secretary is Mr. H. Munday, who works hard in the Society's interests.

DROITWICH.—NOVEMBER 14TH.

THE third annual show of this Society was held in the Salters' Hall, a spacious, and completely galleried, handsome building. The whole of the floor of the hall was occupied by an attractive display of plants, flowers, fruit, and vegetables. The schedule comprises classes for professional gardeners, amateurs, and cottagers, though essentially it is recognised more as belonging to the two latter. A notable and attractive feature down the centre of the hall were two dinner-table decorations, open to amateurs and cottagers. The first prize was awarded to Mr. E. L. Ponting. Mr. A. Kench, Droitwich, was second, and evidenced much taste and ability in the floral and fruit decoration of his table. Between the foregoing was another table, not for competition, contributed by Mrs. Buddle, Droitwich.

In the open classes for cut blooms of Chrysanthemums there were but three competitors, the leading classes being for twelve blooms of Japanese and twelve blooms of incurved varieties. Mr. Sparkes, gardener to W. Roberts, Esq., was accorded first honours for a meritorious lot of some of the leading Japanese varieties. The second prize was awarded to the Rev. W. D. Thatcher, Clent, for a close and similar selection. Mr. Sparkes also took first honours for twelve incurved, equal in quality to his Japanese, and the same may be said of the stands of the Rev. W. D. Thatcher. Mr. W. F. Smith was highly commended for a collection of thirty-six blooms of the Japanese section not for competition, and to J. Stallard, Esq., a similar award for twelve neat and fresh blooms of Japanese.

The Rev. J. T. Lea contributed a large and fine collection of Apples and Pears. There was a lively competition in the amateurs' class of cut blooms of Chrysanthemums in bunches, also for the groups of Chrysanthemum plants arranged for effect. Mention must be made of the effective table of plants, consisting of Crotons, Palms, Ferns, Asparagus plumosus, Isoplepis, and Panicum variegatum, interspersed with fine blooms of Chrysanthemums on long stalks by Mr. Crooke, gardener to the Dowager Lady Hindlip, Hadzor House. Space will not allow mention of the several prizes in the other classes, but suffice it to say the show reflected much credit on all concerned.

WEYBRIDGE.—NOVEMBER 14TH.

THE twenty-first annual exhibition of the Weybridge and Walton Chrysanthemum Society was held on the above date, and showed a pleasing advance on its predecessors. The Village Hall of the first mentioned place was requisitioned for the occasion, and the arrangement of the numerous exhibits produced a charming effect therein. Cut blooms in the various forms were seen in the best condition, specimen plants also being well shown. Fruits and vegetables were splendid. The management, under the experienced direction of Mr. G. Masters, was very good indeed, and reflected the highest credit on all concerned.

For six plants in distinct varieties, dwarf trained, Mr. Swan, gardener to Murray Smith, Esq., Weybridge, was the only exhibitor, and well deserved the first prize. In the open class for forty-eight blooms, twenty-four incurved and twenty-four Japanese, in not less than thirty-six distinct varieties, Mr. Quarterman, gardener to C. E. Smith, Esq., Cobham, was placed first with a really fine exhibit. The best Japanese were Mrs. C. Harman Payne, Vivian Morel, Madame Carnot, Robert Owen, Etoile de Lyon, and Silver King. The incurved were very fine, grand blooms of Lord Alcester, Violet Tomlin, Queen of England, Mrs. Colman, and Princess of Teck being noticed. Mr. Ridge, gardener to Swinfin Eady, Esq., Weybridge, was a close second.

The principal class was for thirty-six blooms, distinct, eighteen incurved and eighteen Japanese. The first prize, a silver cup, value £3 3s., was awarded to Mr. Quarterman. Magnificent Queens were staged, and also Miss M. A. Haggas, John Lambert, Lord Alcester, Empress of India, Princess of Teck, Mrs. S. Coleman, Lord Rosebery, Mrs. Heal, Violet Tomlin, Brookleigh Gem, Mrs. N. Davis, Lucy Kendall, Lady Dorothy, Hero of Stoke Newington, Prince Alfred, and Barbara. Japanese: Charles Davis, Edelweiss, Silver King, Mdle. Marie Hoste, Primrose League, Vivian Morel, Mdle. Thérèse Rey, Robert Owen, Good Gracious, Duke of York, Thunburg, Miss Maggie Blenkiron, Mrs. C. Harman Payne, Florence Davis, Golden Gate, Niveus, Etoile de Lyon, and Madame Carnot. Mr. Ridge was placed second, losing several points in the incurved. His best were Lord Rosebery, M. P. Martagat, Queen of England, and Lord Alcester. Good Japanese of Mr. G. Gordon, Duke of York, Sunflower, J. H. Payne, and Col. W. B. Smith were shown. Mr. Caryer, gardener to A. G. Meissner, Esq., Weybridge, third.

For twelve incurved blooms, distinct, Mr. Ridge was well to the front with good blooms of Empress of India, Lord Alcester, Golden Empress, and Chas. Gibson. Mr. Caryer was second, and Mr. Felgate, gardener to Duchess of Wellington, third. For twelve reflexed, nine distinct varieties, Mr. Caryer was easily first with Pink Christine, King of Crimson, Cloth of Gold, and Phidias as the best. Mr. Pagram, gardener to J. Courtenay, Esq., Weybridge, was second, and Mr. Davis, gardener to C. Churchill, Esq., third. The class for twelve Japanese, distinct, brought forth six exhibits. Mr. Caryer was placed first, fine blooms of Robert Owen, Madame Carnot, Etoile de Lyon, Mdle. Marie Hoste, and Col. W. B. Smith. Mr. Ridge was a good second, and Mr. Felgate third.

For six Japanese Mr. Page, gardener to A. J. Barry, Esq., Walton, gained the first prize with a fine heavy stand; Mr. Pallant, gardener to C. K. Wild, Esq., was second, and Mr. Pagram third. For twelve Japanese, distinct, on stems, Mr. Swan was well first, Mr. Pagram second, and Mr. Felgate third. In the class for twelve Pompons in nine varieties Mr. Caryer was first with a splendid exhibit, Mr. Pallant second, and Mr. Pagram third. For twelve singles Mr. Swan was first with a beautiful stand, Mr. Pagram a close second, and Mr. Pallant third. A very beautiful exhibit was that of six incurved, one variety, staged by Mr. Ridge, Mr. Felgate being second. For six Japanese, any one variety, there were six competitors, and here the competition was very keen. Mr. Caryer was placed first with Niveus; Mr. Hopkins, gardener to Mrs. Wooderspoon, Walton, second with white Louis Boehmer, and Mr. Quarterman third. Mr. Swan was first in the class for four bush plants, distinct, Mr. Prothero being second, and Mr. Pagram third.

The amateurs' classes, which were fairly numerous, brought together some really good flowers, which were, as a rule, well staged. Space forbids our entering into details regarding these, and it must suffice to say that among the prizewinners were Messrs. D. Griffin, Pratt, and Heather. Much taste was also displayed in the arrangement of flowers and foliage in the ladies' section.

MELTON MOWBRAY.—NOVEMBER 14TH AND 15TH.

THE third annual show of this healthful and promising young Society was held on the above dates in the Corn Exchange, and proved in every respect an excellent show. The room is a large one, well suited to such a purpose, but the numerous exhibits filled it to overflowing, inasmuch that the very large and most excellent display of vegetables was necessarily transferred to another and smaller room in the same building. The whole available space next the walls was worthily occupied by meritorious groups arranged for effect, those down one side being groups of Chrysanthemums interspersed with foliage plants, and down the other side of Chrysanthemums alone. The centre space was taken up with tables containing cut flowers.

In the principal open class for twelve incurved, Mr. John Smith, Loughborough, was first with medium-sized, well-finished blooms, his varieties being Golden Empress, Princess of Wales, Lucy Kendall, Mrs. Heales, Miss Haggas, Violet Tomlin, Madame Darrier, Queen of England, Mrs. S. Coleman, Hero of Stoke Newington, J. Agate, and White Venus. Second, H. Turner, in whose stand were excellent blooms of C. B. Whitnall, J. Lambert, and J. Agate.

In the corresponding open class for twelve Japanese, Mr. H. Rogers, Gipsy Lane Nurseries, Leicester, occupied first place with a stand of large fine blooms, the varieties being Madame Carnot, Violetta, Mdle. Marie Hoste, Jules Chrétien, Mdle. Thérèse Rey, Sunflower, W. H. Lincoln, Vivian Morel, Mons. Chas. Molin, Miss Dorothy Shea, Robert Owen (fine), and Mdle. A. de Galbert. In the second prize twelve, shown by Mr. H. Turner, was a really grand bloom of Mons. Panckoucke; and in the third prize stand of Mr. J. Smith was an equally fine flower of Mdle. Thérèse Rey, these being, without question, the two best flowers in the show.

The competition was keen and good in all the local classes, and the quality of the flowers in these was little below that of the open ones. There was also a fine show of Apples, Pears, and Grapes in the competing classes. A very fine display, not for competition, occupying the whole of a large table fronting the orchestra, and consisting of about 100 dishes of excellent Apples and Pears, with a centrepiece of about fifty large good blooms, Japanese Chrysanthemums, amongst which we noted good flowers of Philadelphia, was shown by Messrs. W. & J. Brown, nurserymen, Stamford. Other non-competing exhibitors were Mr. W. K. Woodcock, a wreath and bouquet of Chrysanthemums, also twenty-four varieties of Japanese cut blooms; Mr. H. Rogers, twelve cut blooms Japanese; and Mr. J. Iliffe, sprays of flowers and foliage.

WIMBLEDON.—NOVEMBER 14TH AND 15TH.

SINCE the formation of the Wimbledon and District Royal Horticultural and Cottage Garden Society great improvements have been made in its exhibitions, and the one held in the Baths last week was, according to competent judges, the best that has taken place. The comprehensive schedule shows that many excellent prizes are offered in the various classes, thus insuring good exhibits and keen competition. Though cut blooms were very fine, groups comprised decidedly the best feature, for not only were splendid blooms used, but great care was evident in the arrangement. The general management of the show, undertaken by Mr. W. S. Thomson, the Honorary Secretary, was excellent, and reflected much credit on that gentleman and his helpers.

The principal class was for forty-eight blooms, twenty-four incurved in not less than eighteen varieties, and twenty-four Japanese, distinct, and Mr. W. Mease, gardener to A. Tate, Esq., Leatherhead, was a splendid first. The Japanese comprised Silver King, Miss Dorothy Shea, Golden Gate, Etoile de Lyon, E. Molyneux, Mr. W. H. Lees, Mrs. C. H. Payne, Duke of York, Robert Owen, W. G. Newett, G. C. Schwabe, Madame Carnot, Charles Davis, Commandant Blusset, Rose Wynne, Vivian Morel, Mrs. F. Jameson, Viscountess Hambledon, Richard Dean, A. H. Fewkes, Mdle. T. Rey, Mons. C. Molin, and Mdme. Hoste. Incurved: Robert Petfield, Major Bonaffon, Lord Alcester, Charles H. Curtis, John Lambert, Princess of Teck, Globe d'Or, Empress of India, Queen of England, Lord Rosebery, Flora Macdonald, Robert Cannell, John Doughty, Lady Dorothy, Princess of Wales,

Charles Gibson, Mrs. Heales, Hero of Stoke Newington, and Mrs. N. Davis.

In the class for twenty-four blooms, twelve incurved and twelve Japanese, Mr. W. Mease was again well to the front with a grand exhibit. The best blooms were Duke of York, Golden Gate, Etoile de Lyon, Mdle. T. Rey, Charles Davis, W. Tunnington, Major Bonaffon, Golden Empress, and Robert Cannell. Mr. A. Ratcliff, gardener to D. B. Johnstone, Esq., Kingston-on-Thames, was a creditable second. For twelve distinct, incurved, Mr. Ratcliff was an easy first; Mr. J. Wright, gardener to H. A. Tuffen, Esq., The Grove, Wimbledon Park, second; and Mr. Bently, gardener to Captain Bosworth, Cedar Court, Roehampton, third. For twelve Japanese, distinct, Mr. A. Alderman, gardener to C. Czarnikow, Esq., Effingham Hill, Dorking, gained the first prize with good blooms of Beauty of Castlewood, Sunflower, Mdle. T. Rey, and Vivian Morel. Mr. A. Skeggs, gardener to Mrs. Down, Copse Hill, Wimbledon, was a good second; and Mr. J. Wright third.

The competition was keen in the class for six Japanese in one variety. Mr. G. Mileham, gardener to A. T. Miller, Esq., Emlyn House, Leatherhead, being first with a grand stand of Robert Owen; Mr. A. Alderman a close second with Mdle. Marie Hoste; and Mr. A. Ratcliff third with Etoile de Lyon. For six reflexed Mr. Mease was first with a superb stand, Mr. A. Alderman second, and Mr. Bently third. For twelve Pompons Mr. J. Wright was first, Mr. Bently second, and Mr. W. Thornton third. Mr. G. P. Clark, Hitchin, was placed first for twelve distinct Japanese with a splendid stand; E. H. Douset, Esq., second; Mr. J. Brown third.

Groups were grand. In the class for one arranged in a space of 40 square feet, Mr. S. Mynett, gardener to J. Carlisle, Esq., Ashburton House, Putney Heath, was first with a beautiful arrangement of superb blooms. Mr. A. Newell, gardener to Sir Edwin Saunders, Fairlawn, Wimbledon, second. Mr. R. Bradford, gardener to W. Hope Hall, Esq., Addington, Wimbledon, third; and Mr. W. Thornton, gardener to T. E. Crocker, Esq., Fraxmont, fourth.

Some splendid fruits were shown both in and out of competition, while berried plants and miscellaneous plants attracted attention by the excellent culture that was apparent. A charming exhibit "not for competition," was arranged by Messrs. D. S. Thomson & Sons, Wimbledon, and comprised bouquets and floral designs.

WINCHESTER.—NOVEMBER 14TH AND 15TH.

THE thirteenth annual autumn exhibition was held in the Guildhall, and proved very successful. The plants displayed a marked improvement over last year; the classes for ladies made quite an imposing feature, so well were they displayed. The arrangements were all that could be desired in the able hands of Mr. C. Shenton, the experienced Hon. Secretary, aided by a Committee of practical men.

Cut blooms formed the most important part of the show. The principal class was that for forty-eight, twenty-four incurved or reflexed, and the same number of Japanese, in not less than thirty-six varieties. The challenge cup and £7 was the first prize offered, and four competed. Mr. Neville, gardener to F. W. Flight, Esq., Cornstiles, Twyford, Winchester was placed first with medium sized, neatly staged blooms of the following varieties:—Japanese: Madame Carnot, G. C. Schwabe, Mrs. C. H. Payne, Duchess of Wellington, Vivian Morel, John Machan, International, Colonel W. B. Smith, Mdle. Thérèse Rey, Mrs. Seward, M. Panckoucke, Madame M. Hoste, P. Borel, Mrs. C. Wheeler, Madame Ad. Chatin, Eva Knowles, Souvenir de Petite Aimie, and Thomas Hewitt. Incurved: Queen of England, R. Petfield, R. C. Kingston, Madame Darrier, M. C. Martignac, C. H. Curtis, Empress of India, Golden Empress, Princess of Wales, Prince Alfred, Mrs. Coleman, Mr. J. Murray, Lady Hardinge, Mrs. N. Davis, Alfred Lyne, Mrs. W. Shipman, Brookleigh Gem, and Miss M. A. Haggas. Mr. J. Agate, The Nurseries, Havant, was a close second. Mr. N. Molyneux, gardener to J. C. Garnier, Esq., Rookesbury Park, Fareham, an exceedingly close third.

In the class for twenty-four Japanese, in not less than eighteen varieties, Mr. J. Bowerman, gardener to C. Hoare, Esq., Hackwood Park, Basingstoke, was distinctly ahead of all others, staging perhaps the finest blooms in the show. G. C. Schwabe, Mrs. G. Gordon, The Queen (especially fine), Etoile de Lyon, H. Jacotot fils, J. W. Moorman, Golden Gate, Vivian Morel, and C. Davis were his best blooms. Mr. Neville second. Mr. Trinder, gardener to Sir H. Mildmay, Dogmersfield Park, Winchfield, third. For twelve incurved Mr. N. Molyneux won premier position somewhat easily with fully developed blooms of Golden Queen of England, Lord Alcester, C. H. Curtis, C. B. Whitnall, and Lady Dorothy as his best. Mr. Neville second. For twelve Japanese, distinct, Mr. G. Best, gardener to F. D. Leyland, Esq., The Vine, Basingstoke, was an easy first prizewinner. Mr. Inglefield, gardener to Sir J. Kelk, Bart., Tedworth, Marlborough, second. Mr. E. Carr, gardener to W. A. Gillett, Esq., Fair Oak Park, Bishopstoke, third. Mr. Neville won premier position in the classes for six incurved blooms of the "Queen" class, and a similar number excluding the section named.

Chrysanthemum plants were well represented in the class for the best collection arranged in a space 8 feet by 7 feet. Mr. G. H. Street, gardener to Rev. Dr. Fearon, The College, Winchester, was first. The plants were dwarf, well clothed with healthy foliage, and carrying really exhibition blooms. Mr. T. F. Wodehouse, Winchester, second. For eight plants, distinct, any section suitable for conservatory decoration, in pots not exceeding 9 inches in diameter, Mr. G. Adams, gardener to

Col. F. Dickens, Blackbridge House, Winchester, won first prize. Messrs. H. & J. Vane, Chilworth, Romsey, fairly swept the boards with specimen trained plants, taking all the first prizes with creditable examples in the various sections.

The classes devoted to ladies were an interesting feature. For the most tastefully arranged stand of Chrysanthemums and other flowers Miss Colson, Shawford, was placed first with a pleasing arrangement; Mrs. Whitlock, Manor Farm, Dean, second; Miss Elsie Wadmore, Basingstoke, third. Miss Nelly Owen, Basingstoke, won premier honours for the best arrangement of hardy shrubs, Ferns, and Grasses suitable for table decoration; Miss Elsie Wadmore second. Fruit and vegetables were creditable to all concerned.

Mr. E. Molyneux, gardener to W. H. Myers, Esq., M.P., Swanmore Park, Bishop's Waltham, sent a collection of cut Chrysanthemums of excellent quality, being equal to anything seen in the competitive stands. The Japanese varieties were large, fresh, and well staged. The bunches arranged in vases were most effective. Mr. Agate received a certificate of merit for a box of single-flowered varieties, which were much admired. Mr. B. Ladhams, The Nurseries, Shirley, Southampton, had a pleasing collection of wreaths, crosses, and bouquets; as also had Mr. Julien St. Arabin, Belmont Nurseries, St. Denys. Mr. Miles, gardener to W. Perkins, Esq., Portswood, Southampton, had an interesting exhibit of Apples; Mr. E. Hillier, nurseryman, Winchester, a collection of Apples and shrubs. Messrs. Jeffrey & Co., Winchester, sent a pleasing group of miscellaneous plants also, not for competition.

EDINBURGH.—NOVEMBER 14TH, 15TH, AND 16TH.

THE Waverley Market was, as usual, the site for holding the annual autumn exhibition of the Scottish Horticultural Association, which in every respect was a magnificent success. Not only were the exhibits far in excess in numbers over anything previously held, but the quality throughout was of a much higher character. Especially was this noticeable in the plant classes. Cut blooms were a remarkable feature, no less than 2800 being staged for the valuable prizes offered. Fruit, as is customary here, was an exhibition in itself. The same remark applies equally to the vegetables. The management of this enterprising Society is excellent.

Cut blooms are undoubtedly the chief feature. The principal class is that for forty-eight Japanese, distinct, for which the City of Edinburgh prize—a piece of plate value £20—is given, with other prizes of £12, £8, £5, and £3. Seven competed, making a fine display. Mr. W. H. Lees, gardener to F. A. Bevan, Esq., Trent Park, New Barnet, Herts, followed up his English successes by taking this coveted trophy with, perhaps, the finest stand of blooms that has ever been staged. As giving some idea as to its merits, judged by the six-point standard, no less than 212 points were gained by these forty-eight blooms. Not only were they large, but were exceptionally bright and capitally staged. The varieties were Madame Carnot (premier bloom), Sunflower, Mrs. C. H. Payne, C. Shrimpton (rich), Lady Saunders, Vivian Morel, Edwin Molyneux, Madame Ad. Moulin, Van den Heede, M. Panckoucke, C. Davis, International, Phœbus, Reine d'Angleterre, Mrs. W. H. Lees, Mrs. C. Wheeler, Etoile de Lyon (grand), Madame M. Ricoud, Mephisto, Mrs. F. Jameson, J. Shrimpton, Miss Rita Schroeter, Wilfred Marshall, Primrose League, Waban, G. C. Schwabe, Madame Ad. Chatin, M. Girond, Beauty of Castlewood, Duchess of Wellington, Richard Dean, Rose Wynne, Jules Ferry, Mdle. Thérèse Rey, H. Jacotot fils, Madame Octavie Mirbeau, Colonel Chase, G. W. Childs, Souvenir de Amie Petite, Mons. Ch. Molin, Mdle. M. A. de Galbert, Florence Davis, Beauté de Toulousaine, Mrs. W. J. Godfrey, M. Gruyer, Niveus, President Borel, and Mutual Friend. Mr. J. Beisant, gardener to Mrs. Armitstead, Castle Huntly, Longforan, was a grand second. His blooms were not extra large, but beautifully fresh and well staged. Mr. J. Carruthers, gardener to Mrs. Fleming, Hillwood, Corstorphine, a good third; Mr. D. Nicol, gardener to J. W. Bell, Esq., Rossie, Forgardenny, fourth.

The Scottish challenge cup with £5 is the leading prize in the class for twenty-four Japanese, distinct, open to Scottish gardeners only, brought sixteen stands. Mr. D. Nicoll secured the first position with a really good stand of blooms. Viscountess Hambledon, C. Davis, Vivian Morel, E. Molyneux, G. C. Schwabe, M. Blenkiron, Mdle. T. Rey, were the most conspicuous varieties. Mr. Beisant was an exceptionally close second. Mr. Alexander, gardener to A. C. Stuart, Esq., Eaglescarnie, Haddington, third. For twelve Japanese, distinct, sixteen competed, the premier award going to Mr. J. Carruthers for an even stand of blooms. Mr. J. Day, gardener to C. J. Massey, Esq., Galloway House, Garliestown, second; and Mr. J. Martin, gardener to T. W. Swinburne, Esq., Corndean Hall, Winchcombe, third. The class for six Japanese, distinct, was an exceptionally strong one, no less than twenty-seven entered. Mr. G. Chaplin, gardener to R. Cunningham, Esq., South Oswald Road, Edinburgh, secured the coveted position with extremely fine blooms: Mr. Day second; Mr. Addison, gardener to Hugh Steven, Esq., Blackhouse, Skelmorlie, third. For six Japanese, white, any variety, Mr. L. Geddes, gardener to G. Elder, Esq., Knock Castle, Largs, was first with Avalanche. Mr. A. Smith, gardener to G. Carmichael, Esq., Taymount, Broughty Ferry, second. Mr. Carruthers third. Mr. Geddes secured premier position for six yellow, with W. H. Lincoln. Mr. T. Mackie, gardener to W. Hope, Esq., Luffness, Drem, won premier place for six any crimson Japanese.

Incurved varieties were well represented. For twelve Mr. J. Clark, gardener to F. S. Roberts, Esq., Bannerfield, Selkirk, was a long way ahead of the other seven competitors, staging really grand blooms of

C. H. Curtis (premier bloom), Mons. R. Babuant, Lord Alcester, J. Agate, Golden Empress, Queen of England, Mrs. R. King, Alfred Salter, Lucy Kendall, Golden Queen of England, Princess of Wales, and Mrs. S. Coleman. Mr. J. Martin second; and Mr. J. Hay, gardener to W. Foster, Esq., Houghton Hall, Carlisle, third. Mr. J. Day won first prize for six incurved with medium sized, healthy, finished blooms, and Mr. J. Grant, gardener to Lady Carnegie, Lonway, second. Mr. Henderson, gardener to A. H. Heywood, Esq., Elleray, Windermere, won first honours for any one variety. Mr. W. Clark second with Lord Alcester.

Japanese varieties in vases, cut with foliage attached, were liberally provided for, and made a good display. For twelve, three blooms of each, Mr. Lees just secured the leading position with handsome examples of leading kinds. Mr. J. Clark was a good second; and Mr. J. Henderson third. For six vases, six blooms in each, Mr. D. Kidd, gardener to Lord Elphinstone, Carberry Towers, Musselburgh, won; Mr. W. Bennett, gardener to J. I. Walker, Esq., Handley Lodge, Corstorphine, second. The first prize for one vase of twelve Japanese was won by Mr. J. Carruthers with grandly developed blooms of Mdle. Marie Hoste; Mr. Hugh Cameron, gardener to Captain Dewar, Gorebridge, second; Mr. D. Kidd third.

Plants exhibited a marked improvement on previous years. For six large flowering varieties Mr. D. Cavannagh, gardener to Mrs. J. C. Oliver, St. Edwards, Murrayfield, was an excellent first, and Mr. J. Holmes, gardener to Mrs. Hamilton Ogilvy, Winton Castle, Pencaitland, second. Pompons were really well staged. For four Mr. J. Hunt, gardener to H. N. Norrie, Esq., Coltbridge Hall, Murrayfield, was first with plants fully 4 feet in diameter. For four Japanese, distinct, and for one, Mr. Cavannagh won first place with good examples.

Many other classes were well filled with creditable examples in their respective sections, space, however, forbidding a detailed account. In the fruit and vegetable sections the exhibits were numerous and good, almost all kinds being splendidly represented.

In the "non-competitive" division many excellent exhibits were on view. Messrs. R. B. Laird & Sons, Pinkhill Nurseries, had miscellaneous plants, as well as an attractive group of Conifers in pots; Mr. Matthew Campbell, Blantyre, Carnations; Mr. J. Downie a charming collection of floral devices; Messrs. Dobbie, Chrysanthemums; Messrs. James Dickson and Sons, Conifers; Messrs. Stuart & Mein, Kale; Messrs. H. J. Jones, Lewisham, London, Chrysanthemums; and Mr. W. Colchester, Ipswich, Ichthemio guano.

LEATHERHEAD.—NOVEMBER 15TH.

ON Friday last the eleventh annual exhibition of the Leatherhead Horticultural Society was held in the Victoria Hall, and proved to be a splendid one in every respect, and that despite the fact that the majority of the classes are confined to growers residing within the district. All the sections were good, and it would be invidious to select one as being superior to all others, while the arrangements were such as might well be copied by societies of much greater pretensions. Everything under the direction of Mr. E. Pennington, assisted by a willing Committee, was well managed, and the Society deserves congratulation on the success of its latest venture, which, it is hoped, may be still further improved on in later years.

For the best collection of plants to occupy a space not exceeding 40 square feet four excellent groups were staged. Mr. G. Mileham, gardener to A. T. Miller, Esq., Leatherhead, was placed first with a fine arrangement, in which were noted splendid blooms of Robert Owen, Vivand Morel, Sunflower, Mdle. T. Rey, and Edwin Molyneux. Mr. J. Page, gardener to A. Dixon, Esq., was a very creditable second; Mr. J. May, gardener to Wickham Noakes, Esq., a good third; and Mr. F. Hogsden, gardener to H. White, Esq., fourth. For six large flowering plants in pots Mr. W. Mease, gardener to A. Tate, Esq., secured the first prize with splendid plants, of which W. H. Lincoln, W. Tricker, and Vivand Morel were the best. Mr. A. Long, gardener to C. J. Graham, Esq., was unfortunately disqualified for not being in accordance with schedule. For three distinct plants Mr. T. King, gardener to A. F. Perkins, Esq., was well first with fine specimens of Chinaman, Pink Christine, and Vivand Morel. Mr. G. Mileham was second. For a single specimen Mr. W. Mease was first with Charles Davis; Mr. G. Mileham a good second with Louise; and Mr. W. Peters, gardener to H. P. Sturgis, Esq., third with E. Becket.

The chief cut bloom class was for twenty-four distinct, twelve incurved and twelve Japanese, and Mr. W. Mease was well to the front with fine blooms of incurved C. B. Whitnall, Major Bonnaffon, Queen of England, W. Tunnington, Hero of Stoke Newington, Robert Cannell, Robert Petfield, Lord Alcester, Mrs. N. Davis, Princess of Teck, Lady Dorothy, and Lord Rosebery. The Japanese were Duke of York, Good Gracious, Silver King, Mrs. W. H. Lees, Robert Owen, G. C. Schwabe, Golden Gate, Charles Davis, Vivand Morel, A. H. Fewkes, W. G. Newett, and Etoile de Lyon. For twelve incurved, distinct, Mr. T. King, gardener to A. F. Perkins, Esq., Holmwood, Dorking, was placed first with a fair stand, comprising Golden Empress, C. B. Whitnall, Lord Alcester, Lord Rosebery, Percy Surman, Empress of India, Robert Cannell, John Doughty, Empress Eugénie, Robert Petfield, Mabel Ward, and Hero of Stoke Newington. Mr. E. Ellis, gardener to Sir E. G. Moon, Bart., was a close second.

In the class for twelve Japanese, distinct, Mr. H. Squelch, gardener to W. C. Bond, Esq., Boxhurst, Dorking, was first with a fine stand of Mrs. C. H. Payne, Charles Davis, Miss Dorothy Shea, International, Madame M. Hoste, Beauty of Castlewood, Golden Gate, Vivand Morel, W. L. Sunderbruck, Mdme. Ricoud, Viscountess Hambledon, and Mdle.

T. Rey. Mr. T. King, gardener to A. F. Perkins, Esq., Dorking, was a good second, his best blooms being Sunflower, Mdle. T. Rey, Viscountess Hambledon, Louise, and Vivand Morel. Mr. Ellis was third. There were five competitors.

Mr. W. Mease was an easy first for six reflexed, distinct; Mr. W. Peters being second, and Mr. J. Page third. For six incurved, distinct, Mr. G. Mileham was first; Mr. W. Peters second; and Mr. J. Page third. Mr. W. Mileham was again first for six Japanese, Mr. W. Peters second.

Splendid plants of double Primulas were shown. For six Mr. J. Page and Mr. J. Mileham were equal first with grand plants; Mr. W. Mease being third. For six single Mr. J. Page was first with well grown plants; Mr. G. Mileham second; and Mr. W. Peters third.

Table decorations were a feature, many beautiful arrangements being displayed. Miss Geraldine Harkes was awarded the first prize, Miss Eva Tate being a very close second, and Mrs. Sackville Harris third.

Mr. J. Page, gardener to A. Dixon, Esq., Cherkly Court, was awarded a first-class certificate for a good collection of fruit; as also was Mr. W. Peters, gardener to H. P. Sturgis, Esq. Mr. G. Wickens, gardener to H. B. Gray, Esq., exhibited twenty-five dishes of splendid Apples, and was very highly commended. Mr. Kent, gardener to C. F. Howell, Esq., had a choice arrangement of Ferns and Orchids; and Mr. H. Appleby, Dorking, had a splendid stand of Japanese Chrysanthemums.

BRADFORD.—NOVEMBER 15TH.

THIS show was held in St. George's Hall, and in the open class for cut blooms there was a slight falling off in the number of entries. The local classes, however, fully compensated by a large entry and high standard of the exhibits. Bouquets, buttonholes, bouquets, and ladies' sprays were also well competed for, and in the best possible taste. In the groups and plant classes the competition was nearly nil. Only one exhibitor appeared in the miscellaneous group, and one in the Chrysanthemum group. The redeeming feature in this department was the magnificent specimen decorative plants, which free embellished the orchestra, sent by Messrs. Horsmans of Bradford and the nurseries, Ilkley; and Messrs. Charlesworth, of Orchid fame, exhibited a magnificent bank of Orchids, *Cattleya labiata*, in many fine vars., making a striking display. Messrs. Clibran & Sons also exhibited a large number of specimen cut blooms, including several novelties.

In the open class, £5 and a silver challenge cup, value £10, is the first prize for twenty-four Japanese blooms, which was won by H. Tate, Esq., Liverpool (Mr. Wm. Haigh, gardener). The Japanese were Richard Dean, Van den Heede, Madame Carnot, C. Davis, Rose Wynne, Etoile de Lyon, Marie Hoste, H. L. Sunderbruck, G. W. Childs, Col. W. H. Smith, Vivand Morel, Thos. Wilkins, W. Seward, E. Molyneux, Mrs. H. Payne, G. C. Schwabe, M. Oct. Mirabeau, Wilfred Marshall. The second prize went to E. J. Omerod, Esq., Green Royd, Brighouse, and the third to Mr. W. Wells, Earlswood, Surrey. The latter exhibitor secured the first prize for twenty-four incurved varieties with good blooms of W. Tunnington, Harold Wells, Ami Hoste, Lord Rosebery (2), Empress of India, Mr. R. C. Kingston, C. Flammarion, John Doughty, Princess of Teck, Globe d'Or, Jardin des Plantes (2), Brookleigh Gem, Guernsey Nugget, and Beverley.

For twelve Japanese, dissimilar, Mr. Haigh was again first with good flowers of Mrs. C. Harman Payne, Wilfred Marshall, Van den Heede, C. Davis, Thérèse Rey, W. Seward, Thos. Wilkins, Louise, E. Molyneux, Rose Wynne, Mons. Bernard, and Silver King. The second prize went to Mr. Barber. For twelve incurved Mr. Haigh was first with Mr. R. C. Kingston, Golden Empress, Empress of India, Queen of England, Baron Hirsch, Mrs. Heale, Robert Petfield, Mrs. S. Coleman, Princess of Wales, Brookleigh Gem, Chas. H. Curtis, and John Salter.

Messrs. Perkins & Sons, Coventry, secured two firsts for bouquets, and Mr. J. Brooks, Heaton, seconds. Grapes, white, first prize went to A. Jacobs, Esq. (gardener, Mr. Newbould), Craig Royd, Rawdon. Black Grapes, first went to Briggs Priestley, Esq., M. P. (gardener, Mr. Butters). Table plants were extra good, Mr. Newbould first, Mr. Butters second, and Mr. B. Baxter third.

BOLTON.—NOVEMBER 15TH AND 16TH.

BOLTON must certainly be congratulated on its ninth annual exhibition, which was opened in the Town Hall on Friday last, and it is questionable if a more bright display has ever been seen. Cut blooms in open classes, though perhaps not so strongly contested as in former years, were much superior in quality, whilst the competition in local classes was very keen.

In the open class for twenty-four cut blooms a silver cup was presented with the first prize, the cup to be won two years in succession or three times in all. This was won by Mr. J. Kirkman, gardener to John Stanning, Esq., Leyland, his Japanese being superb and the incurved moderate. The best Japanese were Stanstead White, Miss Dorothy Shea, Vivand Morel, Mons. Panckoucke, Chas. Davis, Marie Hoste, W. Seward, Mrs. C. H. Payne, Niveus (grand), Etoile de Lyon, Amos Perry, and Primrose League. Incurved: Lord Alcester, John Doughty, Alfred Salter, Queen of England, Jardin des Plantes, Miss Bella Wilson, Mrs. Heale, Miss Violet Tomlin, Mr. Brunlees, Jno. Lambert, Baron Hirsch, and Madame Darrier. Mr. R. Pinnington was a capital second. The incurved blooms were grand, and the Japanese a trifle smaller, but very fresh. Mr. Jas. Cellon, gardener to Jno. Harwood, Esq., third.

For twenty-four Japanese, distinct, Mr. Kirkman was again first with a splendid stand, his best blooms being Chas. Davis, Mons. Panckoucke, Chas. Blick, Primrose League, Rose Wynne, Duke of York,

Mrs. E. W. Clarke, and Stanstead White. Mr. R. Pinnington had a fine but smaller stand for second honours, noticeable being Lord Brooke, Chas. Davis, La Verseau, Thos. Wilkins, and Lillian B. Bird. For twelve incurved Mr. R. Pinnington was first with good blooms of Mrs. R. King, Mrs. R. C. Kingston, Baron Hirsch, Lucy Kendall, and Princess of Wales. The same exhibitor was also well ahead for reflexed and Anemones, staging Cullingfordi, White Christine, Descartes, and Owen's Perfection (very fine).

For twelve incurved and twelve Japanese a silver cup was presented by the President (Chas. H. Shaw, Esq.). Seven competed, the winner being Mr. Thomas McGregor, gardener to Wm. Howarth, jun., Esq., with a moderate stand of Japanese, the incurved being much superior. Mr. H. Shone, gardener to J. W. Makant, Esq., J.P., was a very close second; and Mr. W. Wainwright, gardener to Mrs. J. K. Cross, a good third. The latter exhibitor was placed first for twelve incurved with a neat but rather flat stand; Mr. Jno. Wainwright, gardener to Mrs. Edward Cross, second. Six competed for twelve Japanese, Mr. H. Shone having good solid flowers for first place; Mr. W. Wainwright was a good second.

Groups of Chrysanthemums and foliage plants arranged for effect were splendid, especially the first prize one, put up by Mr. Chas. Jones, gardener to Mrs. Shaw; it was simply a masterpiece. The highest praise must be accorded the second and third prizewinners, Messrs. Jas. Abbott, gardener to Jas. Musgrave, jun., Esq., and G. Pawson, gardener to Jno. Heywood, Esq., J.P. Chrysanthemum plants formed an especial feature, and not a faulty one could be found, Mr. Shone's plants being in fine condition. He won for eight large-flowering, distinct, four large-flowering, one trained incurved, one trained reflexed, and one Japanese. Mr. J. Abbott won with Pompon and single; Mr. J. Hicks, gardener to Mrs. Haslan, followed close up for second honours. The amateurs made a fine display. The trade added much to the show, Messrs. Clibran and Sons, Altrincham, having some of the latest novelties amongst Japanese in superb condition, also charming single varieties; Mr. Deverill had a wonderful stand of Pedigree Onions; Messrs. Dickson & Robinson, Manchester, Cyclamen and other plants; and Allen Bros., Bolton, choice floral designs. Mr. Jno. Moseley won with handsome bouquets, and Mr. J. Wright, gardener to E. Lord, Esq., Rawtenstall, and Mr. W. Wainwright with white and black Grapes. The attendance was excellent, and so it deserves to be, for more courteous officials are not to be met, and their work in the large town of Bolton is calculated to do much good.

ECCLES.—NOVEMBER 15TH AND 16TH.

ON Friday last the Patricroft Drill Hall presented a very bright and animated appearance on the occasion of the opening of the eighth annual Chrysanthemum exhibition. Although the entries in the open classes were not so numerous the quality was good, whilst the amateur section was worthily represented.

In the open classes for twelve incurved and twelve Japanese, Mr. T. Carling, gardener to Mrs. Cope, Dove Park, Woolton, who had on two previous occasions won the silver cup given by J. T. Lewis, Esq., finally carried it as his own property with a fine even stand. His best Japs were Eva Knowles, Vivian Morel, Chas. Davis, E. G. Hill, Etoile de Lyon, International, and Thomas Wilkins. Incurved: Lord Alcester (the premier bloom in the show), J. Agate, Empress of India, Golden Empress, Robert Petfield, Princess of Wales, and Violet Tomlin. Mr. R. Pinnington, gardener to Mrs. Banner, Blacklow House, Roby, was second. For twenty-four miscellaneous Mr. R. Pinnington was first with a good stand. For twelve incurved, twelve Japanese, six incurved, and six Japanese, and six Anemone-flowered, Mr. Carling won in each class; Mr. Pinnington following in the two latter. Mr. Corser second for twelve incurved with a grand Lord Rosebery conspicuous in his stand.

For classes restricted to amateurs and those employing not more than one gardener, Mr. Pollitt, gardener at Ravenswood, won all four classes for twelve incurved, twelve Japanese, six of each, and twelve miscellaneous, the collections containing many good blooms. The principal event in section 2, those not employing a regular gardener, was for six incurved and six Japanese, a silver cup, presented by W. L. Agnew, Esq., J.P., being given with the first prize, the winner being Mr. T. Morton, who had a stand of well coloured blooms; Mr. W. Eckersley, Middle Hulton, second. The same exhibitor won classes for twelve miscellaneous and six incurved Japanese. For eighteen cut blooms, staged for effect, Mr. J. Smethurst won with a nice stand. Mr. Huber winning the silver challenge cup, presented by S. Garnett, Esq., J.P., Pendleton, for six incurved and six Japanese; also for twelve arranged for effect, and was most successful in other cut bloom and plant classes, winning no fewer than ten.

Chrysanthemum groups were excellent. In the chief class Messrs. J. Mulloy and S. Belshan & Sons were the prizewinners as named. Chrysanthemums in pots were extremely good, Messrs. R. Lovell, T. Harker, and W. Powell winning in open classes, Mr. J. Atterton taking three out of four classes in section 2. The Eccles Committee is certainly to be commended for their broad and liberal schedule in the amateur and local sections particularly, for they have classes to suit all sorts and conditions of growers.

CREWE.—NOVEMBER 16TH.

THE fifth annual show of the above Chrysanthemum Society was held in the Corn Exchange, a building which for floor space, internal fittings, lighting, and ease of access left nothing to be desired for the purposes of such a show. The Committee of this Society is a hard-working energetic body, apparently pulling harmoniously together,

much of this being due to the tact, business capacity, and urbanity of the Chairman (Mr. E. J. Ashfield) and the Hon. Sec. (Mr. W. E. May).

The show had many points of excellence, these being particularly noticeable in the numerous fine exhibits from amateur growers, most of whom are employed at the great railway works of the L. & N. W. Ry. Co. In the open class for groups of Chrysanthemums, semicircular, the first prize went to an excellent arrangement of fine plants and flowers, by Mr. Ladler, gardener to J. Maddocks, Esq.; the second prize going to an almost equally meritorious group grown and exhibited by an amateur, Mr. Baddeley.

In the open class for twelve Japanese, cut flowers, Mr. Prior, gardener to Hon. Mr. Kenyon, Macafen Hall, was first with very good flowers of Vivian Morel, Dorothy Shea, Mrs. C. H. Payne, Etoile de Lyon, G. C. Schwabe, Robt. Flowerday, W. H. Lincoln, Sunflower, Mdlle. Marie Hoste, Chas. Davies and Florence Davis. Mr. Carter was second and Mr. Winckworth third. In an open class for twelve cut flowers, six Japanese and six incurves, Mr. Winckworth, gardener to Ralph Brocklebank, Esq., was well first.

A gold medal, given by Mr. Ashford for the best bloom in the Show, was won by Mr. Arthur, an amateur grower, with a very fine "Robert Owen." This same exhibitor was the most successful of any amongst the competitors, taking eight or nine firsts for groups, specimen plants, and cut flowers. The groups and specimen plants shown by amateur growers were alike numerous and good, forming really the best and most important feature of the show.

BATLEY.—NOVEMBER 16TH.

THE public spirit infused into the Batley Paxton Society is made evident by the number (seven) of fine silver challenge cups and the liberal prizes offered for competition. The support thus received from the influential inhabitants of the town enables the Committee to get together one of the best exhibitions in the North of England. Cut blooms were numerous, and the prizes keenly contested. The groups of Chrysanthemums reflected the highest credit upon the exhibitors, and it is quite safe to state that no better group of Chrysanthemums has been exhibited this year than the first prize arrangement of G. Sheard, Esq., J.P. (gardener, J. Davies). Amongst the amateur and the cottagers' classes a steady improvement in cultural results is noticeable, for which the Committee claim (with due pride) credit, as being the result of the meetings and essays read at the meetings, upon the cultivation of the Chrysanthemum.

In the open class competition for cut blooms a 20 guinea challenge cup and £7 in money was offered for the best thirty-six, eighteen incurved, not less than fifteen varieties, eighteen Japanese, not less than fifteen varieties, and not more than two blooms of one variety. This splendid trophy was won by Messrs. J. R. Pearson & Sons, Chilwell Nurseries, with specimens of the following varieties.—Japanese: Mrs. Harman Payne, Duke of York, Vivian Morel, Madame Carnot, E. Molyneux, Marie Hoste, Dorothy Shea, Rose Wynne, C. Davis, International, Mephisto, Beauty of Teignmouth, Lord Brooke, Mons. C. Molin, Etoile de Lyon. Incurved: C. H. Curtis, Princess of Wales, S. Coleman, Robt. Cannell, Mrs. Heale, Robt. Petfield, Golden Empress, Lucy Kendall, Richard Parker, Miss E. Tomlin, Empress of India, John Salter, Princess of Teck, and Jardin des Plantes. The second prize was closely contested and won by A. Wilson, Esq., Tranby Croft (gardener, Mr. J. P. Leadbetter). The third prize was won by the Duke of Sutherland (gardener, Mr. P. Blair).

In the class for twenty-four blooms, twelve incurved, not less than nine varieties, twelve Japanese, not less than nine varieties; first prize, the Batley Paxton Society's challenge cup, value £6 6s., and the National Chrysanthemum Society's silver medal and £5. Mr. P. Blair won the first prize, and this being the third time the cup become his own property. Mr. Leadbetter was second, and Mr. W. E. Tidy, Brockhampton Nurseries, Havant, Hants, third.

Anemones and Poppoms were represented by fine examples, the first prize being secured by Mr. John Thornton, Drighlington. Another silver challenge cup was finally won, and becomes the property of Colonel Sheard (J. Davies, gardener) for a magnificent group of Chrysanthemums. R. I. Critchley, Esq., was a good second, and Mr. Robt. Lofthouse, Ossett, third. Messrs. Crossley, nurserymen, Leeds, and Mr. W. L. Skinner, Silcoates Nurseries, Wakefield, also received certificates for effective trade exhibits.

TWICKENHAM.—NOVEMBER 19TH AND 20TH.

A BRIGHT sunny morning greeted the advent of the annual exhibition of the above Chrysanthemum Society. The chief features in the show were the groups of Chrysanthemums, miscellaneous plants, and floral decorations. An exhaustive schedule was provided, which, in addition to Chrysanthemums, included classes for fruit and vegetables, all of which were responded to by merited exhibits.

Only two exhibitors competed in the class for a group of Chrysanthemums occupying a space of 50 square feet. The highest award fell to Mr. A. H. Rickwood, gardener to the Dowager Lady Freaque, who had good blooms with colour well discriminated, but marked with the usual characteristics of such groups—stiffness. The second place was taken by Mr. G. H. Sage, gardener to Earl Dysart. Mr. H. E. Fordham was a good first with a group of miscellaneous flower and foliage plants occupying 50 square feet. The group was arranged with taste, Chrysanthemums, Roman Hyacinths, and other seasonable flowers being used with Maidenhair Fern. A. W. Crosse, Esq., was a fair second, his collection being rather too crowded in arrangement. Mr. T. Macgregor, gardener to Dowager Lady Hay, was first with a basket of plants

arranged for effect. The basket contained Zonal Pelargoniums, Amaryllis, Palms, and Crotons pleasingly arranged. Mr. J. Warden, gardener to Mrs. Stearns, took the second prize, and A. W. Crosse, Esq., third. Mr. H. A. Tracy was first with a group of Orchids intermixed with Ferns and foliage, showing Cattleyas, Dendrobiums, and Cypripediums in good form. A. W. Crosse, Esq., took the second place, he also having a good display of bloom arranged with taste. Mr. J. Brill took the highest place with six Chrysanthemums in pots, the second prize going to Mr. J. T. Attwood.

In the cut bloom classes the first prize for a stand of twenty-four, containing twelve Japanese and a like number of incurved, fell to Mr. J. Portbury, who staged good flowers of—Japanese: Vivian Morel, Sunflower, Mdle. Thérèse Rey, Niveus, Silver King, Golden Gate, Madame C. Molin, Duke of York, E. W. Clarke, H. Jamieson, and Louise. Incurved: William Tunnington, Mrs. J. Gardiner, Hero of Stoke Newington, Mrs. Coleman, C. B. Whitnall, M. P. Martignac, J. Agate, Miss M. A. Haggas, Robt. Petfield, Golden Empress, Robert Cannell, and Princess of Wales. The second prize fell to Mr. C. J. Waite, gardener to the Hon. W. P. Talbot. Mr. J. Portbury was first with twelve incurved, showing fine examples of Lord Alcester, Mrs. J. Gardiner, Robt. Cannell, Golden Empress, Beauty, Miss M. Haggas, Wm. Tunnington, C. H. Curtis, Violet Tomlin, J. Agate, C. B. Whitnall, and Hero of Stoke Newington. F. Braby, Esq., was a good second, and Mr. C. J. Waite third.

For twelve Japanese, distinct, Mr. J. Portbury was again a good first with Niveus, Mrs. C. Harman Payne, Mrs. W. H. Lees, Duke of York, Golden Gate, F. L. Amies, Van den Heede, Mdle. Thérèse Rey, E. W. Clarke, Madame C. Molin, and Robert Owen. The second prize was awarded to F. Braby, Esq., and the third to Mr. A. Farmer. Mr. C. J. Waite was first with twelve Anemone-flowered. For twelve bunches of Pompons Mr. Chas. Garrod was first, F. Braby, Esq., second, and Mr. J. Portbury third. Mr. C. J. Waite was first with six Japanese of one variety, showing Vivian Morel, Mr. A. Farmer being second with Robert Owen. In the classes for district competitors Mr. J. Simonds, gardener to W. Cunard, Esq., was first with twelve Japanese and also for twelve incurved.

Floral decorations were a striking feature. Miss C. B. Cole gained first prize for a single stand with a pleasing arrangement of Chrysanthemums and Carnations; Miss N. H. Cole was a good second, and Mr. A. Pentney, gardener to A. J. Howard, Esq., third. Mr. C. J. Waite was first with a bouquet of Chrysanthemums, followed by Miss C. B. Cole and Mr. A. Pentney, second and third. Miss C. B. Cole had the best buttonholes and sprays, the second and third places being taken by Miss N. H. Cole and Mr. A. Pentney. For the best ornamental basket of dried grasses and berries Miss C. B. Cole was first, Mr. A. Pentney second, and Mr. Walter Mole third. Miss K. A. Prior had the best stand of autumn flowers, and Miss Jessie Wright was first with a basket of Chrysanthemums.

Mr. J. Warden was first with six Cyclamens in pots, followed by Mr. A. W. Cole. Mr. Chas. Garrod, gardener to J. R. Tindale, Esq., occupied the highest place with six Primulas, followed by Mr. A. W. Cole, gardener to F. Pownall, Esq., and F. Braby, Esq., second and third. Mr. J. Portbury, gardener to W. N. Froy, Esq., was first with six table plants, followed by Mr. MacGregor, and Mr. A. Pentney, gardener to A. J. Howard, Esq., second and third. Mr. J. Simmons had the best Bouvardias, followed by Mr. Chas. Garrod. The last named exhibitor was first with six Zonal Pelargoniums, Mr. J. Portbury taking the second place.

For a collection of four dishes of fruit, Mr. G. H. Sage was first with Alicante Grapes, Pears, Apples, and a Pine, Mr. C. J. Waite following with the second. Mr. J. Simmons was first with two bunches of white Grapes, showing Muscat of Alexandria. The same exhibitor was also first for black Grapes with Alicante; second Mr. A. H. Rickwood. Mr. C. Garrod was first with two dishes of Pears; Mr. J. Stroud second. Mr. Stroud was first with two dishes of Apples, followed by Mr. Garrod. Mr. W. Taylor was first with four distinct dishes of Pears, followed by Mr. G. H. Sage and Mr. A. H. Rickwood, second and third. Mr. Will. Taylor was also first with four dishes of Apples, followed by Mr. G. H. Sage and Mr. J. Portbury, second and third. Messrs. W. Poupart & Sons, Twickenham; Messrs. Wallace & Co., Twickenham; and Messrs. S. Spooner & Sons, Hounslow Nurseries, staged fruit, vegetables, and honey, not for competition, these making a good effect.

LEEDS.—NOVEMBER 19TH AND 20TH.

OWING to the Town Hall not being large enough to accommodate the exhibits, the Committee selected the Drill Hall of the Royal Engineers Volunteers to hold the seventh annual autumn exhibition in. The exhibits were numerous, although the competition was not especially keen in many of the classes. Plants were a pleasing feature of the show. Groups of miscellaneous plants arranged for effect were very fine.

Groups of Chrysanthemums arranged in semicircular form for effect were but a moderate display, the plants being much too tightly and smoothly arranged. Mr. Warren, gardener to Miss Lambert, Headingley, secured the leading award. Mr. Grix, gardener to Sir J. Kitson, Gledhow Hall, Leeds, won first prize for six plants suitable for table decoration.

Cut blooms were numerous, so many classes were provided for them. The principal class was that for eighteen incurved, in not less than fourteen varieties. Messrs. J. R. Pearson & Sons, The Nurseries, Chilwell, Notts, won first prize with large well-developed blooms of

R. Petfield, Golden Queen of England (premier incurved bloom), Princess Teck, Princess of Wales, C. H. Curtis, Golden Empress, Mrs. S. Coleman, Lord Alcester, Princess of Wales, and Mrs. R. King as the most noticeable. Mr. Goodacre, gardener to the Earl of Harrington, Elvaston Castle, Derby, second. In a similar class for Japanese these two exhibitors changed places, Mr. Goodacre just beating his rival by a narrow majority with C. Davis, Mrs. C. H. Payne, Madame Carnot, Hairy Wonder, Niveus, Madame Octavie Mirbeau, Mons. Panckoucke, E. Molyneux, Mdle. T. Rey, Duke of York, and G. C. Schwabe. Mr. Pemberton, Tamworth, third.

The first and second prizewinners in the former class occupied a like position in the class for twelve distinct Japanese, Mr. Pemberton again coming third. For three each of Japanese, incurved, reflexed, and Anemone-flowered Messrs. Pearson & Sons staged really good blooms. Jeanne d'Arc in pleasing condition won for Mr. Goodacre first place for six any one variety. E. Molyneux in almost perfect form won for Mr. Pemberton first honour for six of any one Japanese variety; Mr. Barber, gardener to C. J. Ormerod, Esq., Green Royde, Brighouse, with C. Davis, coming second.

Numerous local classes were provided, the competition, especially here, being keen. Mr. Grix won for twelve incurved, twelve Japanese, and also for six incurved, any one variety, with really good blooms. Mr. Eastwood, gardener to Mrs. Tetley, Foxhill, Westwood, had much the best Anemone-flowered varieties, and also the best Pompons in six varieties. Single-flowering kinds were most interesting and beautiful, Mr. Cross, Beckett Arms, winning for six with fully developed blooms of choice varieties; Mr. Eastwood second.

Messrs. Pearson & Sons had the premier incurved bloom, Golden Queen of England; Mr. Pemberton the best Japanese, Robert Owen. Messrs. Charlesworth & Co., Heaton, Bradford, had a pleasing collection of Orchids; Messrs. Cannell & Sons, Pelargoniums; Messrs. Pearson and Sons, fruit; Messrs. W. Cutbush & Sons, Apples and Pears; and Messrs. Clibran & Son, Chrysanthemums.

POTATO VAGARIES.

"And here's a hand my trusty fren',
And gie's a hand o' thine."

SUCH was the good auld greeting, though it came from "ould Oireland, shure," with what we take to be a lesson in palmistry, from which we



FIG. 75.—A CURIOUS POTATO.

may divine the character of the sender. He is quite a handy man, is our friend. He can work and write, and, as he would like us to say—foight—in a literary duel or scramble; and his finger-marks have been seen on many a page of the *Journal of Horticulture*. He confesses to his digits being somewhat of the Ally Sloper order, and thinks, perhaps, that Mr. Sutton might like to "slide" the hand into his picture when he gives another lecture on Potatoes. But he can be serious can our "Hibernian," as he loves to be regarded, and can come from the clouds to Mother Earth when the fall is necessary for the narration of facts; and thus he states that his particular favourite Potato—the Magnum Bonum—as figured, was grown by Mr. Buggins, steward and gardener to Lord Annaly, Luttrellstown, Clonsilla, County Dublin. Our friend is a man of many parts, and that is perhaps why he has taken a fancy to the specimen; or it may be because it enables him to tender to us the hand of good fellowship, which is hereby metaphorically shaken.

THE WOODLANDS, STREATHAM.

THE gardens of R. H. Measures, Esq., at The Woodlands, have long been celebrated for the very valuable collection of Orchids grown there, and although no doubt that is the primary feature, other branches of horticulture are by means ignored. In every part of this well kept place neatness and cleanliness prevail. The kitchen garden is well cropped with the most useful vegetables and the ground free from weeds, the quarters being divided with well made asphalt walks. There is growing here a most useful green, said to have been raised at The Woodlands. It stands the winter well and is much appreciated on the table. In appearance it is intermediate between the Curled Kale and Sprouting Broccoli. Each plant sends out numerous side shoots, in the centre of which is a miniature Broccoli, but it evidently requires a little more "fixing" to make it quite true to character. The plants are all uniform in size, but whilst some of the leaves are beautifully curled others partake more of the Broccoli. In addition to the fruit trees dotted about the kitchen garden and healthy young Peach trees on the wall, there is a recently made orchard of standard Apple trees and a plantation of pyramid Pear trees from France. In the fruit room are good samples of Apples, notably Cox's Orange Pippin, Ribston Pippin, Scarlet Nonpareil, Gloria Mundi, and others, and among Pears are Thompson's Glou Morceau and Uvedale's St. Germain, conspicuous for their size.

In a newly built Mushroom house are several beds in succession, the first of which is just now in full bearing. Outside this house in frames are hundreds of healthy Carnations in 4-inch pots. A large span-roofed house is devoted to Carnation culture, the centre and side stages being filled with large specimens. These have not inaptly been described as resembling "Furze bushes," as they are all in excellent health, and most of them have from nine to fifteen flowering growths, and on one we counted thirty-seven. One thousand and fifty blooms were cut in this house last June; they include many fine varieties raised here, some with leaves measuring 1 inch in width. Among the named trees are Mrs. Hemsley, Duke of York, Mrs. Moore, Uriah Pike, Winter Cheer, Hamlet, and Miss Measures; and the Malmaisons Princess of Wales, Churchwarden, Mrs. Everard Hamborough, Princess May, Princess Mary Decroix, R. H. Measures, Royal Sovereign, and Lord Wolseley, the last four being new ones. An additional house has this autumn been built for Chrysanthemums, and is now filled with plants producing large and well developed flowers. Other houses are devoted to *Pancratiums*, *Nerines*, *Anthuriums*, *Richardias*, *Primulas*, and *Palms*. A large break of ground outside is also planted with choice herbaceous plants for producing flowers for church decoration.

The Orchid houses are constructed on the most modern principle with the latest appliances. They are efficiently heated, and ventilated on the sides beneath the stages just above the hot-water pipes, precaution being taken to avoid any cold draught. A large reservoir is provided to catch the rain water outside, and a tank in each house is connected to this, with the result that there has been no scarcity of rain water during the long period of drought this summer. Ornamental rockwork is built under the stages, on the face of which are planted choice Ferns. *Bertolonias*, *Sonerilas*, variegated *Begonias*, *Sibthorpias*, and *Saxifragas*; and along the front of the stages are planted *Pilea muscosa* and *Isolepis gracilis*, with here and there a Fern, which lend an additional charm to the houses. It is pleasing to note that Mr. Measures is a keen horticulturist, and to have all work thoroughly done he employs sufficient skilled labour for the purpose, which is a great advantage to a head gardener and beneficial to the plants under his charge.

At the present time there is a grand display of *Cattleya labiata*, and at the time of our visit last week there were in one house 500 expanded blooms, with 200 other spikes pushing through the double sheaths. In another house 200 blooms already open. The cream of named varieties are amongst them, but all are very beautiful and varied in colour, some with dark massive sepals and petals and richly coloured lips, while others, and especially C. C. R. Measures, possess petals and sepals of snowy whiteness. *Lælia elegans*, of the best type and named varieties, occupy the centre stages of several houses. These are all in good health, and include large specimens with a dozen or more leads, some having immense bulbs, others being very short and thick. A collector who has been abroad specially to collect plants of this species, but with little success, recently expressed his surprise to find so many in a private establishment. On the side stages are *Cattleyas* *Trianae*, *Mendeli*, *Schrodæ*, and *Bowringiana* with fine growths, many of the latter being in bloom. In these houses, too, are choice novelties, including *C. Lodigesi alba*, *C. Skinneri alba*, and the white *C. Leopoldi*, *Lælia Perrini alba*, *Lælia Arnoldiana*, and the choice hybrid *Lælio-Cattleyas*. Worthy of note is a fine specimen of a supposed natural hybrid between *Cattleya intermedia* and *Lælia elegans*. In other houses are numerous *Odontoglossum citrosum*, *Cattleya citrina*, and *Lælia harpophylla*. With bulbs nearly 20 inches in length, and mounted on pedestals in the centre, are good specimens of best and showy *Cymbidiums*. *Odontoglossums* also occupy a three-quarter span-roofed house in two divisions—one 60 feet the other 40 feet in length.

Although this house was built throughout at the same time, and the height and width of each compartment is the same, it is singular to note that the plants are much more vigorous in the latter division. It would appear that smaller structures are more suitable for *Odontoglossums* than large ones. *O. crispum* and *O. Pescatorei* are grown on the front stages, and many are either in or approaching flower, and on the back are good pieces of *O. grande* and its allied species. *Masdevallias* are not grown so extensively, but a few of the best of the genera are to be found,

with some capital plants of *Ada aurantiaca* and a large number of imported *Cypripedium insigne* seedlings.

Anguloas and *Lycastes* occupy considerable space in warmer houses. The Woodlands is renowned, and justly so, for a rich collection of *Cypripediums*, and in a large span-roofed house are numerous plants of much value. Here is the rare *C. callosum Sanderæ*, a healthy little plant with three growths. A short time since Mr. Measures exchanged a single growth of this for a cheque for 500 guineas, perhaps the largest amount ever paid for an Orchid so small. While mentioning prices, it may be added that in the adjoining house there is a small group of *C. insigne Sanderæ*, for which a *bona fide* offer of £1000 has been made and rejected. In company with these are many other choice forms of *C. insigne*, including *Bonhofianum*, *clarissima*, *longisepalum*, and *Swiftiana*, besides *C. venustum Measuresianum*, *C. villosum*, and *Boxalli*. In the larger house are such grand species as *C. Dautheri albino*, *C. Lawrenceana Hyeannum*, *C. bellatulum album* in spike, *C. Fairreanum*, and others, together with many unflowered seedlings resulting from most interesting crosses. With due regard to the health of these valuable plants, the flowers when fully expanded are cut and placed in tubes of water, which are then inserted in the pots. They continue in fresh condition for a long period without exhausting the plants, looking equally as well as when left naturally on them.

Other houses contain large specimens of the larger and better known sorts, such as *C. Rothschildiana*, with shelves full of seedlings. A large number of the chaste *C. leucochilum*, with *Dendrobium Phalænopsis Schroderæ* in quantities are suspended near the roof glass, and a good portion of space is devoted to the culture of *Phalænopsis* and *Anæctochilus*. The Vanda house is filled with plants beautifully clothed with foliage of dark green colour; following this is a house full of fine large *Lælia purpurata*, and then another of *Dendrobiums* at rest, which promise to yield a grand display of bloom, the large specimens of *D. Wardianum* and *D. formosum giganteum* being specially noteworthy. We next come to the adopted home of *Cypripedium insigne*, where these are seen growing from the floor to the roof. Numbers are planted on the rockery beneath the stages, where they obtain a fair amount of light, as the houses are low and the centre paths wide, the stages are full on either side, and many are suspended from the roof. One division is charming with nearly 700 open flowers, and the succession will give a fine display for a long time, as there are between 5000 and 6000 plants of *C. insigne*. *Calanthes* are largely grown for cut blooms, and the strong bulbs are showing a total number of 130 spikes. *Sobralias* are well represented, and occupy considerable space, among them being immense specimens of *S. macrantha* and *S. m. Woodland's* variety, *S. xantholeuca*, *S. x. albescens*, *S. alba*, *S. atro-rubens*, *S. Hookeræ*, *S. virginialis*, and many others.

There are hosts of other Orchids which cannot be dealt with now, but a glance at well-grown *Cattleya Lawrenceana*, *C. Rex*, *Vanda Hookeræ*, and various *Celogynes*, all testify that their treatment is well understood by Mr. John Coles, the able and courteous gardener, who has been well trained in good gardens, and whose father was for many years gardener to Mr. Smee at "My Garden." Mr. Measures is to be congratulated on his excellent garden, and also in securing the services of such an excellent man to manage it. Here, as in other horticultural establishments, XL vapouriser is in general use for the prevention and destruction of all insect pests with the best results.

It was a real pleasure to spend such an enjoyable hour in these gardens, and I shall look forward to another visit when the opportunity occurs.—G. W. CUMMINS.



HARDY FRUIT GARDEN.

Mulching Strawberries.—In all cases where beds of Strawberries have existed more than one year the soil may be enriched with considerable advantage to the plants. Strawberries derive nearly all their support from surface dressings, and an application given now of decayed farmyard manure will supply the needful assistance to the abundant fibrous roots which ramify near the surface. After cutting off old runners close to the plants and ragged, useless, large leaves, though not denuding the plants too freely of foliage, fork up runners that have taken root and deep-rooting weeds. It is not advisable to dig between the rows, except where the rows of plants are widely planted, and there is little fear of disturbing the fibrous surface roots.

As a rule digging or forking up the soil is not necessary, not even on the score of cleanliness, which can be better effected by a thick mulching of manure. The autumn and winter rains will wash the fertilising matters out of the manure into the soil, and the young active roots will take some of it and deposit it in the crowns for future growth, but the bulk will be retained by the soil and used as necessary. The residue matter can be raked off in spring, and fresh manurial assistance given. Vigorous plants that may not yet have fruited should not be too freely encouraged for fear they may produce abundant rank foliage at the expense of fruiting well. Young plants may have a mulching of dry,

flaky manure, which will serve as a protection to the plants from frost and prevent rapid evaporation of moisture.

Pruning and Mulching Raspberries.—Where the fruiting canes for the forthcoming year have previously been reduced to the proper number—four to six, according to vigour—there only remains the shortening of them to a uniform height of 4 to 5 feet, thus retaining only the ripest portions. Some adopt the plan of pruning to different heights, whereby fruit is secured at various levels. When the canes are trained to trellises dispose them over the space first, then prune to the top of the trellis. Cut out all weakly canes if such have been left, and the old fruiting canes of the past season if not hitherto removed.

The pruning being completed and the cleansing of the ground from strong weeds of a deep rooting character, as well as those of underground stem extension, spread over the ground a liberal mulching of rich manure and allow it to lie undisturbed. Neither digging nor forking is admissible between Raspberries unless the rows or stools are wide apart, then only in the spaces at the greatest distance from the crowns, the soil immediately around always being occupied with abundance of fibrous roots which cannot be disturbed without injury.

Pruning and Nailing Wall Trees.—Attention may now be given to pruning, training and nailing wall trees, commencing with Cherries and Plums. The Kentish or Morello Cherry requires a considerable amount of nailing or tying in, the fruit being borne best on young wood of the previous year's formation. Therefore plenty of such should be reserved during the summer, and the old bearing shoots, as the fruit is cleared from them, gradually cut out. Frequently, however, there is neglect in cutting out the old shoots before the leaves fall, but it ought to be done as it enables the reserved shoots to ripen. Annual pruning serves also to maintain the trees in a compact form by inducing wood to be originated closer to the main branches.

It is the best plan to completely unnailed or untie the trees, and after pruning out all superfluous and weakly shoots, cleanse the trees with an insecticide, also wash the walls. Repair any large holes or crevices in the latter by filling up with good mortar or cement. Refuges and harbours for insects are thus most effectually done away with. Then refasten the trees, disposing the main branches over the walls so as to leave ample space for the bearing shoots which may be trained in 3 to 6 inches apart.

Dessert Cherries and Plums.—These fruits are grown most frequently on trees having permanent branches trained in a given form and furnished with spurs. Upon the whole, fan-trained trees are the best, owing to the convenience with which worn out branches can be replaced by young wood from suitable parts. In addition to the spurs young growths may, when space permits, be laid in, such wood commencing to bear the third if not the second year. A succession of much useful fruiting wood can in this way supplement the spurs, endeavouring to prevent either crowding the other.

In pruning, shorten the extensions from the spurs to within an inch of the base, or to the third or fourth bud, choosing a wood bud in order that there may be some wood extension as well as fruit bud development. It is important that the spurs be sufficiently far apart to avoid crowding, the admission of light and air regulating the capability of fruit-bearing to a large extent. The same applies to elongated spurs which have extended too far from the wall or main branches. These should be gradually reduced. Young trees in the course of forming spurs can, by judicious attention from an early period in their existence, be kept more at home.

FRUIT FORCING.

Vines.—*Early Forced Vines in Pots.*—Stout, well ripened canes, with plump buds, and given a short rest, only answer for early forcing. The Vines require a light, airy, efficiently heated structure, which may be a lean-to or span-roof, with the ends east and west. A lean-to of 6 to 7 feet 6 inches width will accommodate one row of plants in front; a span-roof of 10 feet width may have Vines on both sides. If hot-water pipes are at the front of the lean-to and at the sides of the span-roof the Vines may be stood over them, on tiles or slates. The tiles or slates become heated and transmit the warmth to the pots, which are kept more or less warm at their base, and the roots are not prejudiced by the heat. The tiles or slates throw off much of the water or liquid manure supplied to and escaping from the pots, so that there is no risk of a surfeit of steam, and the water running on the floor keeps up a genial moisture as well as supplying ammonia to the atmosphere when liquid manure is used.

Span-roofed pits or lean-to structures facing south and having sunk paths in the centre or at the back of lean-to and three-quarters span, and beds in which fermenting materials may be placed, answer admirably, contingent on their having the necessary hot-water pipes to afford top heat for forcing Vines in pots. Pedestals of loose brickwork should be formed in the beds so as to raise the pots to the requisite height and prevent sinking, as would be the case were the pots stood on the fermenting material. This is essential, whether the Vines are trained to trellises 12 to 18 inches from the glass or coiled round stakes where there is no trellis, or the Vines are required for decorative purposes when the Grapes are ripe. Vines in pots and restricted thereto afford excellent fruit with judicious feeding, but if weight and quality of Grapes are desired the apertures in the pots should be enlarged and some turfy loam placed within reach of the roots. The loam may be placed against or on the pedestals of loose bricks, and the roots will follow the liquid manure given, and the turf hold its manurial elements, so that the roots will send up plenty of support for the Vines.

Oak or Beech leaves are the best to afford bottom heat. They produce

a genial warmth and regular moisture in the early stages, and rich stimulating food when the demands of the Vines are greatest. The house must now be ready and the plants placed in position. The canes should be kept horizontally, or have the ends depressed if necessary, to insure their breaking evenly from the base upwards. Vines started now will afford fruit fit for table in April. For early work none is better than Black Hamburg and Foster's Seedling. White Frontignan forces well, but the fruit is small, though the quality is excellent, and Madresfield Court is one of the best forcing varieties and first-rate in both appearance and quality.

Early Forced Planted-out Vines.—To have ripe fruit in May with certainty the house must now be closed. This more particularly applies to young and vigorous Vines, that do not, as a rule, start into growth so quickly as those that have been forced for a number of years. This applies equally to Vines that have not previously been subjected to early forcing. To produce a soft humid atmosphere and to economise fuel a good ridge of fermenting material may be placed on the floor or inside border and be turned at short intervals, additions being made as the heat declines. Old Vines will not need depressing, but it is a good practice to lower them until the buds break before securing them to the trellis. This is not necessary when the Vines are spur-pruned, unless they are young, then the canes or rods will need to be brought into a horizontal or depending position over the hot-water pipes or fermenting material, where they can be well syringed with tepid water slightly in advance of the temperature of the house. The temperature of the house may range 50° at night, 55° by day, and 65° on bright days. The outside border should be protected from wet and frost by a covering of leaves and lights, or by other approved means.

Houses Cleared of Grapes.—Attend to the pruning directly the Vines are leafless and the Grapes cut. If the Vines are vigorous, have made stout short-jointed wood, thoroughly ripened and the buds plump, they may safely be pruned to a couple of buds. If, however, the lowest buds are small, and the Vines have not from similar buds in previous years shown fruit freely, or not given bunches as large as desired, the shoots may be left a little longer, pruning in all cases to a plump bud on thoroughly ripened wood. The pruning bud should be round (not flat), as that affords a close compact bunch of well set berries with stout footstalks, and these generally finish well. Large flat buds usually permits large uneven bunches of Grapes, the berries setting irregularly, and swelling unevenly, rarely colouring satisfactorily. Pointed buds, as a rule, are not prolific in Grapes, the "shows" having a tendency to develop into tendrils.

The house should be thoroughly washed, the glass cleaned inside and outside. Free the Vines from loose bark, avoiding close peeling and scraping, and cut away all "snags." Wash the Vines with soapy water 3 ozs. of softsoap to a gallon of water, using a brush, and if there has been any mildew or other fungoid pest, follow with a solution of sulphate of iron, 10 per cent. = 1 lb. to a gallon of water for young and smooth-barked Vines, and 15 per cent. = 1½ lb. to a gallon of water, for rough or untrimmed Vines, reaching well into every angle and crevice with care and judgment. Limewash the walls, adding a good handful of flowers of sulphur to each pailful of limewash, painting the house and trellis if necessary.

Remove the mulching or loose soil down to the roots and place on a couple of inches thickness of fresh loam, mixed with a tenth of unslaked lime, a quart of bonemeal and two quarts of wood ashes being added to every barrowload. If the loam be very light add some clay marl dried and reduced to powder, using about one-sixth. When the roots are deep raise them nearer the surface, and lay them in fresh material, such as the following. Turfy loam, cut 2 or 3 inches thick and chopped up moderately small, ten barrowloads, add to it a barrowful of old mortar rubbish, two bushels of "nuts" charcoal, one bushel of wood ashes, and half a bushel in equal proportion of soot and bonemeal. If the loam be light add three bushels of clay marl. Incorporate all the ingredients well together. The compost may be used as a surface dressing, as it is good alike as a rooting and feeding area. If the houses must be used for plants they should be kept cool, admitting air freely, not exceeding 40° to 45° by artificial means. Admit air freely on all favourable occasions, and where there are no plants keep the house open in all but very severe weather, as a few degrees of frost will not injure the Vines.



THE HABITS OF BEES.

By the introduction of the Italian Alp bee about 1860 bee-keeping in this country became completely revolutionised. It was not difficult to see in the "yellow jackets," when let loose, that they possessed properties unknown in the original British bee. Their movements were much quicker, both out and inside the hive, while they gathered honey from many flowers that the natives never visited, and made weight in autumn from the red Clover, which the natives never did, although they appeared to do so. Explainable from the fact that the new-comers had longer tongues by which they could reach the nectar of deep-tubed flowers. We soon encountered the difficulty of keeping them pure, and had to be constantly importing fresh blood.

Shortly after their successful introduction it was difficult to get pure Italian imported queens. Being bred in Lower Italy, where the common bee abounds, many crosses were imported into this country as pure Italians. This lowered the enthusiasm of many, who abandoned them; but the race of bees in this country were greatly improved, which has had more to do with the large yields of honey than anything else. In six or seven years later the mild tempered Carniolans were successfully introduced, which in some instances had longer tongues than the Italians, but, unlike the latter, were more hardy, while they were as good or even better flyers, being seen between three and four miles from their hive. Like the Italians, they had the same quick movements, especially when on the flowers, quite different from the native black or brown bee, while their honeycomb was always of a pure white nature, without the objectionable disagreeable pungent taste of the honey gathered by some varieties, probably being less inclined to store pollen in the same cells with honey. The form of the Carniolans is not unlike the Italians, while the colours are widely different, being fawn, a light fawn to a silvery grey on the edge of the segments, with inside of a bluish colour altogether different from the native bees, although it has been asserted by modern experts that they resembled each other. The queens of the Carniolan race are the largest of any, and of a beautiful light chestnut colour. They are the best homers of any kind, will not enter other hives, and with difficulty can they be induced to leave the old site if their hive be moved out of its original position. This faculty is the only one approaching the nature of the black bee. The Cyprian, Syrian, and Holy Land bees were quite distinct varieties, the Syrians being the most beautiful of all the yellow banded bees. All the above varieties were good honey gatherers when kept in large hives, but worthless when in too small ones. As a rule, they were mild tempered as other yellow banded bees; but at times, when near swarming or irritated by injudicious manipulation, became very spiteful even at long distances from their hives.

It is somewhat difficult to describe the real nature of Punic bees, being peculiar and changeable; but without doubt they are the best honey gatherers of all the different kinds of bees. They never loiter their time on flowers which have no honey, but are ever in search of it, and this in a country where none can be gathered till far in the season militates against them, preventing increase greatly at the time it should be taking place. Unlike the Carniolans they enter other hives at a considerable distance from their own, which makes it imperative to have stocks set wider apart than other varieties.—A LANARKSHIRE BEE-KEEPER.

MARKETING HONEY.

REPORTS are to hand from bee-keepers in various parts of the country complaining of the difficulty they have in finding a market for their honey. But do we as bee-keepers individually bring those business qualities to bear on the subject that is so essential in the successful management of any enterprise, however small? I fear not. One has only to go into some of our provincial markets, and note the rough and ready way in which honey is offered to the public, to realise the fact that there is room for much improvement both in the samples offered and the way it is presented for sale. Of late years a slight improvement has been noticed, and much good has been done in this direction by agricultural societies and others offering prizes for honey in various forms; also by practical bee-keepers helping and advising their less fortunate neighbours. One of the chief causes of not finding a ready market for our produce, is owing to the large quantities of the foreign article that is sold in this country under the name of honey, and readily bought by the public on account of its cheapness.

On the 7th inst. a deputation of lady bee-keepers presented the Lady Mayoress with a representative collection of British honey, contributed by women bee-keepers, or the wives and daughters of bee men in various parts of Great Britain. Monsieur Langee, President of the Swiss Bee-keepers' Association, who happened to be in London, was also present, and stated "that the adulteration of honey, or what the Swiss call artificial manufacture of hotel honey, was carried on to an enormous extent, and he very much regretted the fact." Coming from such an authority it should have due weight, and until something is done to stop the sale of such a product as English honey British bee-keepers should be on the alert and endeavour to place their honey on the market in an attractive form. All honey should be graded, whether required for the wholesale or retail trade; for the former the patent self-opening tins to hold 28 lbs. are of useful size, and for the latter the 1 lb. screw capped glass jars are preferred to the tie-over jars, and as those of English manufacture can now be obtained at a cheap rate, they are within the reach of all. These are much sought after by the Italian warehousemen in our large towns, and if neatly labelled will add to their appearance, and be a mark of genuineness. Comb

honey should be in 1 lb. sections, and have a neat appearance if glazed, but this will add to their cost. Some dealers prefer them in this form, and will pay extra for them.—AN ENGLISH BEE-KEEPER.

TRADE CATALOGUE RECEIVED.

T. S. Ware, Tottenham.—*Miscellaneous Plants.*



* * All correspondence should be directed either to "THE EDITOR" or to "THE PUBLISHER." Letters addressed to Dr. Hogg or members of the staff often remain unopened unavoidably. We request that no one will write privately to any of our correspondents, as doing so subjects them to unjustifiable trouble and expense.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Bee subjects, and should never send more than two or three questions at once. All articles intended for insertion should be written on one side of the paper only. We cannot reply to questions through the post, and we do not undertake to return rejected communications.

Dressing Ivy Leaves (D.).—A preparation known generally as frost powder is sold by most nurserymen and horticultural sundriesmen for the purpose you mention. Directions usually accompany the packages.

Carnations and Tomatoes (No Name).—We have received diseased specimens of these plants from an unknown correspondent. If he will send his name and address, in accordance with our rules, the matter shall have prompt attention.

Winter Queening Apple (F. D.).—The correct name of this Apple is Winter Quoining. It is known also as the Winter Pearmain and Sussex Scarlet Pearmain. Fruits are eligible for competition in either classes for kitchen or dessert Apples. We can quite understand a collection of dessert Apples, including the variety named, being placed outside the charmed circle of prizewinners because of the superiority of competing collections, but we cannot understand why judges should go out of their way to brand with "disqualification" such an exhibit as you mention.

Dendrobium Wardianum (W. S.).—The leaves of Dendrobium Wardianum sent do not indicate anything wrong, as this is a deciduous species, that is to say it loses its leaves at the end of the season's growth. D. nobile, on the other hand, though not strictly evergreen, usually retains the foliage for at least one year after it is produced, often flowering while the leaves are quite green and fresh. If your plants of the former have made good growths it is now quite time for the foliage to be falling. Allow this to come off naturally and make no attempt to forcibly remove it. When all has fallen keep the plant quite dry at the root in a fairly dry and cool house, but where the night temperature does not fall below 45°, until the flower buds begin to burst the sheaths early in the new year; then place again in the warm house, but do not give much water until the form of the buds can be distinctly seen, after which there is no danger.

Transplanting Rose Trees in House (X.).—The most likely cause of the Niphotos Roses failing on removal was injury from frost, last winter being unusually severe, and the plants tender from being grown previously under glass. Another likely reason is that this Rose is much more vigorous when planted out than grown in pots; consequently the check would be considerable, and unless carefully removed and the tops cut back so as to counterbalance the loss of roots there would be danger of drying from evaporation, and weak or no growth. We have, however, moved this and other Roses grown for cutting purposes when much longer planted than yours. The only precautions taken were to lift them carefully, and lay them in in the usual way in a cool house until the borders were re-made, and then plant them without delay in their new quarters. The soil being moist there is no need to water after replanting; but if dry give a little to settle the soil about the roots, yet not making it sodden, for nothing is so injurious to replanted Tea Roses or Noisettes as an excess of water, as it prevents the cuts healing, and the water absorbed by these causes their decay. With the work done expeditiously, and the plants carefully lifted and replanted, they ought to take to the new soil kindly in the spring, being judiciously but not excessively pruned about the new year. Avoid heavy syringings at starting, and above all a wet condition of the soil. A house of Tea Roses lifted in that way gave us excellent results; indeed, the plants proved very much more profitable within the year than a similar house in which the trees were not lifted in consequence of the late flowering in winter.

Peat for Orchids (*Belgravia*).—The sample of peat sent is certainly not by any means a good one for Orchids. You have been misinformed with regard to its needing to be decayed before use; unfortunately the very best of peat decays only too quickly in the moist heat of an Orchid house. There is no difficulty in obtaining a good sample of Orchid peat from any of the well known firms that advertise weekly in this Journal. Of course, as the best material has to be selected the prices rule comparatively high, but this is a small matter when the health of valuable plants is concerned. It is obtainable either as cut and dried, or prepared for use by having all the sand and earthy parts removed, the latter being in most cases preferable.

American Walnut (*D. C. S.*).—The name of the tree to which you refer is *Juglans nigra*, the Black Walnut or Black Hickory Nut. In Loudon's "Encyclopædia of Trees and Shrubs," it is stated that the growth of the tree is remarkably quick, more so than that of the European Walnut. At eight or ten years of age it begins to bear, and age increases its fertility. No tree will grow under its shade, and even grass is injured by it. In forty years, in good soil, it will attain the height of from 50 to 60 feet. The heart wood, which is black, remains sound for a long period, when exposed to heat and moisture; but the sap wood speedily decays. When properly seasoned the wood is strong, tough, and not liable to warp or split. It is never attacked by worms, and has a grain sufficiently fine and compact to admit of a beautiful polish. The tree is universally raised from the nut, which after being imported, ought to be sown immediately, as it seldom retains its vital power more than six months after it has ripened.

Belladonna Lilies and Vallotas (*W. S.*).—The Belladonna Lilies in bud—that is, flower—ought to have pushed the scapes before this time, as the usual flowering season is from August to October, but the buds are probably only growths which do not appear until the flowering is over, yet the foliage ought now to be advancing, so that there is probably something wrong. It is not a good plan to keep the soil wet in the hope of inducing growth, as that often destroys the young roots, especially of dried bulbs. The Vallotas will not push their flower scapes until next August or September, but they will soon start into growth and grow more or less during the winter, but most in the spring and early summer, and on the maturation of that growth depends the flowering. This plant is an evergreen, and flowers with the leaves. It must not be dry at any time, so as to cause the leaves to become limp and turn yellow, but should have the soil moderately moist when not growing, and when in growth requires free supplies of water, always erring on the side of dryness than on that of soddenness. Due supplies of water are necessary, not giving any until needed, then a thorough supply. Grow in a light airy situation in the greenhouse.

Lily of the Valley Failing (*X.*).—We have carefully examined the Lily of the Valley crowns and found in each a perfect spike of flower in an embryo state, so that if they had received proper treatment there is no reason, so far as the crowns are concerned, why they should not send up good spikes. Allowing that it is to the welfare of Lilies to rest them prior to forcing, yet in your case the contrast from 9° below freezing point to 100°, and probably more, is exceedingly great, and they would doubtless have been better had they been placed for a short time in an intermediate temperature and thus brought on gradually. You do not say whether the crowns were exposed when placed in the forcing pit, as we have always found it necessary with the earliest forced crowns to cover them when brought indoors with a few inches of moist leaf mould or cocoa-nut fibre refuse to prevent the crowns becoming dry; as should this happen, even though there be abundant moisture at the root, the crown becomes hard and callused and refuses to open its outer folds to let out the flower spike. We have forced Lily of the Valley at this time of year successfully by following these lines. Box off the crowns on arrival, and place out of doors in an exposed position as you appear to to have done until required for forcing. When this time arrives cover the crowns with leaf mould or cocoa-nut fibre refuse and place the boxes in a moderately warm temperature, removing in a few days to the hot-bed, which may be of the heat mentioned, or even more; but it is an advantage to have the plants excluded from light, and the water used should be warm, in fact of a higher temperature than the pit in which they are forced. When the crowns start into growth remove to temporary covering and gradually inure them to the light, still of course maintaining the high temperature. Later in the season they will force with much less trouble, but to obtain flowers before Christmas is more difficult; by following out the above rules, however, we have never failed in obtaining a supply of good spikes with leaves before Christmas. As you have removed the boxes outdoors again it would not be advisable to attempt a second time at forcing them, though you might place them in gentle heat later. It is a good plan to take three or four boxes at a time into the forcing house, and by this means the supply is prolonged. If you have any left make a fresh start on these lines.

Names of Fruits.—*Notice.*—We have pleasure in naming good typical fruits (when the names are discoverable) for the convenience of regular subscribers, who are the growers of such fruit, and not collectors of specimens from non-subscribers. This latter procedure is wholly irregular, and we trust that none of our readers will allow themselves to be made the mediums in infringing our rules. Special attention is directed to the following decision, the object of which is to discourage the growth of inferior and promote the culture of superior varieties. In consequence of the large number of worthless Apples and Pears sent to this office to be named, it has been decided to name only specimens and varieties of approved merit, and to reject the inferior,

which are not worth sending or growing. The names and addresses of senders of fruit or flowers to be named must in all cases be enclosed with the specimens, whether letters referring to the fruit are sent by post or not. The names are not necessarily required for publication, initials sufficing for that. Only six specimens can be named at once, and any beyond that number cannot be preserved. They should be sent on the first indication of change towards ripening. Dessert Pears cannot be named in a hard green state. (*A. G. H.*).—1, Sam Young; 2, Not in condition; 3, Golden Noble; 4, Alexander; 5, Cellini; 6, Warwickshire Pippin. (*Formby*).—1, Beurré Capiaumont; 2, Not known. (*J. S. U.*).—1, Catshead; 2, Golden Reinette; 3, Not in condition; 4, Vicar of Winkfield; 5, Calabasse. (*W. G.*).—5, Reinette de Canada; 6, Northern Greening; 7, Dumelow's Seedling; 8, Coe's Golden Drop; 9, Norfolk Beefing; 10, shrivelled. (*T. P.*).—1, Not known, very peculiar flavour; 2, Beurré Diel; 3, Lord Derby. (*W. C.*).—1, An unknown French Pear; 2, Catillac; 3, Beurré Superfin; 4, Brougham; 5, Flemish Bon Chretien. (*G. G.*).—1, Autumn Pearmain; 2, Rotten; 3, King of the Pippins; 4, Lord Derby; 5, Adams' Pearmain; 6, Not known. (*W. S.*).—We are sorry you did not send fruits before. They were too soft when dispatched, and as the tin was not filled firmly we had only a jam-like mass to examine. (*J. A., East Yorks.*).—1, Golden Noble; 2, Mère de Ménage; 3, Not known, perhaps local; 4, Autumn Pearmain. (*P.*).—1, Ringer; 2, Spencer's Seedling. (*W. Crowder*).—Cornish Gilliflower. (*J. S.*).—Fine examples of the Gloucestershire Costard. (*W. W.*).—Beurré Capiaumont.

Names of Plants.—We only undertake to name species of plants, not varieties that have originated from seeds and termed florists' flowers. Flowering specimens are necessary of flowering plants, and Fern fronds should bear spores. Specimens should arrive in a fresh state in firm boxes. Slightly damp moss, soft green grass, or leaves form the best packing, dry wool the worst. Not more than six specimens can be named at once, and the numbers should be visible without untying the ligatures, it being often difficult to separate them when the paper is damp. (*J. S.*).—The flowering plant is *Ixora Fraseri*. The other plants are varietal forms, obtained from seeds, and not species. They can only be named by comparison in a large collection. (*W. U.*).—1, *Pteris serrulata cristata major*. 2, *Adiantum*, perhaps assimile; 3, *Onychium japonicum*; 4, *Adiantum formosum*; 5, *Pteris serrulata*; 6, *Adiantum Pacotti*. (*E. W.*).—1, *Daphne indica rubra*; 2, Either a *Lælia* or a *Cattleya*, but the specimen is insufficient for positive identification; 3, *Adiantum pubescens*; 4, A *Tillandsia*, species undeterminable. (*A Subscriber*).—*Datura Knighti*.

COVENT GARDEN MARKET.—NOVEMBER 20TH.

FRUIT.

TRADE keeps quiet; supplies lighter. No alteration.

	s.	d.	s.	d.		s.	d.	s.	d.		
Apples, per bushel	2	0	to	3	6	Lemons, case	35	0	to	45	0
„ Nova Scotia, per barrel.. ..	13	0	17	0	Pears, Californian, per case	13	0	14	0		
Gobs, per 100 lbs.	35	0	37	6	Plums, per half sieve	0	0	0	0		
Grapes, per lb.	0	6	1	6	St. Michael Pines, each ..	2	0	6	0		

VEGETABLES.

	s.	d.	s.	d.		s.	d.	s.	d.		
Beans, per lb.	0	4	to	0	6	Mustard and Cress, punnet	0	2	to	0	0
Beet, Red, dozen	1	0	0	0	Onions, bushel	3	6	4	0		
Carrots, bunch	0	3	0	4	Parsley, dozen bunches ..	2	0	3	0		
Cauliflowers, dozen	2	0	3	0	Parsnips, dozen	1	0	0	0		
Celery, bundle	1	0	0	0	Potatoes, per cwt.	2	0	4	0		
Coleworts, dozen bunches	2	0	4	0	Salsafy, bundle	1	0	1	6		
Cucumbers, dozen	1	6	3	0	Seakale, per basket	2	0	0	0		
Endive, dozen	1	3	1	6	Scorzenera, bundle	1	6	0	0		
Herbs, bunch	0	3	0	0	Shallots, per lb.	0	3	0	0		
Leeks, bunch	0	2	0	0	Spinach, bushel	1	0	1	6		
Lettuce, dozen	1	3	0	0	Sprouts, half siv.	2	6	0	0		
Mushrooms, punnet	1	0	1	6	Tomatoes, per lb.	0	3	0	6		
					Turnips, bunch	0	3	0	0		

AVERAGE WHOLESALE PRICES.—OUT FLOWERS.—Orchid Blooms in variety.

	s.	d.	s.	d.		s.	d.	s.	d.
Acacia or Mimosa (French)					Orchids, various, dozen				
per bunch	1	0	to	2	blooms	1	6	to	12
Arum Lilies, 12 blooms ..	2	0	4	0	Pelargoniums, 12 bunches	4	0	9	0
Asparagus Fern, per bunch	2	0	4	0	Primula (double), doz. spys.	0	6	1	0
Bouvardias, bunch	0	6	1	0	Roses (indoor), dozen ..	1	0	2	0
Carnations, 12 blooms ..	1	0	3	0	„ Tea, white, dozen ..	1	6	2	6
Chrysanthemum, doz. blms.	1	0	4	0	„ Yellow, dozen (Niels)	3	0	6	0
„ doz. bunches	3	0	6	0	„ Safrano (English),				
Eucharis, dozen	4	0	6	0	dozen	1	6	3	0
Gardenias, dozen	2	0	4	0	„ Red, dozen blooms ..	1	0	1	6
Geranium, scarlet, doz.					Smilax, per bunch	2	6	4	0
bunches	4	0	6	0	Stephanotis, dozen sprays	2	0	4	0
Lilac (French) per bunch	4	0	5	0	Tuberose, 12 blooms ..	0	4	0	6
Lilium lancifolium, twelve					Violets Parme (French),				
blooms	2	0	4	0	per bunch	3	6	4	6
„ longiflorum, 12 blooms	4	0	6	0	„ Czar (French), per				
Lily of the Valley, dozen					bunch	2	0	3	0
sprays	1	0	2	6	„ Victoria (French),				
Maideuhair Fern, doz. bchs.	4	0	6	0	12 bunches ..	1	6	2	0
Marguerites, 12 bunches ..	2	6	4	0	„ English, 12 bunches	1	6	2	6

PLANTS IN POTS.

	s.	d.	s.	d.		s.	d.	s.	d.
Arbor Vitæ (golden) dozen	6	0	to 12	0	Ferns in variety, dozen ..	4	0	to 18	0
Aspidistra, dozen	18	0	36	0	Ferns (small) per hundred	4	0	6	0
Aspidistra, specimen plant	5	0	10	6	Ficus elastica, each	1	0	7	0
Chrysanthemums, per doz	6	0	18	0	Foliage plants, var. each	2	0	10	0
Dracæna, various, dozen ..	12	0	30	0	Lycopodiums, dozen	3	0	4	0
Dracæna viridis, dozen ..	9	0	18	0	Marguerite Daisy, dozen ..	6	0	9	0
Ericas, various, per dozen .	9	0	24	0	Myrtles, dozen	6	0	9	0
Euonymus, var., dozen ..	6	0	18	0	Palms, in var., each	1	0	15	0
Evergreens, in var., dozen	6	0	24	0	„ (specimens)	21	0	93	0



CO-OPERATION IN FARMING.

SLOWLY but surely is the necessity for co-operative farming obtaining recognition, and before there is anything like a general attempt at such a method of reform, every aspect of it should be discussed, in order that the venture may rest on a sound basis, and risks of failure may be reduced to a minimum. It is very natural that the disposal of farm produce at a profit, by bringing producer and consumer in touch without the intervention of the middleman, should be regarded as a matter of primary importance; but of still more importance is it that this produce should first of all be brought up to such a standard of uniform excellence as to command the attention of consumers, and render them eager to purchase it.

How is this to be done? How can, for example, the butter, cheese, bacon of the British farmer be so offered to the consumer as to induce him to purchase it with avidity? Surely before the establishment of co-operative stores for the sale of home-grown, home-made produce, and before the making of light railways for collecting it, it would be, to say the least, prudent to see that the produce is worth collecting.

What but failure could attend the attempt to sell profitably the weekly supply of butter from 100 farms? Anything like an approach to uniform quality week after week, even in the butter of a single farm, would be most unlikely. No sound business could rest on such a basis; certainly successful co-operative sales could not, nor need they. Prevention and not cure is required here. First of all centralise the manufacture of such things; then, and not till then, can the principle of co-operation be applied advantageously to the sale of them. Some time ago we explained how admirably the making of butter, cheese, and margarine was done by a certain Company in a Border factory. Not only can this be done equally well at the farmers' co-operative factory, but the separated milk can be turned to account in the feeding of bacon hogs for the bacon factory, which we hope to see established in conjunction with creameries, under the co-operative scheme too. In these days of brisk competition we must look rather to the nimble nine-pence than the slow shilling, must produce a first class article, sell it, collect the money, and use it again as quickly as possible. Small profits and quick returns by all means, but let us see that most of the profit goes to the producer and not to the retailer, who builds up a trade on goods with the production of which he has no concern.

If it is possible by Act of Parliament to effect a change so desirable, let us have such a measure by all means, but then we don't think it is possible. If the Government can give us relief by a reduction of taxation of all kinds on the land, as we believe it can and will sooner or later, it will enable us to devote our means, time, energy, to setting our affairs on a better footing. But the co-operation that will eventually save the farmer, and make him to flourish like a green Bay tree once more, must be set going by farmers for farming, and not by anyone outside the ranks of agriculturists. We may well ask, What is the Royal Agricultural Society doing in a matter of such vital importance to the British farmer?

Knowing how slow the typical farmer is to move, how little he is given to change, ought not so wealthy and influential a society to endeavour to point the way? The prize farm scheme has worked well, why not a prize co-operative factory competition on a basis indicated by the Society? Every detail of the work might be made clear beforehand, such as the most suitable

locality, the requisite buildings and plant, the quantity of milk required, the number of cows, pigs, and poultry, the maximum distance of farms, the number of co-operators, the payment for milk by quantity and quality, a market for the produce, the amount of each share, and the amount of and date for each call on shareholders.

Let such factories be going in outlying districts in central positions commanding the milk of 800 or 1000 cows within a given radius, then run light railways through such districts to collect the butter, margarine, cheese, bacon, poultry, eggs, and other produce, all of the highest quality, and then, if you will, dispose of the produce at co-operative stores. Once set going, a high standard must be maintained, as it certainly can be if only we combine in co-operation on the lines indicated.

WORK ON THE HOME FARM.

The changing order of things has reversed the old motto of "Crop before stock," which had such weight with farmers in the palmy days when Wheat was at 60s. or 70s. a quarter, and the four-course rotation was so profitable. Now, stock before crop is our cry, but crop for the stock would be a wiser, because a more expressive term pointing to work on the farm—a changed system of management which has become a necessity. Cold and wet are now doing irreparable mischief among badly managed live stock.

Sheep in the muddy folds of Turnip fields, on tenacious soil softened by heavy rain, are suffering. If they are ewes heavy with lamb the strain which the mere act of walking on such land involves tends to abortion, the risk being accentuated by the consumption of large quantities of cold watery roots. Foot rot is frequently rampant among sheep kept under such conditions; the whole thing is a glaring example of gross mismanagement, involving much suffering among the sheep and serious losses to the flock owner.

Serve him right? Well, yes, it does. The farmer who allows such reckless work on his farm deserves to suffer. By no amount of argument can he prove such a wrong to be right, and if his losses are heavy from abortion the sheep are certainly more deserving of pity than he is. Keep pregnant ewes out of Turnip folds altogether, and if you have strong hoggets in such folds let them also have a change to some sound pasture daily, and keep all sheep off cold wet pasture now.

In the evening of November 14th we had a rather long drive to a railway station over hill and dale in Derbyshire. The day had been stormy, with alternations of heavy showers of rain and hail. It had cleared, the starlit sky and keen frosty air betokening a yet colder night. Yet we saw several cows lying down on the cold sodden pasture by the station. Exhausted by exposure to cold and wet through the livelong day, what must be their condition by morning on such a couch on a frosty night?

OUR LETTER BOX.

Poultry (J. F. W.).—At this period of the year—moulting season—eggs are very scarce, and it is only when fowls have "moulted-out early" that eggs can now be obtained. We have not heard of any complaints respecting bad laying yet, but often in former years poultry keepers have fed their fowls too well, the birds have put on fat, and naturally enough cannot lay. You do not say the age of your fowls. Possibly they are too old to be of any service.

METEOROLOGICAL OBSERVATIONS.

CAMDEN SQUARE, LONDON.

Lat. 51° 32' 40" N.; Long. 0° 8' 0" W.; Altitude 111 feet.

DATE.		9 A.M.				IN THE DAY.					
1895. November.		Barometer at 32°, and Sea Level.	Hygrometer.		Direc- tion of Wind.	Temp. of soil at 1 foot.	Shade Tem- perature.		Radiation Temperature		Rain.
			Dry.	Wet.			Max.	Min.	In Sun.	On Grass.	
		Inchs.	deg.	deg.		deg.	deg.	deg.	deg.	Inchs.	
Sunday	.. 10	29.735	53.1	50.8	S.	49.0	57.0	45.1	60.6	38.3	0.250
Monday	.. 11	29.310	50.2	47.3	S.W.	49.4	54.9	49.8	83.1	44.6	0.090
Tuesday	.. 12	29.224	47.3	44.9	S.W.	48.2	50.2	41.9	59.9	36.1	0.032
Wednesday	13	29.574	44.4	42.9	W.	47.1	55.0	41.6	84.9	35.2	—
Thursday	.. 14	29.836	48.2	46.7	S.W.	46.1	56.4	41.9	82.2	33.3	0.080
Friday	.. 15	30.055	45.3	43.8	E.	45.9	61.4	36.4	72.2	30.9	0.352
Saturday	.. 16	29.723	60.9	56.9	S.W.	47.9	63.5	46.1	87.4	42.0	—
		29.637	49.9	47.6		47.7	56.9	43.3	75.8	37.2	0.810

REMARKS.

10th.—Overcast, with occasional spots of rain in day, showers in evening; steady rain and gale at night.
 11th.—Bright sunshine till sunset; frequent heavy showers after 4.30 P.M.
 12th.—Overcast morning, with showers; sunny at times in afternoon.
 13th.—Almost cloudless throughout.
 14th.—Cloudy at times in morning, almost unbroken sunshine in afternoon; a heavy shower at 4.30 P.M., and clear skies again later.
 15th.—Fair morning; steady rain from 3 P.M. to 7 P.M., and gale at night.
 16th.—Showers early; bright sunshine from sunrise to sunset.
 Several days very fine and pleasant. Temperature of the week again above the average.—G. J. SYMONS.

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WORTH PLANTING.

PAUL & SON

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OLD NURSERIES, CHESHUNT,

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Alister Stella Gray.

The new Cluster Yellow Autumnal Climber, 3/6 and 5/-.

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9th November 1895.

"With the plants you have sent me, it will interest you to
learn, at the Exhibition held here, I was awarded the 'Grand
Prix d'Honneur,' i.e., the highest award over all other exhibi-
tors, a valuable Sèvres Vase, presented by the French President,
also two Gold and one Silver Medals. It was gratifying to
receive the assurance from all competent judges that nothing
finer than my display had ever been seen in Paris or elsewhere.
Amongst the most admired was your 'Sunflower.'"

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Journal of Horticulture.

THURSDAY, NOVEMBER 28, 1895.

PEACH TREE FAILURES.

THERE are certain subjects that always in-
terest readers, and foremost among these
I would place Peach culture in all its branches.
It is an old saying that "he who lives the
longest will see the most," and no doubt much
valuable experience is gained by those who
practise gardening in one spot for a consider-
able number of years. All the same I am
beginning to think that he who "knocks about"
the most, keeping his eyes open all the time,
will have a more varied experience. Some good
men there are who scarcely recognise the word
failure in the matter of Peach and Nectarine
culture, and there are some positions and soils
that are far more favourable to successful
culture than others. Allowance must be made,
however, for a want of experience, and also
for the unfavourable nature of some soils, as
well as for other difficulties which cannot always
be enlarged on.

During the past twelve months I have criti-
cally examined many Peach and Nectarine trees,
both in the open and under glass, in various
parts of the country, and have been repeatedly
asked the reason of certain partial or complete
failures. Less than a week ago I was consulted
on what promises to be a collapse of a number
of trees under glass, and I unhesitatingly told
the owner that it "served him right." Three
years ago I pointed out what would happen if
he insisted on having such exceptionally heavy
crops. There was a poor crop last season, it
will be poorer still next year. While the fruits
are no larger than Gooseberries they do not
appear to be very thick on the tree, even if
no more than 3 inches apart, but leave them
thus, or even 6 inches all over the tree, and as
a rule a great mistake will have been made.
A distance of 8 inches or 9 inches apart is
really a good crop, another 3 inches proving
none too much if extra fine fruits are desired.

When the trees are thus judiciously cropped
the fruit invariably proves superior to any had
from overcropped trees, while the former do
not suffer from an over-strain, their health and
vigour being sustained very many years accord-
ingly. If nothing but extra heavy crops will
satisfy the owners of trees, or if gardeners

cannot sum up courage enough to thin out freely, then ought the inevitable failures of trees to be anticipated and prepared for. Young trees and new borders are wanted, in particular having the former in readiness for transplanting to the place of those cut out. Nurserymen who make fruit trees a speciality can supply strong, well rooted, perfectly ripened trees capable of producing a dozen or more fruit the season following on planting; but those who have vacant spaces on their south garden walls would find it a better plan to prepare young trees for moving into the houses when wanted. Seeing how readily the trees move in the autumn, or while yet in leaf, no severe check is given them, and a moderately good crop can be had the following summer. The gentleman who last consulted me about his trees has no young ones prepared for house culture, will not pay a heavy price for large trees from the nurseries, and will have to be content with few Peaches and Nectarines during the next two years.

Gumming is another frequent cause of early failure of trees, and recently I have seen several apparently healthy trees affected by it, and which are very likely to fail before long. They had been planted in a moderately well made border, and treated well in all but one respect. As I saw them great lumps of gum or congealed sap had exuded in places throughout the stems, this including both the Plum stock and from 12 inches to 2 feet clear growth of Peach and Nectarine stem. This regrettable occurrence was plainly traceable to a neglect to examine the fastenings to the trellis and the wires used for fastening the labels to each tree. Owing to the stems having swelled rapidly the string in some cases and the wires in others had cut very deeply into the bark, and were drawn or cut out with the greatest difficulty. I have seen gumming under a variety of conditions, but nothing like this. Removing the cause may prove a remedy, especially seeing that the trees are young and the border far from being exhausted of fertility. The occurrence was partly the outcome of crowding a variety of pot plants about stems and trees that ought to have been kept clearer.

Gumming on isolated branches, or, it may be, of whole limbs, is the precursor of an inevitable early failure of that part of trees, other branches and limbs going the same way in due course. This disease is said to be infectious, and is certainly very difficult to combat. The germs of it may have already been in possession of the tree prior to leaving a nursery, or it may follow injuries the branches or shoots sustain through careless treatment—such, for instance, as driving a wheelbarrow against the stems, bruising the latter with a broom, fastening too tightly to wires, neglecting to allow for settlement of new soil, laying in coarse badly matured growths, and such like.

To me the disease more nearly resembles canker than anything else, the bark and wood gradually decaying at certain points, till at last the sap supplies are cut off, and branches well furnished with fruit cease to grow, and one day they are found flagging badly—never to recover. Some French experts are under the impression that stems and the older parts of branches are injured by undue exposure to fierce sunshine, and they protect these as much as possible with the aid of wooden troughs inverted against them, and also with haybands. This view of the case has presented itself to me repeatedly, but I cannot claim to have proven the correctness or otherwise of the theory. At the same time there is no denying the fact that Plum trees growing against walls which sunshine reaches only for a short time in the day during the longest days in the year lose their branches in much the same way as Peaches and Nectarines do, so that it looks more like a case of either gumming or canker. Planting and preparing young trees before the old ones are played out is again one way out of the difficulty.

There is no disputing the fact that the causes of many failures, partial or complete, of trees can be traced to the borders in which they are rooting or trying to root. If it is rich and loose at the outset then a gross habit of top growth is engendered, and a decidedly bad start is made. Later on, or after the trees are

beginning to crop heavily, we may easily err in the other direction, poverty at the roots leading to a starved, insect-infested, unprofitable top-growth. Most of us are aware what is most often responsible for "yellows" in Peach or Nectarine trees. It does not often show itself when the roots are kept active near the surface of the border, trees affected with the "yellows" having only long, deep running, fibreless roots. Some of our most successful growers lift and replant the bulk of their trees every autumn, others do it every second year, and still more probably have to be content with occasional liftings. We cannot do exactly as we would like, and many gardeners cannot obtain half as much fresh fibrous loam as they could use to advantage about fruit trees and Vines. Fresh soil does wonders, and if only we can keep our Peach and Nectarine trees rooting in this, and only just below the surface, there would be fewer failures from any cause—that is to say, neither gumming, canker, nor premature old age.—W. IGGULDEN.

SHRUBBERIES.

THE weather thus far has, with few exceptions, been favourable for advancing the work in this department. Much has to be done in renovating shrubberies in consequence of the severity of the last winter, succeeded by the abnormal drought of the summer. In other places the formation of new grounds and planting is now in full swing. To those with an inborn taste for landscape gardening, a little diversion in this respect comes as a relief from the ordinary routine of attention to fruits, flowers, and vegetables. It is, moreover, essential that the designer and planter should have an eye to discern into the future as to the ultimate effect produced by the things planted, so that when they attain to maturity the surroundings agree in regard to size, colour, and general effect.

To the casual visitor or resident entering public or private grounds nothing is more conducive to the tranquillity of the senses than to behold well-ordered grounds, each member of the Conifer, Taxad, Holly, or whatever it may be occupying its proper place, the taller-growing specimens in the rear and tapering in size down to the front, with sufficient space left between for each to be seen to advantage.

For planting there is an endless variety to choose from to suit every taste, but when selecting, those most adapted to the locality and site must be considered; though, as a rule, most Conifers will thrive fairly well inland provided that in wet situations the drainage is good, and the subsoil not of a deleterious nature should the roots be allowed by any means to penetrate it. The stately *Sequoia gigantea* should be accorded the premier place in single specimens about the grounds or lawns, as also the well-known *Araucaria* or *Monkey Puzzle*. Of Pines, *austriaca* is useful on account of its being very hardy; for a pleasing contrast comes *sylvestris* and others. Then there are *Aucubas*, *Taxads*, *Silver* and *Golden Hollies*, and various tinted *Retinosporas*. *Thuyopsis dolabrata* is much appreciated, as also are the smart-looking *Cupressus E. viridis* and *Lawsoniana*, and the *Biota orientalis*.

It would be an injustice not to name the deciduous family which are so ornamental with their various tinted foliage. Although much has been and is being written on the subject of planting, a few remarks on this point may not be out of place in conclusion. The two most common errors in this respect are planting too deeply and cramming the roots into holes which are too small. Neither should anything be planted if the roots are in a dry state, which often occurs during transit; they should be well soaked in a tub or cistern of water.

It will save a great amount of time, and of taking the tree in and out of the hole, to have a staff 6 feet in length sub-divided into feet and half feet, so as to measure horizontally the length of the roots. Thus the diameter of the hole required is easily obtained, and if 1 foot is allowed each way ample room will be insured. Placing the staff vertically an idea of the required depth may also be obtained. Before planting it is a good practice to place slates flat in the holes to prevent the roots from penetrating into what may be a clayey or injurious subsoil, covering them to the depth of a few inches before putting in the tree. When placed in the hole, before filling in any soil, it should be ascertained if the proper depth is secured. This can be done by placing the staff across the hole close to the butt of the tree; the safer plan is to put it to as near as possible its former level in the ground.

Each layer of roots should be drawn to full length, fine soil being worked in with the hands, also by gently moving the tree to and fro; if the soil is of a retentive nature make it moderately

firm, and more so if of a porous character. When the hole is about half full the addition of a little well-decayed manure will prove beneficial, and on the surface a mulching of leaf mould or half-decayed litter will protect from frost and drought. To complete the operation a suitable stake should be driven in, to which the tree is tied firmly, any soft material being wrapped round the stem to prevent friction.—P. W., *Nantwich*.

FRUIT IN RELATION TO HEALTH.

YEAR by year the importance of fresh fruits in connection with the maintenance of good health is becoming more fully recognised, and the more the free use of good sound fruit is indulged in the better—in my opinion, at least—will be the state of national health.

As one more especially interested in Grape culture, I would of course wish to impress on the public in general the immense value of good, fresh, well-ripened Grapes as articles well calculated to maintain the human frame in a sound and healthful condition. As a matter of fact, I may state that if a sufficient quantity of well-ripened Grapes be consumed no one need to apply to any aperient medicine. Tonics will not be needed, and a general good condition of health will be maintained, such as no doctor's drugs would ever insure.

Many other fruits as well as Grapes are calculated to assist in maintaining a healthful condition of the human frame, always provided that they be brought before the public in a sound and well ripened condition. Too much importance can hardly be attached to the value of fresh fruits, and also, let it be said, of fresh vegetables, in connection with the national welfare.

It is to be hoped that our horticultural societies, and also our Government, will do all in their power to foster and encourage the production of home-grown fruits and vegetables in such a condition that they will prove most thoroughly beneficial to the nation at large, and produce a better state of matters in connection with daily national life and health than has ever existed before.—JOHN THOMSON, *Clovenfords*.

FLOWERS, PLANTS, FRUITS IN THE HOME AND IN THE LIFE.

[Abridged from a paper by Mr. D. T. FISH, read at a recent meeting of the Horticultural Club.]

GENTLEMEN,—It may strike many of you that I have chosen the wrong season for my theme. It would have seemed so easy to discourse on such themes in the early springtime—of buds bursting into tenderness or blushing into beauty. . . . To get the most and the best out of the different seasons and products of the year we should ever be ready to welcome them all, and especially the spring as come at last, come for good, come to stay with us till its work is done. Thus shall the joy of spring flame into the splendours of summer and mellow into the glow of autumnal loveliness more beautiful than the tender green of the early month or the blushing glow of summer Roses. Then follow signs and symptoms of harvest. The Apples so plentiful this year are at once the promise and the consummation of our joy of harvest. The trees and branches are often broken down by the sheer weight of mellow fruits. Great heaps of Apples, green and gold, red and crimson, shine in the long grass, and all the air is laden with their rich perfume. The wind just stirs the burdened branches, and away they ever so lightly the ripe fruits fall in showers.

“On the grass laid on the fallow
Drop the Apples red and yellow;
Drop the russet Pears and mellow,
Drop the red leaves all the day;
And away, soft away,
Sun and cloud o'er hill and hollow
Chasing weave their web of play.
The sun is down, and soft blue mist is gathering
In the red heart of the Pines. And now
The shadows veil the meadows,
And the sunset's golden ladders
Sink from twilight walls of glory.”

Such is the poetry of Apple harvest home from thousands of gardens and orchards throughout rural England; and the harvesting or housing of the flowers is equally or more romantic, and full of poetry and pleasure.

Our love of flowers is different to that of most other things, and happily for our higher evolution and more perfect civilisation it is well-nigh universal. It is as strongly marked in the streets of London as in the most ideal lane or charming rural district. Daily it is becoming a

greater power in our homes and in our lives. The Moss Rose, bought for 1d. in the streets, becomes the centre of sweetness and light in many a dingy counting house throughout the business day. The bunch of Violets, Primroses, Valley Lilies, or a Gardenia in the buttonhole, are more and better than pleasure, they become positive inspirations to thousands. It has been finely said, We praise art, we commune with Nature, but we love the flower. Why? They are always kind, ever softly beneficent. They never lose their tempers; we can tend them without fear, fondle them without a shade of mistrust. The closer and the longer our comradeship, the more gentle and benignant we become in life and character.

It has been said that the flowers of the desert may bloom to please the brighter eyes of passing angels or their Maker. Be that as it may, they give of their service in sweetening our surroundings, yet all the while keeping themselves unspotted from the world. It may be said of each of these myriad workers as of the stars, Not one faileth to do its special work. Flowers, plants, fruits, vegetables, might have done this sanitary work in plain garb and in offensive ways; but here instead we have an infinite variety of loveliness, and endless fascination of beauty, fragrance, gentleness, and goodness.

One of the most potent results of what has been called not very happily decorative gardening (as if there could be any gardening that was not decorative) has been the turning of winter into summer, or rather the creation of a brighter, longer summer to crown the year from January to December with higher beauty and greater plenty. Thus partly has it come about that Covent Garden has become far and away the first and most important garden in the world. Here none of the best flowers, plants, nor fruit ever seem out of season. It would be quite bewildering were one to attempt to pile up the quantities or value of home and foreign flowers, fruit, and vegetables that pass through this one market in the course of a year. As to home-grown Apples, Pears, Plums, Grapes, Melons, Peaches, Nectarines, probably Mr. George Munro sells more in a day than the whole market did thirty years ago. Commercial horticulture has in all its branches of home and foreign produce advanced with leaps and bounds. Thousands of families in France, Germany, Belgium, and Holland are supported through the growth of bulbs, seeds, Azaleas, Camellias, Heaths, and Tomatoes for our English and other markets. A look into our auction marts in London and other large towns gives glimpses of the enormous business done in India and South American Orchids, Japanese Lilies, seeds, and fruits. And thus largely it has come to pass that few or none of the best and sweetest plants and flowers, the luscious fruits and the freshest vegetables, may not be had in and out of season in Covent Garden Market.

Order a hundred, a thousand, ten thousand Tea Roses, Gardenias, Eucharis, Tuberoses, Tulips, Narcissuses, Lilies, Stephanotis, and Bouvardias for Christmas decoration, with any amount of green garniture to match in the form of Maidenhair and other Ferns, filmy Asparagus, delicate Mosses, Grasses, glossy Myrsiphyllum, or other elegant foliage or variegated-leaved plants, Holly, Mistletoe, Ivy, and you shall have them. Or should anyone wish to try the solvent power of 5000 flaming crimson Poinsettia pulcherrima on our frost or snow-bound winters, one notable firm alone would be able to execute the order; and so with all other popular flowers which follow in crowding succession. This mere bird's-eye view of national horticultural resources is given here, and now to prove, if proof were needed, that should any lack flowers or fruit in their homes and their lives, the fault is neither in our climate nor their stars—but in themselves. We have only to open our doors and let the new beauty and richer and more luscious fruits come in.

Of late years, too, the homes may be said to have captured the gardens, as the gardens overflowed and largely possessed the homes. Practically, the result being very much the same, the charms of Nature, the allurements of Art becoming more pronounced in both through the closer union between dwelling house and garden. The rapid advance in elementary education, the establishment and development of technical instruction, the growth of continuation schools are among the best and first fruits, bringing more of Nature and of life into the hearts and homes of the industrious, as well as into the learned and leisured classes. Allow me to parody the refrain of the Jingo days, “We've got the men, we've got the ships, and we've got the money too,” into, We've got the land, we've got the plants, we've got the flowers, we've got the fruit, we've got the corn, and the roots too, and we're fast learning the art of disposing them to the best effect and using them with a minimum of waste and a maximum of force in the generation and conservation of physical, intellectual, and moral energy.

The place and power of my late friend Mr. John Wills as a home decorator and floral artist was never sufficiently recognised in his lifetime. It is easy to smile at some of his dissolving views in his bold attempts to place icebergs on our dinner-tables and environ our food and drink with rockeries of dripping crystal or half hide them under artificial snowdrifts. But he was the great pioneer in the artistic decoration of our dinner-tables, drawing-rooms, entrance-halls, staircases, windows, corridors with the choicest Orchids, fine-foliaged, variegated and flowering plants, bulbs, Palms, Mosses, and other greenery, thus raising the decoration of our homes to the dignity of a fine art. Some have said as a man eateth so is he. Encompass the child in his home with beauty, the probability is he will grow up gentle and good.

Then there comes the question of food—its production and its influence. Our present modes of producing food are most wasteful. Our wilful waste of wall space amounts to a national crime. It has often been asserted, without contradiction, that to feed a fat bullock worth £25 will consume the produce of 2 acres of good land for three years. The same land devoted to fruits, flowers, or vegetables for the same time would produce from £100 to £150 in the same time, or a return of £50 a year. There is probably even a greater disparity in value between the feeding properties of the vegetable and flesh products. The great want of the day is brain force rather than mere strength or endurance of muscle. And for the rapid generation of brain force we need more fruit as food, much of which we could grow around our own homes, to the richer clothing of our walls and the better and more varied supply of our tables. Having thus filled our homes with so much beauty each will be able to spare of its abundance to the ennobling and enrichment of the external world. We shall be able to see beauty everywhere, and to find it in everything. And soon we shall learn anew the great lesson that not only is all flesh grass, but all life and labour is also grass, plants, fruits, flowers, seeds, roots, and leaves. Flowers and fruit alone make home possible or worth living in or for. I lately said, in an address at the opening of the great flower show at the Crystal Palace, that the existence of animal life is only possible through the mediation of plants. No animal can satisfy one impulse of hunger without their help.

It is one of the greatest mysteries of inorganic chemistry that chlorophyll, the green colouring matter of plants, has the unique power among substances of breaking down minerals into food, or building them up in our living tissues. The great rock or stone breaker of our world is not Thor with his hammer of force, but green leaves, glowing flowers, and mellow fruits in their earlier stages of green babyhood with their convertive suavity. Chlorophyll is the peculiar possession of the vegetable kingdom, and forms the chief and only contact—the vital link between it and all the higher animals and their daily and hourly supplies of food. Every grain of matter before being eaten by man, or let us say, every movement of the body, every stroke of work done by muscle or brain, depends on the contribution of a plant or an animal that has already consumed a plant and converted the product into meat, cheese, butter, eggs, or other food and conveyed them to us all the same, only second-hand. Remove the vegetable kingdom, or interrupt the ceaseless flow of its unconscious benefactions, and the whole of the higher life of the world would stand still or end in death.

Flowers, fruits, seeds, and roots are our food. The flower, botanically, is the herald of the fruit—the fruit, botanically, is the cradle of the seed. The animal life of the world to-day is suspended on these. Withhold fruit, withdraw seeds, and the mighty pulse of animal life ceases to beat, the intellect to plan, the brain to think. For all animals in the long run live on fruits and seeds at first or second hand. Three-quarters of the world of humanity to-day live upon Rice. Of the other fourth, three-fourths live on grains, Wheat, Barley, Oats, Millet, Peas or Beans. Rice and all these are seeds, grains, garnered stores of starch, albumen, food rock which plants provided for and bequeathed for their offspring, and which we arrest on Nature's great highway of production and consume ourselves.

It is equally true of the fruits and roots, leaves, and other foods of the world as of the seeds and the cereals, that they come to us either directly or indirectly through plants. Our sugar and honey are but the sweet juice or nectar of our flowers, the Grape, the Peach, the Melon, the Orange, the Fig, the concentrated essence and strength of various food manufactures.

We owe our drink to the same agencies. Our water is distilled, distributed, and kept sweet and clean through the ministration of plants and flowers. Milk is but grass in a state of half-way transition between grass and beef. Our wines but the juices of the Grape and other fruits and vegetables. Our malt liquors and distilled spirits the product of growing embryos, sprouting grains, or the myriad living germs of fermentation.

But plants do more than feed and adorn us and our homes. They likewise build our homes and furnish material for all our trades and manufactures, as well as heat and motive force for the prosecution of our industries and our commerce. Timber is but the hardened tissues of plants, and iron rust is useless for builders and manufacturers until fused into strength and stability by the heat captured from the sunbeams garnered by primitive forests. The Flax plant is our linen, the Cotton plant our calico in the rough or in the raw state. Silk is but Mulberry leaves manipulated into new forms adapted for fresh purposes by a creeping worm. Our woollen drapery and broadcloths are but plant fibres after passing through a sheep medium, and then lightly tossed on their backs to keep them and us warm. Thus our apparel is mostly a matter of borrowed plumes after all—Fig leaves, Flax Grass, spears, or coats of skin, the dried tissues of plants and animals.

The rapid convertibility of plants, flowers, fruits, cereals, and grasses into other forces and products is one of the greatest wonders of the world. To-day it is a dry looking seed, driven by the wind across the surface of the soil, to-morrow it is a tender blade of grass, ripening hay, or corn. Anon, it is heat-working force in man or beast; by-and-by it will be the good bread, beef, mutton, pork, or pastry on our table. Yet a little longer it is the dew on the brow, the lip, the cheek of beauty, the flash or sound of genius from the eye or tongue of poet, philosopher, statesman, weighty thoughts struggling for utterance, or deepest feeling striving for expression, for it is literally true that all flesh is grass. And it grows through heat, hardships, and storm for us. Millions of

millions of living seeds have cold wet beds all winter that we may enjoy our toast and hot rolls for breakfast.

As to other missions and works of plants they preserve the heat, and maintain the purity of our great and good home the earth. Directly and indirectly they are our clothing, our fuel; but their sweet odours are also the most powerful conservers of the world's caloric. When we sleep on clear nights we should certainly be frozen in our beds were it not for the subtle veil of odours rich and sweet that plants silently spread between us and the open heavens, which breaks the energy of radiation, and so keeps us and our ministering angels warm.

The sanitary work of plants is equally vital to our health and life. We can hardly be too often reminded of its magnitude and importance. To them is committed the work of preserving the purity of earth and air. The latter especially is in imminent danger of being polluted below living point. Life, commerce, traffic, work, combustion, respiration, aggregation, decomposition are fouling forces of tremendous energy. Our health and life depend on the matchless constitution of the atmosphere being maintained inviolate. A ceaseless run is made in all these centres of life and hives of industry for oxygen. We can neither live nor work without it. The following forces are busy night and day in using up oxygen, and pouring streams of used-up and defiled carbon in its place; deficiency of oxygen in our air means death to us all. How, what shall we rally to the defence of our normal air?

We have no choice of instruments; we have but one—that is all-sufficient. Plants alone can drain away the excess of carbon, and renew it with fresh streams of oxygen. Every leaf, stem, flower is engaged night and day in maintaining this atmospheric equilibrium of seventy-nine parts nitrogen and twenty-one oxygen; and they have done their work so well that, notwithstanding the recent discovery of argon, the constituent parts of the air remains virtually the same. But where population crowds, there the plants and trees should thicken and open spaces become larger and more numerous.

In conclusion, permit me to say that plants are perhaps the only true patron saints left to us in these hard-working matter-of-fact utilitarian times. Their sweet perfume is the best of all antidotes to foul odours; their life and work is a perpetual warfare with matters and elements that would be death to us. Plants gladden, purify, and ennoble the highways and byways of life, providing for rich and poor, manufacturer and mill hand, prince and peasant alike, those grand preservatives of health—a clean earth, pure air, and clean water. The ministrations of plants are constant. They never leave or forsake us; they meet us on the threshold of life; they abide with us to the last. None too poor to enjoy flowers and fruit, none so rich as to be able to dispense with them. Through plants we live, and move, and have our being. They distil for us the breath of our life, they raise our water, they are our food, they make our clothing; they are our medicine in sickness, our solace in suffering, our strength in manhood, our sweet interpreters in love, our transfigurators at death—for are they not all ministering spirits, sent forth to minister to those who are the heirs of a common life and heritage? Through plants the worlds of matter and of life work are helpers of each other; indeed, the three kingdoms—the vegetable, the mineral, and the animal—are linked together in bonds close as those of holy matrimony. They clothe the invisible air, the wondrous light, heat, and chemical and elective forces, the living earth, and inergia of the sun with bodies of marvellous symmetry, beauty, sweetness, and glory. Ruskin, in his "Leaf Beauty of the Earth Veil," eloquently shows how paradise may be regained through following the lead and rendering the meaning into our own lives of the beneficent work of the life and ministry of plants.

LADY DOWNE'S GRAPE NOT COLOURING.

MY experience with such a Vine of Lady Downe's Grape as described at page 396 leads me to send a few notes, not that it may prove helpful or of any assistance to "J. J. C.," unless it be to make him more decided how to proceed. The formula advised in the last paragraph of the article in question, to be applied, may or may not prove of benefit. I have not tried it and have no occasion to do so now.

I experimented with such a Vine as the one alluded to for eight years, and at the end of that time I cut it out, having come to the conclusion that it was not worth further trouble. In fact, it was a worthless variety. What appeared all the more remarkable why this Vine should not produce good Grapes, although apparently, and it certainly was, in the best of health, was that its next neighbour, also Lady Downe's, produced Grapes of the best quality, without fault or blemish. So the fault could not be laid to the soil. The Vine was relifted twice, fresh soil added, with annual dressings of Thomson's Vine manure, but all to no purpose, for whilst the other Vines succeeded, and are still doing well—this Vine made no improvement as regards its fruit.

I may mention that the leaves of both the good and supposed bad variety take on the purplish autumn tint. The leaves may die off bright yellow in some cases, but I do not see why this should be given as the characteristic colour. Soils have a great influence in the colouration of Vine foliage, this being more marked during some seasons than others. On stepping into our late vinery recently I particularly observed the greater part of the foliage beautifully mottled with purple, and yet the bunches are of large size with even berries and excellently coloured. The soil might possibly be wanting in some constituents in the borders of your correspondent, but I do not think the colour of the foliage alone gives the key note to the defect referred to.—A. Y.



CATTLEYA MANTINI.

AT a meeting of the Royal Horticultural Society held on October 15th, and again at one on October 29th, Messrs. J. Veitch and Sons, Royal Exotic Nursery, Chelsea, staged a plant of a new hybrid Cattleya named Mantini, receiving on the former occasion an award of merit, and on the latter a first-class certificate. A bloom of this charming Orchid is portrayed by the illustration (fig. 76) which shows clearly the shape of the flower. Resulting from a cross between *C. Dowiana* and *C. Bowringiana*, of which the latter is the seed-bearing parent, this Orchid is certain to find many admirers, specialists having hailed its advent with much pleasure. The prevailing colour is an intense rosy purple, there being on the lip a blotch of bright velvety crimson.

ORCHIDS AT EDGBASTON.

AMONGST the several Orchid establishments in the neighbourhood of Birmingham, not the least important is that belonging to G. H. Kenrick, Esq., Edgbaston, and noted principally for the more choice and rare species extant. At the present time, however, it is not my intention to advert to the general collection there, but merely to remark that at the present period and for several weeks past the numerous plants of *Phalænopsis*, comprising such species as *P. amabilis*, *P. Stuartiana*, *P. Schilleriana*, *P. Esmeralda*, *P. Luddemaniana*, and *P. grandiflora*—the latter exceedingly fine—form a most attractive feature with their collective eighty-four racemes of delicate beauty, and which reflects much credit on Mr. Macdonald, the expert grower, under whose care the Orchids have been entrusted but for about the comparatively short period of a year. Suffice to say that the remainder of the Orchids, including a grand specimen of *Odontoglossum citrosmum*, and the general collection of the stove and greenhouse plants, bear evidence of high cultural skill and attention.—G.

NOTES ON PHALÆNOPSIS.

THESE beautiful Orchids have finished growing for the season, and a capital progress they have made. The foliage in nearly every case that has come under my notice has been characterised by that hard and firm appearance that experienced growers delight to see. The leaves are thick and substantial; they stand rigid, and if depressed they spring back readily to their place. They are also well coloured right to the axils, and the flower spikes of those that are showing are vigorous and healthy.

There is little to fear with plants of this sort during winter, for such will stand being kept much drier than would be the case were the foliage soft and flabby; therefore, when day after day passes without a glimse of sunshine they can wait. There is no need to water them until a bright morning, when they may have a good soaking, and most of the moisture about the bases of the plants will have dried up before nightfall.

With soft and unconsolidated plants, on the other hand, it would be unsafe to allow them to get really dry even for a day, for if no apparent harm was done at the time the probability is that the foliage would eventually be lost by getting loose at the axils in spring. The mode of watering now must be rather different to that practised in summer. At the latter season we generally take the plants down that are suspended under the roof, and dip them in a pail or similar receptacle, and although not immersing the foliage, we are not particular about a little water getting on it. But now it is of importance that the leaves are kept quite dry, so the plants are stood on the floor of the house and watered from the spout of a can or through the rose of a syringe, the latter for preference, as the water is forced more equally through the compost.

There is not a more floriferous class of Orchids in existence than *Phalænopsis*, and where the plants are not in very good health, or only semi-established, the production and maintenance of a large spike of flower is too much of a drain on their resources. Pinching the spikes out as they form is often resorted to in this case, but I have often found that when this is done secondary spikes are produced and the plant consequently still further weakened. Instead of this the spikes should be left until the flower buds are discernible, and the number then restricted by pinching. This precaution is of course especially needful for the smaller, more weakly growing, kinds.

As an instance, *P. Lowi* sometimes throws out flower spikes at the beginning of winter, it being, according to my experience with it, a very inconstant species in its time of flowering. These flowers, then, will be forming at a time when the energies of the plant are at the lowest ebb, and are often the cause of this kind losing most of its foliage in winter, a proceeding which, though I believe it natural to it in its tropical habitat, is certainly to be guarded against under cultivation. For this reason *P. Lowi* should be given the warmest position in the house during winter, and the sphagnum about the roots kept green without allowing it to grow too strongly, and therefore holding moisture in excess of the plant's needs.

Quite different to this is the robust-growing *P. Schilleriana*, which unless the plants are in really bad condition at the roots is seldom injured by flowering, and this and a few similar kinds are by far the most suitable in the genus for beginners in Orchid culture to experiment with. They require care beyond what is



FIG. 76.—CATTLEYA MANTINI.

necessary for the general run of pseudo-bulbous Orchids, but this is amply compensated for by their beauty when in blossom, and when once their culture is mastered they possess attractions innumerable, and are unrivalled in the whole Orchid family.—H. R. R.

MODERN GRAPE GROWING—TREATMENT AFTER STONING.

(Continued from page 410.)

AT the commencement of the second swelling it is generally desirable to give Muscats and late Grapes a somewhat higher temperature, in order to have them ripened in the autumn before the sun loses too much of its power, and yet, if the Muscats are to be kept, it is not well to have them ripened too early, for if we have much hot sun in September, and we frequently do, some of the berries are very apt to be discoloured.

If the foliage remains good, Muscats will continue colouring throughout October; but they must reach the stage in September, when they taste perfectly sweet. In a good season they will do this with ordinary temperatures, but in a cold wet one it is necessary to fire fairly hard. When not ripened too early there is a better chance of keeping the foliage in good condition late in the autumn, and this is very important for the following year's crop.

When "Colmans" are very large in berry, say $4\frac{1}{2}$ inches, it is almost impossible to fully colour them in September, and no one need be alarmed about it, for if the Vines are in good condition the fruit will continue colouring up to the middle of November. With most other varieties it is different; they take a shorter time to colour, and they do it better before the 1st of October than after.

As a rule all the varieties want a large amount of ventilation; but if there is any difficulty in keeping up the temperature, Muscats will do with less of it than other varieties, but Hamburgs and other early Grapes must have abundance of air. The skin of white Grapes is

transparent; we must therefore have the flesh coloured, and this cannot happen till the fruit is ripe. If, unfortunately, the skin of what should be black Grapes is transparent they will not be black at all, but something between a brown and a snuff colour. Black Grapes grown in the open air become quite black if they approach maturity. Black Grapes grown inside, with abundance of air and plenty of healthy foliage well exposed to the light, generally also become quite black if the houses are such as to prevent the possibility of too great and too rapid fluctuations of temperature.

On the other hand, what should be black Grapes if grown in a rather close atmosphere, such for instance as is necessary to ripen Muscats during a cool season, will swell to a large size, but the skin will be very thin, and probably red or some other undesirable colour. I take it then that a certain amount of exposure to the rougher elements is necessary to induce the fruit, for its own protection, to put on a thicker covering, and generally speaking the thicker and firmer the skin of any given variety the blacker it is.

During colouring, and especially the earlier stages of it, which with Vines that are not hard forced takes place during the hottest part of the year, much damage is frequently done by withholding moisture both in the border and the atmosphere. There is an idea handed down from our forefathers that water caused cracking, spotting, loss of flavour, want of bloom, and many other ills. I do not believe in any of this. It is true it has never been my fortune to have charge of a house of Duke of Buccleuch, and it is one of the things for which I often break the Tenth Commandment, so that I cannot claim to have had the amount of experience with this noble Grape that some of your readers have; but I have a strong opinion that it is possible to use a fair amount of moisture even for this variety both in the atmosphere and the border; but it must be applied at the proper time and in a proper manner.

I believe the mischief is done by closing with too much moisture, especially if the temperature is allowed to rise after shutting up or before opening. When a considerable amount of damping is necessary I always do it at the time of opening the ventilators or as soon after as possible, and if a second damping is required it is done not much after the middle of the day; then the superfluous moisture will be evaporated before closing time.

This is necessary for all varieties of Grapes if you would put the highest possible finish on them, and although there is a tendency just now to ignore finish for size I have great faith that it will again take its proper place. Let us have size by all means—I am strongly in favour of it—but let us have finish as well. I for one shall not be satisfied till I reach the highest possible point in both.

We read of Madresfield Court cracking badly, and the grower is given the stereotyped advice to "water sparingly and keep a drier atmosphere." Well, I have grown Madresfield Court with cracking and without. The way to make it crack is to withhold water, check its growth, harden its skin, then give it a dribble, and let the temperature rise a few degrees in the morning before giving air. The way to prevent it cracking is to grow it as fast as you can; never let it lack water with a little of something in it in the border. Moisture the atmosphere as I have indicated above; reduce ventilation gradually, and be rather too early than too late in putting it on in the morning.—WM. TAYLOR.

(To be continued.)

THE FLORISTS' TULIP.

[By JAS. W. BENTLEY, Hon. Secretary of the Royal National Tulip Society.]

DESCRIPTIVE CATALOGUE. (Continued from page 433.)

EARL DOUGLAS (Delaforce).—Bizarre. Pure; shape good. Much esteemed forty years ago by the Southern growers as a feathered flower, the marking colour being a rich glossy brown, and the yellow ground dense and bright. Syn., Bartlett's Wallace.

ELIZA (Hunt).—Bybloemen. Shape good; pure. A fine feathered variety forty years ago.

ELIZABETH (C. Gill).—Bybloemen. Shape good; base very yellow when the flower first expands, and is rarely bleached white. It is, however, a handsome looking breeder, the colour being a dainty pale lavender; of little value when rectified.

ELIZABETH (Cotterill).—Bizarre. Shape good; base pure, delicately feathered with red brown. No longer grown.

ELIZABETH (Jeffries).—Rose. Shape long; base yellow, and bleaches with great difficulty. A favourite feathered and flamed flower fifty years ago, but now discarded.

ELIZABETH PEGG (Camp).—Bybloemen. Shape good; base and filaments of exquisite whiteness. As a breeder it is excellent, the fine white base and the bold black anthers, with the petals of deep lavender, make the flower a model bybloemen breeder. As a feathered flower it can scarcely be surpassed, the rich dark feathering being continuous and beautifully pencilled; and as a flamed flower it is often first rate, the beam being of a deep violet shade. It is a vigorous grower, and increases freely, and was raised about twenty years ago by Mr. Camp of Swarkestone, Derbyshire, from Groom's Victoria Regina, and brought into notice by Mr. Pegg of Chellaston. Like Victoria Regina this variety has the grave fault of being easily injured by frost, and the tips of the outside petals are often disfigured by green patches from this cause. Syn., Pegg's Seedling.

ELTHRON (Lawrence).—Bybloemen. Tall, shape good; base very yellow, almost impossible to bleach; the flaming very correct. Obsolete.

EMILY (Lawrence).—Rose. Shape good; base pure. A well marked flamed flower, but so dark in colour as to be sometimes classed as a bybloemen. Much liked fifty years ago, but no longer grown.

EMMA (Ashmole).—Bybloemen. Shape good; base pure. A fine dark feathered bybloemen, much liked in Lancashire twenty-five years ago, but now apparently gone out of cultivation. A seedling from Louis XIV. Syn., Surprise.

EMPEROR (Goldham).—Bizarre. Dwarf, shape good; base pure; ground an intense yellow, marking colour bright red. This would have been a fine variety had it possessed correct marking, but as it almost invariably was badly marked it had to make way for better kinds.

EMPEROR NICHOLAS (Ashmole).—Bizarre. Shape good; pure; ground rich yellow, and marking colour bright red brown. A good bizarre, being excellent in breeder state, and useful as a flamed and also as a feathered flower. Its shy constitution has caused it to be neglected in favour of Dr. Hardy, which combines equal or superior merits with far more vigorous growth.

EMPRESS EUGÉNIE (H. Goldham).—Rose. Shape fair; pure; flamed with soft rose on good white ground. Of no particular merit as an exhibition flower. A seedling from Rose Brilliant × Lady Lilford.

ENCHANTRESS (Gibbons).—Bybloemen. Shape good; pure; flamed in the style of old Queen Charlotte, and first rectified in 1840.

ENCHANTRESS (H. Goldham).—Rose. Shape good; pure; flamed with red. It is too dark in colour to be of much account as an exhibition flower. A seedling from Maid of Falaise × Mary.

ESTHER (Strong).—Bybloemen. Dwarf; shape good; pure. A dark feathered variety much esteemed in the South sixty years ago. It first broke in 1827, and was figured in Sweet's "Florist Guide" in 1831. Incidentally it may be remarked that the carefully executed coloured drawings in Sweet's "Guide" form a valuable record of the Tulips and other florist flowers of those days. It is little to our credit that no similar publication exists now.

EVERARD (Bowler).—Bizarre. Shape good; pure; flamed with red brown on a good yellow ground. Fifty years ago it was so much esteemed that the late Mr. George Glenney gave £140 for the whole stock, which consisted at the time of seven bulbs. It is of no value now, being much inferior to Dr. Hardy.

EVÊQUE D'AMBOISE (Dutch).—Bybloemen. Shape fair; pure. A beautifully marked flamed variety much liked fifty years ago. The name is still retained in some Dutch bulb catalogues.

EXCELSIOR (Hardy).—Bizarre. Shape good; pure base, but filaments often stained. A red bizarre, generally seen in breeder state, when it is red-brown in colour. When broken, it is flamed, and can make a good flower, but is overshadowed by Storer's varieties such as Dr. Hardy and Orion. It blooms early, and is a vigorous grower and increases well. It was raised about thirty years ago by Dr. Hardy of Warrington.

FABIUS (Lawrence).—Bizarre. Shape good; base pure, filaments often stained. A heavy flamed dark bizarre, formerly in good repute, but not grown now.

FAIR FLORA (Buckley).—Bybloemen. Shape long; base creamy, well flamed with dark purple. A sister seedling to Beauty, and like it, obsolete.

FAIRY QUEEN (Slater).—Rose. Shape long; base pure. First broken in 1842, and was about that time much liked, both as a feathered and a flamed rose. At present it is of no importance, and very little grown.

FANNY (Camp).—Bybloemen. Shape good; base and filaments very pure. The breeder is much like Elizabeth Pegg; when rectified feathered the colour of the feathering is also like that of Elizabeth Pegg in colour, but not so much pencilled. At its best it is one of the finest varieties in existence, but it is unfortunately not very steady, having a tendency towards flaming. As a flamed flower it is of little value. A sister seedling of Elizabeth Pegg, it was brought into notice by the late Mr. David Barber of Stanton-le-Dale, Derbyshire, about ten years ago, and is still scarce.

FANNY (Tomlins).—Bybloemen. Shape good; pure. A large flowered showy flamed variety of little value now as an exhibition flower, although twenty years ago it was much esteemed.

FANNY KEMBLE (Clark).—Bybloemen. Shape fair; base and filaments extremely white and pure. A variety which made a great sensation as a feathered flower seventy years ago, and was so eagerly sought after that the late Mr. Davy gave £100 for it. At his death it was sold to Mr. John Goldham for £72 10s., the stock then consisting of one blooming bulb and two offsets. It is a shy grower, and has never become common. I saw this variety two years ago; it was flamed and valueless as an exhibition flower.

FANNY NEW (Goldham).—Bybloemen. Shape good; base pure; petals of stout substance. Best as a feathered flower, the feathering being jet black on a pure white ground. It suffers sometimes from the presence of breeder colour low down in the feathering, which when it occurs is a serious drawback. A fine variety, but excessively scarce.

FANNY ESSLER (Goldham).—Rose. Tall, shape good; base pure. A well marked flamed rose, formerly as famous (in Tulip circles) as the German dancer after whom it was named, and now as completely forgotten.

FAVONIUS (Battersby).—Bybloemen. Shape good; pure. A fine variety, beautifully feathered with lilac on a white ground. Mr. Battersby, a skilful raiser of Tulips, used to say that this was his finest variety. It is excessively scarce.

FAVONIUS (H. Goldham).—Bybloemen. A flamed variety of no

particular merit, although raised from such notable parents as Duchess of Sutherland (Walker) × Salvator Rosa.

FIRST-RATE (Spencer).—See SARAH ANN.

FIREBRAND (——).—Bizarre. Shape long and bad; petals narrow. An obsolete scarlet feathered bizarre, much grown in the North of England about fifty years ago.

FIREFLY (Horner).—Bizarre. A good red bizarre breeder, still undistributed.

FLEUR DES DAMES (Dutch).—Rose. Dwarf; shape good; base pure. A well marked flamed variety, highly esteemed fifty years ago.

FLEUR DE MARIE (Groom).—Rose. Dwarf; shape fair; base pure. One of the best of Mr. Groom's rose seedlings, much liked in its day, both in feathered and flamed states. The marking colour was cherry red on a good white ground.

FLORA MCIVOR (H. Goldham).—Rose. A flamed flower, which has never yet made any reputation as an exhibition flower; the marking colour is bright rosy scarlet on a good white ground. A seedling from Rose Brilliant × Mary.

FRANCISCUS PRIMUS (Dutch).—Bybloemen. A flamed variety, very highly esteemed by the London growers forty years ago. It is still catalogued by some of the Dutch growers, but whether correct or not in their collections I am unable to say.

FRIAR TUCK (Slater).—Bybloemen. Shape rather long; pure. A well-marked, flamed, and occasionally feathered variety. The colour is too rosy; but although it cannot be called a first-rate variety, it is still well worth growing as an exhibition flower.

FRIEND (Lawrence).—Bybloemen. Shape fair; base pure. Much esteemed fifty years ago as a feathered variety. The feathering was heavy, glossy, and almost black, and the white ground was good; it was therefore an universal favourite for many years. It was broken and named by Mr. Lawrence of Hampton from one of Mr. Clark's breeders. In 1844 the same breeder was broken by Mr. Browne, and named Jersey Wonder. Another synonym was Addison.

GANYMEDE (Thurstan).—Bizarre. Shape good; base and filaments pure. A dark flamed variety in the style of Polyphemus, but having a clearer yellow ground than that old favourite. A promising kind, certificated in 1894, and still entirely in the hands of the raiser. A seedling from Masterpiece × Sir Joseph Paxton.

GARIBALDI (Ashmole).—Bizarre. Shape good; base and filaments pure. A striking feathered flower, the feathering being a heavy rich chestnut-brown on a good yellow ground, which latter is, however, rather paler outside than inside the flower. A good grower, and a large flower which is somewhat inconstant in its markings, the feathering being often too heavy and lacking refinement. A very useful exhibition variety.

GARIBALDI (Headly).—Bizarre. Shape good; base pure. A dark feathered bizarre with a pale lemon ground. Not much grown now.

GARIBALDI (Hepworth).—Bizarre. Shape fair; base pure. A lightly feathered dark bizarre with a clear yellow ground, and sometimes is useful as an exhibition flower, although it cannot be called first-rate.

GAUNTLET (Hepworth).—Bizarre. Shape fair; pure. A red bizarre only of value as a breeder, as it is characterless when broken. Syn., 100/64.

ANTHRACITE COAL.

IN reply to the inquiry by "W. S." on page 455 of the *Journal* re anthracite coal *versus* coke, I may say that personally I am greatly in favour of the anthracite, and much prefer that sold as cobbles. It has advantages over coke, firstly in being much more lasting, requiring less than half the attention of the latter; secondly with the fiercest fire there are scarcely any clinkers; and thirdly it is cleaner, as being smokeless there is no soot to corrode the boiler. In stoking anthracite the fire must be thoroughly cleaned out first thing every morning when the fire will be at its lowest, and in the case of saddle boilers see that the back of the boiler is cleared of all small ashes. After the fire has been made up all that will be required until the following morning will be to clear the fire from under the bars. I know of no other fuel so clean, economical, and that requires so small an amount of attention.

If "W. S." uses the large lumps and finds much small accumulating from breakage, he might try the very economical way the Welsh people have of utilising the same by treading equal quantities of clay and small coal together, adding a little lime and rolling into balls. Lime may be omitted, but the carbon contained in it naturally clears the fire. Fires banked up with this mixture will last for twelve hours and are beautifully bright and clear.—C. FOSTER, *Aberpergwm Gardens, Glyn Neath*.

WE have had four boilers going from October till May for the last six years, using nothing but anthracite, and have saved £10 per year over coke. From coke you have a fierce fire, which lays hollow, burns much quicker, requires more feeding, and during severe weather the fire must be attended to early in the morning, or it will go out. Anthracite requires a quicker draught. When stoking draw the poker under the bars.—W. G. DROVER.

I FIND the yearly cost of anthracite and coke about the same. The advantages in favour of anthracite are—much cleaner, steadier heat, less carting from the wharf, which is nearly six miles from here, and less stoking, the latter item being greatly in its favour.—JAS HAMILTON, *Burton-on-Trent*.

IN the "City Press" of Saturday, January 6th, 1894, at the end of an interesting article, "The City and the Coal Trade," occurs the following:—

"A City rector, living not a hundred miles from Wardrobe Chambers, Queen Victoria Street, is a firm believer in this kind of coal, and uses it regularly, but when during the recent coal strike he distributed some to needy old ladies living in his parish, he was besieged with complaints respecting its obstinacy to burn. Upon diving diplomatically into the real nature of the opposition to anthracite he discovered that the old ladies wanted, as usual, to continually stir their fires, and it appears that if there is one thing more than another which upsets the combustible equilibrium of this particular coal it is continual poking and stirring. Thus it happened that while the estimable City rector was prepared to swear by anthracite coal the impecunious old ladies of his parish swore roundly at it."

It is amusing, but not true, so far as to being "besieged with complaints respecting its obstinacy to burn." So far from complaining, all to whom I gave the coal expressed themselves highly in its favour. The oldest of the "old ladies," aged eighty-six, one among others whom Mr. Fyde Rogers (Secretary to the City Coal Kitchen) and I visited, in order to see how they could get on with anthracite in their small open fireplaces, said it was "beautiful coal," and there it was burning brightly, and that she had had no difficulty in lighting it.

I can number now several converts to anthracite among my friends, who on first trying it did not quite like it. It is invaluable in sick rooms, burning brightly, noiselessly, no smoke, no dust, keeping in all night. This has been my own experience during an attack of influenza. A fire made up at 10 P.M. was alight at 8 A.M. next morning, without having been touched all night. Anthracite coal is for all, but especially for those living in cities; far better than bituminous coal, more economical, cleaner, and requiring less attention. Suitable for stove, church furnace, kitchen range (we bake excellent home-made bread in ours), or open fire grates, especially those that have fire-brick and a blower. This is my experience after three years' use of it.—P. CLEMENTI SMITH, *Rector of St. Andrew-by-the-Wardrobe, London*.

Mr. Clementi Smith also informs us that a civil engineer paid a visit to Wales, in order to glean all possible information respecting the properties of anthracite coal, and returned convinced of its many advantages. He found that not only for big boilers, but also for ordinary grates, this coal was superior either to bituminous coal or coke, combining slow and certain combustion with perfect cleanliness.



"ROSARIANS' YEAR BOOK."

WE understand that the forthcoming issue of the "Rosarians' Year Book" will contain a paper by the Rt. Hon. Lord Penzance, on the "Hybridisation of Sweet Briar Roses."

ROSE NIPHETOS.

I ENCLOSE for your inspection leaves of Rose Niphetos, which attracted my attention when on a recent visit to Messrs. Perkins & Sons' Nurseries at Coventry; also examples of the ordinary form. The former were gathered from a robust plant in a pot amongst hundreds of others of the original form. The leaves, as you will observe, have much more deeply serrated edges than the latter, the prickles on the shoots also much larger, and the plant altogether somewhat more robust in habit; but its flowers are hardly of so pure a white, the petals being suffused with a tinge of green. Messrs. Perkins are puzzled as to its history, or where it came from, and regard it only as an interesting novelty. Possibly the variety in question may be known elsewhere—W. G.

[The leaves are quite dissimilar. The plant may be the result of sportiveness.]

THE FOX AND THE ROSES.

A CORRESPONDENT writes:—Mr. Machin of Gateford Hill, near Worksop, who is a staunch fox preserver as well as a rosarian, was out with Viscount Galway's hounds on the morning of the Chrysanthemum show at Worksop. He rode to covert with the huntsmen and hounds and made it known to the former that Reynard nightly prowled along the walks of his rosarium (1½ acre in extent). Mr. Machin explained that he had to go home early to be present at the opening of a show at Worksop, and expressing his anxiety for fear Reynard should lead his pursuers amongst his Roses. Sure enough Mr. Machin's cause for anxiety was not without foundation, for whilst he was away at the Worksop show, one of his coverts (one that has never been drawn blank for four years) provided a fox which ran straight through his rosarium; luckily taking his line up a border that had just been cleared ready for replanting. Over the fence went the hounds, but very few luckily ran in amongst the newly planted quarters. Several sportsmen, who did not know of the presence of a field of Roses, were just going to jump the fence into it, but were prevented from doing so by a friendly warning "Ware Roses." Oldly enough Reynard ran to ground in a rabbit hole within 5 yards of the rosarium.



EVENTS OF THE WEEK.—One of the latest Chrysanthemum shows will be that at Alderley Edge on the 29th and 30th, though the National Chrysanthemum Society holds one still later at the Royal Aquarium, the dates of which are December 3rd, 4th, and 5th.

— WEATHER IN THE NORTH.—The close of last week was an improvement on the preceding three days, which were dull and occasionally very wet. There was a slight frost on Saturday morning, and since then the days have been dry, though generally dull and cold. Tuesday opened with the promise of a fair day with E. wind, and the thermometer at 40°.—B. D., *S. Perthshire*.

— WEATHER IN LONDON.—The weather in London during the past week has been cold, stormy, and wet. On Friday last there was some rain, while on Saturday morning snow fell in one or two districts. Sunday, Monday, and Tuesday were cold owing to high north-easterly winds; while on Wednesday it was mild, and small rain fell throughout the day.

— DEATH OF MR. JAMES WALTERS.—We very much regret to learn of the death of Mr. James Walters of the Mount Radford Nurseries, Exeter, which occurred on the 20th inst. Mr. Walters was widely known and respected, and his death will be mourned by many friends. His age is not mentioned in the notification we have received.

— INCANDESCENT GAS LIGHT AND PLANTS.—I am anxious to have the incandescent gas light fitted in my conservatory, but am afraid it is injurious to plant life, although the agent assures me it is not. Have any of your readers had any practical knowledge of the light in plant structures? if so, I should feel greatly obliged if they would favour me with their views through the medium of your valuable paper.—INCANDESCENT.

— WHITE CYCLAMENS.—We have received from Mr. W. Rapley, Harrow Weald House, a few blooms of white Cyclamens that show what an excellent strain of seeds this able gardener has. The flowers were large in size and pure in colour. The few leaves enclosed were of wonderful size and substance, and the cultivation of Cyclamens, which seems to have terrors for many gardeners, is evidently thoroughly understood by Mr. Rapley, who, we understand, secured the special prize for six Cyclamens at the recent Watford show.

— THE NUDE JASMINE.—This hardy shrub or deciduous climber, if it really be such, is just now opening its first flowers in many situations. It seems odd that what we commonly term the earliest to bloom of all shrubs outdoors should be really the latest of the year, but we do not quite count flowering seasons as beginning in January. Rather they commence now, because there is an undoubted interval between the disappearance of the latest of really hardy shrub or plant bloom, and the opening of the flowers of *Jasminum nudiflorum*. Hardy as this shrub is, however, its bloom often suffers from sharp frosts; hence it seems as if a little protection to plants well in bloom might worthily be given at night, even though we have nearly all the winter before us. Still the opening of the Jasmine flowers is cheering and encouraging. Soon those of the *Forsythia*, *Pyrus japonica* and the *Daphne Fortunei* and *Merezeum*, and these bring with them the spring once again.—A. D.

— DEATH OF MR. R. GILBERT.—It is with profound regret that we learn of the decease of Mr. R. Gilbert of Burghley, who died of bronchitis and other complaints on 22nd, aged seventy-five. He commenced gardening as a boy at Worksop Manor, then the property of the Duke of Norfolk, and worked his way upwards through many changes of fortune by indomitable energy, pluck, and perseverance. He was one of the kindest men known, always delighted to help his young men and others in every possible way, generous beyond his means to all in distress, and always meeting his friends with a fine spirit of good fellowship and pleasure. One of the best growers of fruit and vegetables, he won many prizes and medals while he competed, including Messrs. Carter & Co.'s 50-guinea challenge cup, the highest prize that has been offered for vegetables. He only survived his old master the late Marquis of Exeter a few weeks, and had filled the position of head gardener at Burghley for twenty-seven years.

— DEATH OF MRS. BRUCE FINDLAY.—Much regret was expressed at the Manchester show on the 22nd inst. at the absence of Mr. Findlay, who was unable to be present through the death of Mrs. Findlay, which had occurred on the previous day. The deepest sympathy is felt for him and his family.

— SEASONING FRUITS.—A correspondent writes:—"Apropos of Mr. Fenn's daughter and her letter from Greece, which appeared some little time ago in the *Journal of Horticulture*, I may say that I have for years and years preferred pepper to sugar for Melons and Strawberries. A little cayenne pepper mixed with the pounded loaf sugar brings out the flavour of the Strawberry wonderfully. Black pepper with Bananas is also well worth trying."

— POTATO FINGERS.—The same correspondent adds:—"My cook says she is glad that all Potatoes are not like the one illustrated on page 493 last week, as it is not at all 'handy' for practical purposes." We shall anticipate our Hibernian by saying, "But shure if the cook herself is handy she can turn the one Pratie into five, and serve as Potato fingers."

— JUDGING VEGETABLES AT BIRMINGHAM.—Apropos of the judging, especially of the vegetables, at the recent Birmingham Chrysanthemum show, it was noticeable as one of the principal factors recognised by the judges in the making of the awards, were "medium size and neatness." Especially did this apply to such products as Potatoes, Cauliflowers, Beetroot, and others—a striking contrast to the adjudication observed at more than one leading exhibition during the past season elsewhere.—G.

— THE HESSLE GARDENERS' MUTUAL IMPROVEMENT SOCIETY.—At a meeting of the above Society held in the Parish School Rooms, November 19th, a paper was read by Mr. J. H. Barker, gardener to W. B. Burkinshaw, Esq., West Hill, on "Cattleyas." Commencing with a short account of their first introduction into this country, Mr. Barker described his mode of dealing with imported and established Cattleyas, also some practical hints on watering, temperature, structures best adapted to their welfare, insects and diseases to which they are liable, with the best means of overcoming the same; also the different varieties and their several requirements.—F. L. T.

— SECOND CROP POTATOES.—You may be interested in seeing the accompanying tubers of Sutton's Windsor Castle Potato, which are a second crop produced this year from one set. This set was planted on April 19th, 1895, the first crop was lifted on June 21st, and weighed 5 lbs. of good tubers. The old set being very firm was again planted on July 1st, and lifted yesterday (November 11th, 1895), when it had produced another crop of twelve tubers, which are sent herewith.—SUTTON & SONS. [We have often planted tubers of Ashleaf Potatoes, which have ripened in July, and had a good supply of "new Potatoes" from them in the autumn. The tubers of Windsor Castle received are quite ripe, a good proportion of the proper size for cooking, and of the almost faultless shape for which the variety is famed. We have not before seen examples of it similarly grown.]

— A PRETTY SHOW OF GARDEN PRODUCE.—Whilst it is a fact that stern limitations in schedules prevent the display of taste in the arrangement of garden products at shows, there is some scope for this evidence of taste when exhibits are of a honorary nature. At a conversation held in the Albany Hall, Kingston-on-Thames, last week, Mr. A. Dean, through the kindness of numerous friends, was able to arrange a group that was, in no spirit of Jingoism, described as British grown garden produce, and which elicited the warmest admiration. The table was some 16 feet long and 4 feet wide. The central feature comprised grand *Alisa* Craig Onions, fine *Paranips*, Carrots, Beets, Turnips, and Potatoes. Between these and along the back of the entire table were splendid Chrysanthemum blooms in variety, set up with evergreens in tall Hyacinth glasses, the back row being elevated, thus carrying the group up to meet the pretty plants employed to decorate the front of the platform. In front of these flowers, and on either side, were arranged plates of very fine show Potatoes, and fronting these superb kitchen and dessert Apples, with some fine Pears. A few small table plants gave grace to these, and amongst the plates was laid leafage of *Mahonia*, *Bux*, and other evergreens, thus presenting a pleasing finish and a charming effect. It is surprising to find how wonderfully attractive ordinary garden produce can thus be made, and it is a pity that schedules do not break away from the ordinary rut, and encourage more this form of grouping. In this case the persons present came to look again and again, so attractive was the arrangement.

— ELDERBERRIES AND STRAWBERRIES.—Is your correspondent "Old Traveller," (p. 478), quite correct in his statement about "Elder bushes with a profusion of purple-black fruit," by the road side on which he was travelling to see ripe early Strawberries? The two fruits do not, I believe, ripen at the same time on this side of St. George's Channel. I have no memoranda respecting the Elder, but I should say the time of ripe Strawberries is nearer its flowering time.—T. S.

— WEEDS THAT MIGHT BE USEFUL.—There are two plants regarded as weeds in America that might become useful vegetables under cultivation. One is the wild Lettuce, common on the plains, which may be gathered in abundance in spring. It resists heat and dryness remarkably well. The other is the *Astragalus crassicaulus*, whose prolific seeds partake of the flavour of the Haricot, Asparagus, and Salsafy. It is ready in the beginning of May. Most of our succulent vegetables have a humble origin. Out of the many thousands of wild plants only a hundred or two are used as food, but selection and cultivation would no doubt render many others edible.—("Echo.")

— PRUNING SHRUBS.—The Kingston-on-Thames authorities, or those of their Committees who control their gardens, seem to have wretchedly vicious notions as to shrub pruning. Not only on their fine riverside promenades, but also all round their recreation grounds the same practice prevails of shearing over all shrubs, evergreen and deciduous alike, to one monotonous and unnatural rounded form. This gives a really hideous aspect to what should be pleasing and beautiful. The gardeners seem to have no knowledge of pruning knives, or of thinning and pruning to preserve natural growth, yet keep shrubs in bounds. Their knowledge, or at least if not theirs then that of their employers, seems limited to shears or secateurs, through the agency of which trimming abominations all this formal rotund clipping is performed. A few lessons or lectures on shrub and tree pruning would hardly be wasted in Kingston.—D.

— FARM, ROOT, AND VEGETABLE SHOW.—Sir Thomas Wright opened Messrs. Harrison & Sons' annual farm, root, and vegetable show at Leicester recently. Owing, it was stated, to the excessive tariff imposed by the Markets and Tolls Committee, the venue of the exhibition was changed from the Market Hall to Messrs. Harrison's seed warehouse on the Welford Road. There a splendid collection of roots and vegetables was on view, thanks to the excellent list of prizes offered by the firm. There were seventeen classes, and the show was open to all England, the chief condition being that the exhibits (except Potatoes) were to be grown from seed supplied by Messrs. Harrison. The entries were more numerous than usual, some of the specimens being also much finer than at previous exhibitions, especially the Celery, Carrots, and Mangolds. The Corporation Sewage Farm Committee showed some remarkably good samples of Mangolds, one of which weighed 24 lbs., while another was a yard in circumference. The Judges for the roots were Mr. T. Stirton, estate steward to Lord Northbrook, Stratton Park, Hants; and Mr. J. Burnett, farm steward to Earl Howe, Gopsall; and for the vegetables Mr. John Miller, Mitcham, Surrey; and Mr. James Cousins, East Ville, Bristol. The opening ceremony was attended, in addition to Sir Thomas Wright, by his Worship the Mayor, Ald. E. Wood; Ald. G. T. Coleman, Ald. G. Collins; Messrs. J. F. L. Rolleston, G. Ward Ward, J. W. Sanders, T. Nuttall, J. T. Ardron, J. Glover, W. T. Blatock, Longwill, J. Johnson, S. A. Kirkman, C.C.; Burnard, C.V., Hartley; W. H. Chamberlin, J. B. Waring, and others. Mr. John Harrison introduced Sir Thomas, who, in opening the show, complimented the firm on their development of public interest in that branch of business. The exhibition was a good object lesson for root and vegetable growers. He noticed there were some exhibits there grown by working men which were extremely creditable to them, and if only such exhibits stimulated still more the feeling in favour of market gardening, which Leicester had already shown a fondness for, Messrs. Harrison would be conferring a special benefit on the community. There were thousands of acres of land round the town which were not producing very much, though perhaps as much as the means of the occupiers enabled them to. If the Corporation could acquire that land or a portion of it, they could convert it into allotments, and be thus conferring a benefit on men who were cooped up in factories and other places during the daytime. The Mayor congratulated Messrs. Harrison upon their enterprise and success. Mr. Harrison returned thanks for the remarks of Sir Thomas and his Worship, presenting the former with an album of Leicester, illustrated, as a souvenir.

— POTATO JEANIE DEANS.—"J. P." writes:—"Last spring a gardening friend gave me four medium size Potatoes, and on April 22nd I cut them into twenty small sets and planted them. On October 2nd I lifted them, when they yielded 99 lbs., some of the heaviest weighing 2 lbs. 1 oz. each; but they are not very perfect in shape, although I find them good in quality."

— WAKEFIELD PAXTON SOCIETY.—At the last meeting of this Society Mr. George Gill presided, and Mr. Thomas was Vice-Chairman. Mr. W. E. Corden, storekeeper at the West Riding Constabulary Depot, Wakefield, gave a very interesting account of his holiday trip from Liverpool to London, graphically describing the splendid coast scenery, and also incidents of the vessel's calls at Falmouth, Plymouth, Southampton, and Portsmouth. A trip of this sort was, in Mr. Corden's opinion, far more beneficial than a sojourn at a seaside place, and it could be done very cheaply as well.

— FLORA OF PERTHSHIRE.—The late Dr. Buchanan White devoted much of his leisure to the preparation of a "Flora of Perthshire," which he hoped to publish in the course of the current year. His lamented death in December last prevented its completion by himself, but he left it in a state that permits of its immediate publication. Arrangements have, says a contemporary, been made for the book to be issued on behalf of the Perthshire Society of Natural Science and Professor Trail, F.R.S., who has undertaken to edit it, will preface it with a sketch of the author's life and scientific work.

— HUNNEMANNIA FUMARIÆFOLIA.—If seeds of this beautiful Papaveraceous plant be sown now and wintered over in a cold frame, the plants will flower abundantly next season. This is one of the few plants common in our gardens which seem to revel in very hot weather. If planted out in a sunny, well drained border it very soon attracts attention by its finely cut glaucous leaves and large *Eschscholtzia*-like flowers. It is, says a transatlantic journal, a native of Mexico, presumably the coldest parts, as plants without protection have undergone zero weather without hurt; nevertheless, it is well worthy a little extra care in the way of winter protection. Its period of blooming is from midsummer till frost.

— DEATH OF PROFESSOR HELLRIEGEL.—We learn with regret of the death of Professor Hermann Hellriegel, at the age of sixty-four, removes the discoverer of the important fact that leguminous plants are capable of absorbing free nitrogen from the air, through the agency of micro-organisms existing in the nodules on their roots. During his career he devoted his attention almost exclusively to researches dealing with chemical and physiological questions relating to the nutrition of plants. For some years he acted as Director of the agricultural experiment station at Dahme, Brandenburg, and after occupying other positions, made the great discovery of his life at the experimental station founded by the Verein für Zucker-Industrie, jointly with the Government of the Duchy of Anhalt.—("Pharmaceutical Journal.")

— THE FORESTS OF GERMANY.—These, says a contemporary, extend over a fourth of the area of the whole country, and are all under skilful management. Baron Herman states that there is scarcely one tree in the whole of the Fatherland which is not known personally to a forest officer, and which has not been sown or planted with more or less care and labour. The whole area of wooded land is almost equally divided between State, community, and private persons, and it is thought that this is a very good state of affairs, the commonwealth being in that way well interested in its parts as well as in the whole, in the affairs connected with the forest growth. This, of course, influences legislation, and although laws concerning the forests are not passed in the Reichstag, but in the Parliaments of the individual States, there is scarcely a part of Germany where one is allowed to cut down a forest and not plant it again without the permission of the Department of Forestry. The forests are managed by hundreds of forest officers, and these are educated at special colleges for forestry, there being no less than eleven in Germany. The theoretical study at these colleges lasts generally four years, not counting the time a young man has to spend in learning practical work in the woods. The comparatively long time a man requires for this training shows how very much the science of forestry has been developed in its different branches in Germany. After a man has passed his examinations he may often have to wait several years before he obtains an appointment; but the love of the woods, the poetry which time has woven around the solitary *forsthans* amidst the trees and animals of the woods is so great they do not mind waiting a long time.

— **CIMICIFUGA JAPONICA.**—This Japanese Bugwort is very showy just now in the herbaceous border, where its tall pure white flower spikes make a pleasing display at a time when the regular occupants of the border are somewhat scanty in their flowering. In manner of growth and almost in the formation of the flower spikes this plant resembles *Actæa spicata*, but it is much superior to it. This *Cimicifuga* grows from 3 feet to 4 feet high.—M.

— **ACACIA PLATYPTERA.**—This plant is well adapted for pot culture, and, like most of the *Acacias*, is of easy culture. After flowering the plants should be cut back and kept syringed so as to make them break freely. When the plants are growing the worst enemy is thrip; a good syringing with tobacco water will rid the plants of this pest. To insure a good crop of flowers stand them outside during the summer months, so as to ripen the growth. If this is omitted the result will be a lack of flowers.—T. J.

— **CORNELL UNIVERSITY.**—In the Horticultural Department of Cornell University, in addition to the courses formerly given, among the new subjects to be taken up next year are: (1) the literature of horticulture, including what has been written of plants in cultivation in all parts of the world, with reviews of periodical literature; (2) greenhouse management and construction; (3) floriculture; (4) the botany of cultivated plants; (5) theory and practice of spraying plants. These courses, in connection with those of pomology, landscape gardening, the propagation of plants, and handicraft, will make, says the "Garden and Forest," the horticultural course in Cornell very complete and attractive.

— **TEA IN ASSAM.**—Statistics relating to Tea culture in Assam, made up to the end of last year, show that there were then 823 Tea gardens against 794 on the same day in 1893. Figures are given showing the area under mature and immature plants, and the total area held under Tea grants for each year since 1881, and from these it appears that the area under mature plants has increased each year in the period, from 133,293 acres in 1881 to 229,316 acres in 1894. The area under immature plants has increased from 25,134 to 39,480 acres, and the whole area under Tea grants from 706,649 to 1,059,237 acres between the same dates. The estimated yield of Tea for 1894 was 94,829,059 lbs., or 414 lbs. per acre, against 94,219,904 lbs., or 426 lbs. per acre, in 1893.

— **LOOK AHEAD.**—As the season is now drawing to a close it is the best possible time to prepare for another season's work. We can now plainly see what will be desirable for another year. To that end we should not only take an inventory of our own garden, but of others, in order to see what there is of special merit that we may have overlooked. If we find anything desirable make a note of it, and how much space we want it to occupy. At the same time see if there is not something we have grown for years that can be discarded for something better. Now is the time to make a note of any changes that can be made for the better. When the spring fever of gardening comes on, and the pulse beats high, it seems to require immediate relief, and we are too apt to look after spring or early summer flowers. The present only is considered; if the garden only starts off well in the spring it matters but little how it will look in the autumn. Many do not realise the fact that each flower has but a limited season of beauty, or how important it is to have our arrangements so perfected that there will be beauty in the garden at all times.—("American Gardening.")

— **ELECTRICITY IN PLANT GROWTH.**—Lieutenant Stuart-Smith suggests a reason for the great variation in the plant growth when there is but little apparent difference in the climatic conditions; he also offers a possible explanation of the action of light in producing chemical decomposition. In connection with the first part he states that bare wires placed in the ground, so that the current passing between them tends to pass through the roots of the plants, will greatly enlarge the roots of certain vegetables and the tops of others; and he suggests that earth currents, such as are known to exist, might have such an effect on the crops. A carefully kept record may possibly show that over a large area during some years these earth currents may be much above the normal, while during other seasons they may be much below, and an examination of the crops might show heavy and light crops during those periods. Some correspondence has been found between crops and sun spots, and he suggests that earth currents may be the cause, as they certainly correspond with the activity of the sun. He then discusses at some length the effect of light on plants, and offers an explanation of the action of light in producing chemical decomposition on the basis of a true resonance effect.—("Electrical Engineer.")

— **BLOOD POISONING AND CHEMICAL MANURES.**—In the province of Brandenburg a strange malady broke out among the country people, their hands being swollen in places, and sometimes so inflamed that amputation was necessary. It was ultimately discovered that the labourers thus afflicted had been scattering chemical manure on the fields. This manure contains Chilean saltpetre and chloric salts, and these stuffs penetrating small wounds or scratches on the hands of the peasants had caused inflammation of the lymph vessels and blood-poisoning. Chemical manure ought, therefore, to be carefully handled.

— **MIGNONETTE.**—Although Mignonette is a great favourite with most people, and much frequented by bees, it is not cultivated to the extent as it might be, nor in a manner to prolong its flowering. Treated as a hardy annual it is seldom seen in bloom before the end of July, but when treated as a biennial it may be had in flower from the end of April or the beginning of May in the open ground, just as the plants have been treated. I used to preserve the plants in frames, and sometimes in dry sheltered positions the whole winter, and when spring came had only to plant them out in any vacancies in the flower garden.—T. W.

— **HYPERICUM ADPRESSUM.**—This herb, with slender rigid stems, slightly woody at the base and about a foot high, spreads rapidly by underground stolons; and a bit of the root planted in good soil will become at the end of a couple of years a dense mat 4 or 5 feet across. It has lanceolate bright green leaves and terminal few-flowered cymes of small bright yellow flowers. It grows in rather moist soil, and is distributed from the island of Nantucket, off the coast of southern Massachusetts, and Rhode Island southward. Its compact habit, low stature and ability to spread rapidly, suggest that this pretty little *Hypericum* may be a good plant to cover the ground of shrub beds.—("Garden and Forest.")

— **THE VITALITY OF SEEDS.**—On this subject it seems there are to be those fluctuations we often find amongst scientists. The old stories of "Mummy Wheat," and others, which were said to show the long time seeds might retain their vitality, have for some years past been held to be unworthy of belief. But Sir W. Thompson did, as far back as 1870, suggest whether the seeds of plants might not have reached our earth in *aërolites* from other planets, which would be favourable to a vitality of a good many years. Just now, Professor Italo Gigliolo of the Royal Agricultural School of Portici, near Naples, has stated, that from experiments made, he believed the life of seeds may be prolonged indefinitely. So that after all the germination of seeds taken from ancient tombs may be a fact.

— **PLANTS WITH DIFFERING LEAVES.**—Many aquatic plants, such as the Water Buttercup and the Water Crowfoot, have aerial and subaqueous leaves; the former flat and the latter minutely subdivided into slender spines. In the Shepherd's Purse the leaves on the lower part of the plant differ in shape from those of the upper. The Australian *Eucalyptus globulus*, or Blue Gum, has broad and nearly circular bluish leaves in the earlier part of its growth, and at maturity long, narrow, dark green leaves. Lastly, a twining plant, called by botanists *Dischidia Rafflesiana*, has little flat, shield-like leaves, and others which are curled up into the shape of pitchers. The common Ivy has different leaves on its climbing stems and its flowering stems; those on the former are rather triangular, and those on the latter are oval, but pointed lancewise at the ends.—("Rural World.")

— **A PLAGUE OF GARLIC.**—In his report on the agriculture of Bedfordshire, Mr. Hunter Pringle calls attention to a remarkable change which has taken place on some of the heavy clay soil to the north-west of Bedford town. Not only the arable land, but recently established pasture have been overrun by Garlic or wild Onions. This abominable weed grows from a bulbous root, and it possesses such a powerful odour that it taints the grain of any corn with which it may have been gathered, besides rendering the straw unfit for fodder. Wherever it exists on pasture land the stock will not graze, and from the statements made to him by the farmers on whose land he saw it, Mr. Pringle was led to believe that all attempts to obliterate it by fallowing have failed, and that it is increasing in quantity and widening its area of occupation every year. Whether the growth of Garlic may be favoured by any particular variety of season Mr. Pringle is unable to say, but he is of the opinion that if nothing can be done to eradicate such an objectionable pest, land subject to it will sooner or later become useless for agricultural purposes.—("Midland Counties Herald.")

— PICTURES AT KEW.—The large lake in the Royal Gardens, Kew, was forty years since a disused gravel pit, and during the past four decades Sir W. Hooker, Sir Joseph Hooker, and Mr. W. Thiselton Dyer have each in his turn done something with a view to transform the hollow into a picturesque mere, with wooded banks and a Sedge and Rush-grown margin, on which moorhens and other waterfowl may disport themselves. Their success in forming and beautifying this stretch of water is admirably shown in the collection of pictures by M. and Madame de l'Aubinière, now on view in the "North" gallery in the gardens. These artists have during the past few years devoted the greater part of their time to painting views of the lake and its surroundings, and they hold the opinion that they have not exhausted its beauties. The collection contains eighty-seven pictures in oils and water colours, and should not be missed by visitors.

ROYAL HORTICULTURAL SOCIETY.

DRILL HALL, NOVEMBER 26TH.

THE exhibition, held under the auspices of the Royal Horticultural Society on the above date, was a very small one, though as large as could have been expected at this season of the year. Orchids were very sparsely staged, and the exhibits before the Floral Committee consisted mainly of Chrysanthemums. Fruits were fairly well shown, while a handsome collection of green vegetables was staged by Mr. G. Wythes.

FRUIT COMMITTEE.—Present: T. Francis Rivers (in the chair); Rev. W. Wilks, with Messrs. H. J. Pearson, J. H. Veitch, A. Cheal, G. Norman, G. Reynolds, H. Balderson, T. Fyfe, W. Bates, G. Wythes, J. Hudson, A. Dean, F. Barron, and J. Wright.

Mr. G. Wythes sent fruits of a seedling Apple Christmas Pearmain, but it possessed no marked characteristics, and was passed. Mr. Wythes also sent a tuber of a white Jerusalem Artichoke, but it was not considered superior to others in cultivation. Then from the same cultivator was placed on the table well-shaped tubers of a new early seedling Potato, which was recommended to be grown at Chiswick.

Messrs. Lane & Son, Berkhamstead, sent magnificent fruits of Lane's Prince Albert Apples from orchard trees twenty years old. They would have been hard to defeat at any exhibition, and a vote of thanks was unanimously awarded. Mr. W. Palmer, Andover, again sent fruits of Stubbs' Seedling, or *Winter Quarrenden Apple*, the latter being the more appropriate name. The fruits almost exactly resemble fine specimens of the Devonshire Quarrenden. They were quite fresh and firm, highly coloured, and the flesh tender, juicy, and pleasantly flavoured. Photographs of the tree exhibited at a previous meeting showed a most bountiful crop of fruit. A promising table Apple for market purposes.

Mr. John Cook sent from Forde Abbey, Chard, fruits of Coe's Late Red Plum, good for so late in the season, and was awarded a vote of thanks. Mr. E. Seward, 57, Carrington Street, Nottingham, sent a large round cooking Apple of promise, if it will keep, as was said, sound till May. The Committee desired to see fruits again in April. Those before them were more or less bruised. Messrs. J. Laing & Son sent fruits of Palmer's Seedling Apple, flat, somewhat resembling a firm Ecklinville, but no award was made. Mr. W. Neild, Horticulture College, Cheshire, sent fruits of Neild's Seedling Tomato, a medium-sized productive variety. Referred to Chiswick for trial.

Mr. G. Wythes was awarded a silver Knightian medal for forty varieties of green vegetables, no roots being included, a similar award being made for 100 dishes of excellent Apples and Pears exhibited by Messrs. Cheal & Son. Prominent among them was a pile of Bismarck Apple, fine fruits vividly coloured, such as Messrs. Cheal are selling in Covent Garden for half a crown a dozen. Who says that fine Apples do not pay?

FLORAL COMMITTEE.—W. Marshall, Esq. (in the chair); with Messrs. J. Fraser, J. Walker, H. B. May, H. Herbst, R. Dean, G. Stevens, J. H. Fitt, R. B. Lowe, C. J. Salter, H. Briscoe Ironside, C. Jeffries, J. D. Pawle, C. E. Shea, J. W. Barr, C. E. Pearson, E. Beckett, H. J. Jones, G. Nicholson, G. Gordon, C. Blick, and J. H. Engleheart.

Mr. M. Jinks, Weybridge, sent flowers of new seedling Chrysanthemums Mrs. W. Maling Grant and Walter Jinks. H. Briscoe Ironside, Esq., Burgess Hill, sent a collection of Chrysanthemum novelties, which included Bellina, Graziosa, Castagnola, Neve, Modesta, La Bianca, and Baveno. Mr. H. J. Jones, Lewisham, was represented by Chrysanthemums Olive Oclea, Major Bonaffon, Surprise, Mr. R. Purnell, Mrs. J. H. Sturm, Desdemona, and Snowstorm.

Mr. E. H. Jenkins, Hampton Hill, showed flowers of yellow Chrysanthemum Golden Dust, and from Mr. C. Harris, gardener to Lady Fortescue, Dropmore, came flowers of Golden Thread. Mr. Robert Owen, Maidenhead, sent a large collection of Chrysanthemum blooms, amongst which both the Japanese and incurved sections were represented. Mrs. Ellen Newbold, Country of Gold, King of Plumes, together with such new varieties as Walter Owen, Inter Ocean, Princess Maud, General Roberts, Charles Lawton, Bellem, Yellow Queen, James Bidencope, Mrs. Ivery, George Haigh, and Bonnie Dundee formed the main features in the exhibit (silver Banksian medal.) Mr. W. Wells, Redhill, sent blooms of new Chrysanthemums Directeur Tisserand, Harold Wells, and Sir Trevor Lawrence. Mr. W. Slogrove, gardener to Mrs. Crawford, Reigate, sent blooms of Chrysanthemum Wm. Slogrove.

Mr. J. Crawford, Coddington Hall Gardens, Newark-on-Trent, sent cut Carnation blooms; from Mr. John Crook, gardener to H. Evans, Esq., Forde Abbey, Chard, came flowers of *Primula floribunda*; and F. W. Moore, Esq., Glasnevin, sent blooms of *Sphæralcea umbellata*.

Messrs. James Veitch & Sons, Chelsea, were represented by a pleasing collection of hybrid Rhododendrons of the Javanico-jasminiflorum hybrids, in which a variety of delicate colours were represented. The same firm also showed plants of *Begonias Ensign* and Mrs. Heal (silver Banksian medal). J. T. Bennett-Poë, Esq., sent a plant in flower of *Begonia Froebeli incomparabilis*, a striking specimen. A collection of Roses in pots came from Messrs. Wm. Paul & Son, Waltham Cross, and consisted of the winter blooming variety *Enchantress* (silver Banksian medal). Messrs. J. Laing & Sons, Forest Hill, sent plants of *Dracæna longtiginosa* and *Calamus Palembanicus*. Mr. Rapley, gardener to H. Grinling, Esq., Stanmore, sent a plant of *Camarina campanulata*.

ORCHID COMMITTEE.—H. J. Veitch, Esq. (in the chair); and Dr. M. T. Masters, with Messrs. J. O'Brien, H. M. Pollett, W. H. White, J. T. Gabriel, F. Hardy, Thos. Statter, W. H. Protheroe, E. Ashworth, S. Courtauld, H. Williams, E. Hill, Jas. Douglas, T. B. Haywood, C. J. Lucas, and H. J. Chapman.

Messrs. H. Low & Co., Upper Clapton, staged a few *Cypripediums* in variety, some good forms being noticeable. E. Stanley Clark, Esq., Oakalyn, Gwersyllt, Wrexham, sent a plant of *Cattleya Trianae* Mrs. Stanley Clarke. Only four plants of Orchids were exhibited by Messrs. J. Veitch & Sons, Chelsea, these comprising *Dendrobium subclausum*, *Epidendrum Wallisi*, *E. ciliare*, and *E. Wallisio-ciliare*, a hybrid between the two previously named. *Cypripedium Warnhamensis* was staged by Mr. Duncan, gardener to C. J. Lucas, Esq., Warnham Court, Horsham. A few Orchids were shown by Mr. D. Richman, gardener to G. Palmer, Esq., Springfield, Trowbridge. These comprised several new hybrid *Cypripediums* from various parentages. Mr. W. H. Young, gardener to Sir F. Wigan, Clare Lawn, East Sheen, sent flowers, which are splendidly grown in these gardens, of *Barkerias*, and also of *Lælio-Cattleya Ingramsii*. Mr. W. H. White, grower to Sir Trevor Lawrence, Bart., Burford Lodge, Dorking, staged *Arundina Phillipi*, and a hybrid *Cypripedium* named *platycolor*, which received an award of merit, and is described below.

A plant of *Odontoglossum crispum* Franz Mazereel came from Messrs. Vervæet & Co., Belgium; Messrs. Linden, Brussels, *Cattleya maxima gigantea* and *Catasetum imperiale* (first-class certificate). Mr. Bristow, gardener to J. W. Temple, Esq., Tunbridge Wells, sent *Cattleya* Miss Williams and *C. labiata* Temple's var. Messrs. F. Sander & Co., St. Albans, staged a diversified collection of Orchids, including many brightly coloured forms. Noticeable were *Pescatorea Lehmanni*, *Bollea Schröderæ*, *Angræcum polystachys*, *Phaio-Calanthe Arnoldiæ*, *Calanthes* in variety, *Cypripediums* *Swinburnei magnificum*, *maculatum*, *Madame Cappe*, *Juno*, and *Alcides*; *Brassia Lewisi*, *Cattleya labiata*, *Lælia autumnalis alba*, *Dendrobium Leeanum*, *Sophronis grandiflora*, *coccinea*, and *Odontoglossum bicktonense album* (silver Banksian medal).

CERTIFICATES AND AWARDS OF MERIT.

Begonia Froebeli incomparabilis (J. T. Bennett-Poë).—The rich green leaves of this *Begonia* are 18 inches in length and 12 in width. The flowers are large, light crimson in colour, are borne in profusion on long footstalks (award of merit).

Catasetum imperiale (Linden & Co.).—This is strikingly handsome. The upper sepal is creamy white blotched with rose, the sepals being of the same hue minus the spots. The lip is chocolate brown edged with white (first-class certificate).

Cattleya aurea marantina (T. Statter).—A very beautiful variety of the type (award of merit).

Epidendrum Wallisio-ciliare (J. Veitch & Sons).—This is a hybrid between *E. Wallisi* and *E. ciliare*, the former being the pollen parent. The sepals and petals are yellowish green, and the lip is pale sulphur with a tinge of crimson towards the yellow throat (award of merit).

Chrysanthemum Bonnie Dundee (R. Owen).—This is a finely formed incurved of pure bronze colour (award of merit).

Chrysanthemum Country of Gold (R. Owen).—A very narrow petalled decorative variety, canary yellow in colour (award of merit).

Chrysanthemum Mrs. Ellen Newbold (R. Owen).—Belonging to the decorative section this should find favour. The colour is sulphur yellow (award of merit).

Chrysanthemum Olive Oclea (H. J. Jones).—This is a handsome incurved Japanese with broad reddish yellow florets (award of merit).

Chrysanthemum Surprise (H. J. Jones).—A rose-coloured Anemone variety of exceptional merit (award of merit).

Chrysanthemum Wm. Slogrove (W. Slogrove).—Of large size, splendid form, and great substance, this yellow incurved Japanese is sure to come to the front (award of merit).

Cypripedium Madeleine (C. Richman).—The result of a cross between *bellatulum* and *Argus*. The dorsal sepal and petals are spotted brown, while the *bellatulum*-like lip is chocolate over a greenish base (award of merit).

Cypripedium platycolor (W. H. White).—The dorsal sepal of this hybrid is white, streaked with rose and faintly suffused with yellow; the petals are rose spotted deep crimson; and the pouch is cream, heavily tinged with rose. The parents were *C. concolor* and *C. Stonei platytænum* (award of merit).

Rose Enchantress (Wm. Paul & Son).—This is a good winter blooming Rose; it is floriferous, and the plant of good habit. The colour is creamy white suffused salmon pink (award of merit).



NATIONAL CHRYSANTHEMUM SOCIETY--SECRETARIAL METHODS.

ON Tuesday, the 26th inst., we heard in a casual way that the annual dinner of the members of the above Society was to be held the next evening. Not having received any official notification of the event, a post-card was sent to the Secretary, asking if the rumour was true, and, if so, whether the *Journal of Horticulture* was eligible to send a representative to the meeting? This question was asked on the assumption that if a public meeting was to be held an intimation would have been sent, in the customary manner of public bodies, to the Editors of all the journals which had reported such meetings in previous years. The reply to our very natural inquiry under the circumstances was the following letter:—

Ealing, Tuesday.

The N.C.S. do not send cards of invitation to any of the daily or gardening papers. The rule is for the editors of the papers to buy a ticket for their representatives. Mr. Gordon does this in the case of the "Gardeners' Magazine." If you like to send a representative he can have a dinner by paying for it, but the Committee do not allow me to make free admissions to the dinner.—R. DEAN, Secretary.

As the above letter undoubtedly implies that we had asked for a free ticket, and as there is nothing to prevent the Secretary of the N.C.S. circulating his peculiar interpretation of our request for information, we have to say that he is perfectly at liberty to publish the card that was sent to him in either the *Journal of Horticulture* or any other paper that will also publish his reply.

No thought was entertained of soliciting a ticket (in fact, neither a "ticket" nor "card" was mentioned), as it was perfectly well known that they were only acquired by purchase, and had always been purchased in previous years for the purpose of attending and reporting the meetings. The card of inquiry that was sent has brought us this (Wednesday) morning the first intimation of the meeting from the Secretary; but in view of the official imputation accompanying it, we have to state that no representative of this paper was commissioned to attend the meeting in question. Such gatherings are not visited for the purpose of "having a dinner," but for preparing a narrative of the proceedings in the public interest.

MR. W. J. GODFREY'S CHRYSANTHEMUM HOUSE.

AT various times during the past few years the capacious structure in which Mr. W. J. Godfrey of Exmouth exhibits his Chrysanthemums, has been referred to in the pages of the *Journal of Horticulture*, and we are now enabled to give a woodcut, that has been engraved from a photograph of it (fig. 77). A glance at the illustration will convey to our readers some slight idea of its noble dimensions, but of course cannot tell that the length exceeds 150 feet and the breadth 30 feet. Everyone can imagine what a magnificent display could be shown in such a house, and no one can deny that the exhibitions arranged by Mr. Godfrey are imposing. The photograph was taken before the blooms were fully developed, but some idea may be formed of the quality that was undoubtedly there. Later when maturity was reached the collection was worth going a long way to see, for it comprised not only all the best of the older varieties, but almost all the novelties that are sent out by the various growers both at home and abroad, the object in their cultivation being to select the little wheat from the large amount of chaff in the Chrysanthemum world.

NATIONAL CHRYSANTHEMUM SOCIETY.

A MEETING of the Floral Committee was held on Wednesday, the 20th inst., at the Royal Aquarium, when Mr. T. Bevan occupied the chair. There was a large attendance of members and an excellent display of novelties, some fine exhibits being staged by Messrs. H. Briscoe-Ironside, W. Wells, E. Beckett, R. Owen, C. Gibson, N. Davis, H. J. Jones, and Ernest Calvat. First-class certificates were awarded as under:—

Mme. Ad. Chatin.—Very large Japanese incurved, deep globular blooms with florets of medium width; colour pure waxy white. Shown by Mr. E. Beckett of Elstree.

Miss Elsie Teichmann.—Japanese of good size, very fine and substantial in build; broad florets, curly at the tips; colour delicate shade of creamy, glossy white. Also shown by Mr. Beckett.

Robin Adair.—Japanese Anemone with long ray florets, comprising several rows; colour pale lilac blush, centre tinted yellow. From Mr. R. Owen of Maidenhead.

Bonnie Dundee.—An incurved of good form and deep in build; colour golden yellow, tinted bronze. From Mr. R. Owen.

Surpasse Amiral.—A spreading Japanese variety with long florets; colour pure golden yellow. Raised and exhibited by Mr. Ernest Calvat of Grenoble.

Mrs. Hermann Kloss.—A very large bloom of the M. Ch. Molin type, flat florets reflexing; colour rich golden bronze suffused crimson. Shown by Mr. N. Davis.

Kate Williams.—A single with long florets; very pure shade of golden yellow. Sent by Mr. H. J. Jones.

Parthenia.—A Japanese with long drooping florets, curly at the tips and of medium width; colour white, slightly tinted. Another from Mr. Jones.

Mr. Briscoe Ironside was awarded a small silver medal for a large collection, attractively arranged, and Mr. McHattie received a vote of thanks for two fine blooms of Mrs. W. H. Lees, taken on different buds and showing the variety in two entirely different characters. Interesting novelties presented, but not considered worthy of certificates, comprised Stresa, a large yellow Japanese; M. E. Roger, a peculiar Japanese incurved, colour pale sea green, a seedling of Mr. Calvat's and very distinct. Harold Wells, a primrose sport from Sir Trevor Lawrence; Jules Chrétien, a large massive Japanese incurved, rosy amaranth and silvery pink reverse; some fine examples of A. H. Fewkes; Charles Lawton, a very deeply built Japanese magenta tipped white, Graphic, Latest Fad, Mrs. C. E. Shea, and Desdemona. In the reflexed section James Lynch, a prettily formed deep flower of a velvety chestnut crimson, was much admired.

There was a number of single flowering varieties staged, Mary Jeal, with ray florets of lilac blush, being one of the prettiest.

POMPON MDLLE. ELISE DORDAN.

Although introduced nearly ten years ago, this charming little Pompon seems to remain as great a favourite as ever. When moderately disbudded the blooms are very globular and neat in form, the colour is soft lilac pink, and when judiciously used to lighten the appearance of a group is sure to attract attention from visitors. It is largely used in the parks, and many of the trade growers still cling to it, and indeed there are few varieties of modern introduction that can be compared with it. So far as I know Mr. Briscoe Ironside's Piccinino is the only thing of the kind likely to compete with it.—P.

CHRYSANTHEMUM PHILADELPHIA.

I FORWARD a bloom of the new Chrysanthemum Philadelphia, which I think is a very fair specimen. I do not think this variety requires too much feeding, and not to have the bud taken too early. I think we shall see more good blooms another year.—W. RAPLEY, *The Gardens, Harrow Weald House, Stanmore*.

[The example sent was one of the finest we have seen, the bloom being large, of splendid build, and not at all coarse. It had evidently been grown under the best cultural treatment.]

DISQUALIFICATION—GLASGOW STRINGENCY.

SOME short time ago a discussion took place in the columns of the *Journal* with regard to the exercise of judicial powers of disqualification at flower shows. An instance bearing on the question which may be worth recording occurred at Glasgow on Thursday last, when we were disqualified for not complying with regulations as to show boards, as our stand had holes $6\frac{1}{2}$ inches apart instead of 7, as specified in the schedule. Of course, the Judges would be within their legal rights in disqualifying a stand 100th part of an inch more or less than the size laid down, but we do not think such hair-splitting conducive to healthy competition or the future welfare of exhibitions. What do your readers think about the matter?—J. R. PEARSON & SONS, *Chilwell*.

CHRYSANTHEMUMS TO THE RESCUE.

AFTER the annual exhibition of the Workshop Rose and Horticultural Society at the Manor during the summer, the Committee found that a considerable loss had been sustained, although as a show the event was a great success. In order to recover its position the Committee decided to call in the aid of some other popular flower for exhibition purposes, and hit upon the Chrysanthemum as the most likely, particularly as, apart from the great beauty of the flower, its blooming is at the best at this period of the year. The idea, says the "Retford Times," once set in motion rapidly enlisted approval, and a number of the best growers in Workshop and district promised to join in an exhibition "for love," as Mr. Machin described it, or without competition for prizes. The Committee resolved to make the affair as thorough and complete as possible, and ventured to ask Her Grace the Duchess of Newcastle to assist by opening the exhibition. To this Her Grace gave kindly and ready consent, and it was felt that with her patronage the event could not fail. The exhibition was held on Thursday, 21st inst., in the two lower rooms of the Town Hall. Those who exhibited were His Grace the Duke of Portland, the Right Hon. F. J. Savile Foljambe, the Viscountess Galway, Viscount Halifax, Sir Henry Watson, Mr. W. H. Mason, Morton Hall; Mr. John D. Ellis, Sparken, Workshop; Mrs. Alderson, Park House; Mr. J. C. Wing, Scofton House; Mr. John Preston, Eastgate House; Mr. J. Aucock, Manor Gardens; Mr. J. Cookman, Ryton Nurseries; Miss Jebb, Firbeck Hall; Miss Mellish, Hodsock Priory, and others. Some of those mentioned, however, did not confine themselves to showing Chrysanthemums only, but included other flowers and plants.

Those who made a special feature in exhibiting cut blooms of Chrysanthemums were Viscountess Galway, Sir Henry Watson, Mr. John D. Ellis, Mr. John Preston, The Right Hon. F. J. S. Foljambe, and Messrs. B. S. Williams of the Victoria and Paradise Nurseries, London. In addition to the exhibits of flowers as an attraction to the public, a considerable number of ladies and gentlemen sent goods of various kinds for sale for the benefit of the funds of the Rose Society. These were for the most part staged in the second room. The donors of these included Mr. H. Vessey Machin, Rose plants of many and choice varieties from

his own gardens; the Right Hon. F. J. S. Foljambe, Mr. J. S. Whall, Mr. John Preston, Mrs. Machin, Gateford Hill; Miss Jebb, Miss Mellish, Viscountess Galway, Viscount Halifax, Mr. W. H. Mason, Sir Henry Watson, Mr. C. J. Mee, Nottingham; Mr. C. Stubbings, Gateford; Mr. Stewart, Carlton; Mr. Aucock, Mr. J. Darby, Worksop; Messrs. Williams, London, and others. The larger of the lower rooms were devoted to the show of Chrysanthemums and other plants. These were very tastefully arranged in groups and otherwise, and presented a magnificent appearance, the great variety of Chrysanthemum blooms of many hues being set off by groupings of other flowers and plants. On the left entering the room the corner was filled with a large collection from Welbeck Abbey, containing some of the best known varieties, and all were notable blooms. The next group was from the house of Mr. J. C. Wing, and on the same side was a handsome arrangement of flowers from the Manor Gardens, exhibited by Mr. Aucock.

On the platform at the back and sides, and also in front, were large numbers of Chrysanthemums. Those in front were especially fine, and came from the collections of Mr. J. D. Ellis and Mr. John Preston. On the floor on the right side of the hall was a handsome group of miscellaneous foliage and blooming plants and Pine Apples, sent by the Right

Mr. T. Parkinson, Mr. J. Snow Whall, Mr. R. Eddison, Dr. Kemp, Mr. W. Wood, Mr. and Mrs. T. Castle, Mr. Cavil Hunter, Mr. R. White, Mr. G. Mallender (Hodsock), Mr. Egglestone (Firbeck), and many ladies.

Mr. H. V. MACHIN, who occupied the chair, announced that Her Grace the Duchess of Newcastle had kindly consented to open the beautiful bazaar and show they saw before them, consisting of Chrysanthemums and horticultural produce. It was unique as a show, inasmuch as no prizes were offered, but it was a show simply for love. (Applause.) That, he thought, went to indicate that the gardeners in this district, both amateur and professional, were heart and soul in their work, and he flattered himself that they were gardeners second to none. (Applause.) He then asked the Duchess of Newcastle to declare the show open.

Her GRACE, who was received with great cordiality, said:—Ladies and Gentlemen,—It gives me great pleasure to be with you to-day and to open this show. Let me, however, first congratulate you upon the beautiful collection of Chrysanthemums you have got together. They do you all great credit. I have now much pleasure in declaring the show open, and wish it every success. (Applause.)

The CHAIRMAN then rose to thank Her Grace for her kindness.



FIG. 77.—MR. GODFREY'S CHRYSANTHEMUM HOUSE.

Hon. F. J. S. Foljambe, making a most striking feature. The next group was a really magnificent arrangement of Chrysanthemums, great and small, from Mr. J. D. Ellis, and adjoining a neat arrangement of Ferns from Osberton, while the remaining corner was filled by a collection mainly of Chrysanthemums from the Ryton Nurseries, shown by Mr. Cookman. The general effect was admirable, and reflected the utmost credit on the gentlemen who formed the Committee of Management, the members of which, with Mr. Bailey (Secretary), had been indefatigable in carrying out the arrangements. In the matter of special exhibits must be included a very choice collection of Apples shown by Mr. Mallender, gardener to Mrs. Mellish of Hodsock Priory. These were not for sale, but the attractiveness of the stand was very great to a large number of people. The stands on which the articles for sale were arranged were on both days voluntarily attended by a number of ladies and gentlemen.

The opening ceremony took place at two o'clock, and was performed by the Duchess of Newcastle in the presence of a large company. Her Grace was accompanied by Lady Irene Hastings, and amongst those also present were Lady Gertrude Foljambe, Mrs. John Robinson (Worksop Manor), the Rev. H. T. Slodden (Vicar of Worksop), the Rev. B. Darley (Harthill), the Rev. J. and Mrs. Butterwick (Welbeck), Mr. A. Machin, Mr. R. L. Towne, Mr. R. Scott (Retford), Mr. G. R. Lucas, Mr. H. P. Forrest, Mr. D. W. Winks, Mr. L. Towne, Mr. Walter Allen,

They all knew, he said, of the numerous demands upon royalty and upon our dukes and duchesses for functions of this kind. Her Grace had come that day at considerable sacrifice. But he must remind them that this was not the first time she had extended her kindness and sympathy to the Rose and Horticultural Society. They asked the permission of the Duke and Duchess to hold their last show at Clumber, and it was readily granted. He bitterly regretted to say, however, that the Committee found it impossible, from a variety of circumstances, to accept the kind invitation, which made it still more good of Her Grace to come that day when they would not go to Clumber. (Laughter and applause.) They thought it was impossible to make the event a financial success, and it was decided to hold the show at Worksop Manor. He was sorry to say that in doing so they went out of the frying pan into the fire. However, thanks to the kindness of Mr. John Robinson, the show was held at the Manor, and he was proud to say it was a show second to none in the provinces—and he had attended a good many. (Applause.) He was sure they would all join him in expressing their thanks to the Duchess of Newcastle. The poet had said, "Kind hearts are more than coronets," but we in the Dukeries had learnt that kind hearts and coronets were inseparable. (Applause.) He also expressed their thanks to the workers and contributors to the funds of the Society, and to prove that this show was a work of love he mentioned that several prizewinners (and some of the poorest) at the

last Rose and Horticultural show had returned the value of their prizes in money or in kind, either in part or in toto, and that some had contributed even more than the value of their winnings in aid of the funds of the Society. (Applause.) He also thanked those who had contributed plants, fruit, flowers, and vegetables, the exhibitors of Chrysanthemums, and the ladies and gentlemen who had given up two whole days for the sale of the produce offered for the benefit of the funds of the Society. The members of the Committee he personally felt deeply indebted to for the manner in which they had backed him up ever since he originated the Society. After appealing for the support of those present, he incidentally mentioned that he had himself given nearly 800 Roses towards the object, and they were nearly all sold, and added that they had received assistance not only from the locality, but from horticulturists from the North of England to the South. It showed how well the Society was known, and he would be very sorry to see it go to the wall. (Applause.) In mentioning his indebtedness to the Committee he intended to include their excellent Vice-President and Treasurer, Mr. James Snow Whall, and their hard-working and indefatigable Hon. Secretary, Mr. George Bailey.

[It is impossible to praise too highly the public spirit of the exhibitors and the laudable efforts of all towards the object in view, and we are glad to learn that they achieved what they so well deserved—a distinct financial success.]

A correspondent (Mr. T. H. Crasp) also writes:—"Enclosed you will find a cutting from a newspaper *re* our show held at Worksop on the 21st and 22nd. It was a splendid success. Mr. Machin is the most popular man I ever met with. You will perhaps know that the Rose Society was £40 in debt owing to a wet day and the show being held too far out of Worksop. Mr. Machin was determined to try and get it clear so that he could have a fresh start, and has been well supported by the Duchess of Portland, the Duchess of Newcastle, the Right Hon. F. J. S. Foljambe, and many others. Mr. Machin seems to be just as popular with the dukes and duchesses as with their gardeners. I only wish you had been here to see him after the show—we are out of debt and have about £50 to the good, so that our show next year ought to be one of the best in England."

BOTANIC GARDENS, GLASGOW.

THE display of Chrysanthemums at the Botanic Gardens is one of the most interesting and meritorious that Mr. D. Dewar has given the citizens since he inaugurated his yearly fête. The Town Council kindly provided music on the past two Saturdays, and immense crowds visited the Gardens on the first Saturday, many failing to get near the plants. The gardens are always open on Sundays, and great numbers take advantage of this privilege, finding great enjoyment in a quiet walk round.

The most prominent feature is a large group, about 30 feet in diameter, and arranged in a pyramidal form, rising from 2 feet at the base to 16 feet in height, a very fine *Kentia* arching gracefully over the plants. The plants have been put up under the eye of Mr. Dewar, and he has the satisfaction of knowing that the visitors have been highly gratified with what he has done for their enjoyment. About 800 plants are in the central group, the major portion being Japanese varieties.

Many of the blooms are of the highest quality. Among whites *Bouquet des Dames* is prominent, while the newer kinds and *Madame Carnot* are specially good. A grand yellow is seen in *Duchess of Wellington*. Miss Dorothea Frankland also promises well. Good blooms of *Sunflower* and *Boule d'Or* are abundant. The dark colours are grandly represented in *Wm. C. Childs* and *Wm. Seward*. Plants of Mrs. Falconer Jameson are notable examples of good culture. *Vivian Morel* and its sports are indispensable, and add largely to the beauty of the group.

The incurved varieties are set round the large building, and are very well done, all the leading varieties being represented. Naturally grown plants of *Ryecroft Glory* show how splendidly it is adapted for cutting purposes. Two large span-roofed houses are still gay with some of the later plants of *Madame Desgrange*, and along with them are staged some large specimen plants that had done service last year, and prove their value for cutting purposes. Altogether 3000 plants have been grown this year, and I fancy this must be about the maximum number that will be cultivated, the space required to house so large a number being very considerable.—G. R.

DOVER HOUSE.

AT this period of the year, when the queen of autumn flowers is at the zenith of its fame, or more correctly speaking, when its beauty is already slightly on the wane, there appears to be nothing extraordinary in the sight of a large collection of plants or a fine display of bloom. Indeed, so popular has become the cultivation of this favourite flower that a group of plants which a quarter of a century ago would have caused the whole horticultural world to rise in arms, as it were, is considered nothing more than commonplace, and it has to be something of more than ordinary merit to nowadays cause a sensation. Yet sensations there are certainly, and that gardeners in private establishments are often responsible for these has been recently proved by the winner of the premier prizes at the great shows at the Aquarium and Edinburgh. Speaking of Chrysanthemum growers in private establishments, readers are well enough acquainted with the fact that it is not only cup winners and prize takers who grow Chrysanthemums well to need any repetition of the statement for there are to be found in divers places blooms of

superb merit in abundance whose lot it is never to grace the exhibition board.

Indeed, if any such evidence was wanting it was amply supplied in a recent visit to Dover House. The situation there is far from being an ideal one for the Chrysanthemum grower, situated as it is within a few miles of the great city, and, therefore, subject to the fogs and clouds of murky smoke, of which growers in the clear air of the provinces know nothing. In spite of such drawbacks Chrysanthemums, as we all know, are grown in London districts to a perfection that is unsurpassed in these islands; in fact, we might term London the chosen home of Chrysanthemums, as all classes of growers appear to be affected by the "fever." Nurserymen, gardeners, and amateurs are similarly engrossed to such an extent that at this period of the year there seems little else thought of.

This is, however, hardly the case at Dover House, for while Mr. McLeod has a collection of which any gardener might feel justly proud, he is not only a Chrysanthemum grower but a thorough gardener in every sense of the word, as each phase of culture in his well-kept charge amply testifies. Mr. McLeod hails from the "land o' cakes," and has put much of his northern experience into a practice that gives ample evidence of his capabilities. Chrysanthemums, however, were the main object of our visit, and must, therefore, receive the lion's share of what, through lack of space, must necessarily be a brief notice. We could not withhold some expressions of regret at the sight of a large number of plants already cut down, as these told plainly that the season was fast drawing to a close. Sufficient, however, were left to amply satisfy even the most critical, as in addition to highly coloured and perfectly formed flowers the Dover House plants are all dwarf, a commendable characteristic when obtained in conjunction with splendid blooms.

This season a sum total of something like 1250 plants have been grown. As already stated many of these are over, and the remainder—a superb collection—are staged with effect in a range of vinerias. Standing at one end of the house they take the appearance of a forest of blooms. The colours, too, have been pleasingly discriminated to avoid any erroneous clashing, and, as is usual in such collections, yellows and whites are largely conspicuous. Variety, too, shows no lack, the best known kinds being in evidence. So often, however, have these been enumerated and described that to do so again would be nothing but a repetition. Very conspicuous were such showy kinds as *Robert Owen*, *Golden Gate*, *Mdlle. Marie Hoste*, *Sunflower*, *Gloriosum*, *International*, *Hairy Wonder*, *Lady Saunders*, and *Good Gracious*, among a host of others, that would do themselves credit on the exhibition board. The Japanese section is the more largely represented, the flowers being large and deep with well formed florets. Equal in their particular order are the incurved, which, however, should be taken individually to see their perfection fully.

It would not be fair to close these notes without a brief reference to the garden in general, which is in splendid condition, a continual warfare being waged against any weeds or rubbish that may make their appearance, even though at this time of the year when gardens generally present a more or less untidy appearance through the downfall of leaves and other causes common to the autumn.

The houses themselves give evidence of every attention, all being modern in structure, newly painted, and in perfect order. Mr. McLeod evidently makes it his business to grow everything well which he takes in hand. In one house a fine collection of *Crotons* was noticed, of size suitable for decoration, and above all things clean. Further on a group of *Cyclamens* claimed attention, home raised seedlings the majority of them, with sturdy marbled foliage and flowers surmounting stout footstalks. The chief points of interest in the fruit houses were of course over, though the well matured wood and plump buds on the numerous *Peach* and *Nectarine* trees told plainly that given fair conditions next season's crop is amply insured. At this time of the year outdoor gardening is of course at a low ebb, though a magnificent specimen of *Copper Beech*, said to be one of the finest in the country, is worthy of mention, as also is a fine example of the *Judas tree*, both being unique features on the lawn at Dover House. The pleasant surroundings of this charming residence must now be left, at any rate until some future occasion, when Chrysanthemums occupy less space, and other phases of horticulture take their place. In respect of the former, however, expectations were fully realised, and amongst the many collections seen this season that of Dover House is in no way behindhand.

Although the munificent owner of Dover House, J. P. Morgan, Esq., is not at present in residence, and therefore unable to see the fine display of Chrysanthemums, it is gratifying to know that in his absence the establishment is kept in excellent condition.—G. H.

AT HULL.

VILLAGE life moves slowly. Villagers in thought, word, and deed are much as their fathers left them. They were good, decent, hard working men; why should we cease to walk in their footsteps, or seek to improve on their ways? Far remote from the great centres of the toiling population, they have not the opportunities their suburban brethren possess of seeing the great strides that have been taken in late years in the one science of horticulture, and in one particular branch of that science—i.e., the cultivation of the Chrysanthemum. Here, in some of our little plots, may be found a few specimens of summer-flowering varieties, but coming when they do with the garden one mass of radiant bloom, their quiet modest flowers are unnoticed and unadmired except by their special lovers. Later on, if the season be mild as it was last year, great bushes untrained, and probably in a very

unsuitable situation, more than repay their owner by the wealth of golden, white, bronze, and crimson blossoms they display; blooms that look as though the departing sun had dyed them with his varied hues as he gave them his "good night" kiss. It occurs to one man that perhaps if Nature unaided can do so much, would it not be well spent time to coax her into further effort, for Nature is always responsive to her lovers? Presently a humble glass structure is raised, a few cuttings begged or bought, a Journal borrowed, plants tended in the intervals of a very busy life, not much disbudding done, no attempt at symmetry of form, and possibly a little neglect during the harvest month, but even with all these drawbacks the result is so charming that the amateur is encouraged to greater effort. How delightful to be able to cut a bunch of even small flowers to deck the table of the "missus," or to send to a sick friend during the gloomy months that mark the close of the year. It is dreary working alone, and it is, moreover, difficult to measure one's own success. It is said that painters are rarely really satisfied with even what the world calls their best efforts, certainly few amateur florists ever are. A wide estuary of the sea, a bad railway service, and uncertain November weather, which leaves it quite an open chance as to whether the fog will allow of the steamer running or not, all tend to make a journey to Hull a thing not to be entered upon hastily or unadvisedly. But there are times when an outing becomes a necessity, and a good show is both an object lesson and teacher in one.

Flowers everywhere, bewildering in masses, fascinating in groups, glorious in single blooms, it fairly takes one's breath away. Out come pencil and paper. "Mark those you like." Why, man, the task is an impossibility! Gather up your sorts, go carefully through some of the collections. Note the size, symmetry, and colouring. How careful the judges have been! Here is a box which, on a casual glance, seems superior to the one marked first prize. Take each bloom individually. Ah! you exclaim, these judges do not err! here and here again is slight inequality, slight inferiority, which at first escaped the unpractised eye. What a revelation the diversity in size must be to the untaught new beginner. Incurred, Japanese, Anemone-flowered, Pompon and singles, yet all members of one great family, and all beautiful in themselves. Nowhere does one stand more in need of a guide than at an exhibition of this sort, and alas! our judge-friend has taken himself off back to Fleet Street, and we miss his sharp trenchant remarks. The plants in pots were marvels of dexterity. Is it fancy or fact that there seem to be few varieties that lend themselves to this form of culture? There appeared to be only about three kinds, or is it ignorance on the part of the visitor, an ignorance that confuses varieties nearly alike. Among the staged blooms it is almost invidious to pick out "bright particular stars," yet there were, and always will be, a few that "catch" or in this case you may say truthfully, "fill" the eye and fairly stand out by themselves. Jeanne d'Arc, with her charming white, lavender tipped, emblem of all that is pure; the glorious yellow of H. Wells and C. H. Curtis; Lord Rosebery, silvery mauve; the golden brown of Wm. Tunnington, the yellow rose of Chenon de Leche, the rosy golden bronze of Mons. Ch. Molin, the deep dull red border and white centre (such an unusual contrast) of Deuil de Jules Ferry; the old gold of Mrs. Wheeler, that curiosity Hairy Wonder, Lord Brooke with his bronze yellow tinge, and the delicate green of Florence Davis.

Possibly for house and table decoration the small single blooms are the most appreciated. Lady Churchill, terra cotta and quill petalled; the fine white of Mdlle. Marthe Montel with quilled centre; Elise Dordan, globular and rosy; D. Windsor of a rich chestnut red; and little Miss Sarah to finish the list.

Dare we say the glory of the show centred in the hall? but the wonderful groups of flowers, Ferns, and foliage plants defy description, and are beyond criticism. The challenge vase goes this year to its final home, having been won three times by Mr. Wheatley.

The table decorations drew crowds; short folk could only get a tiny glimpse, not sufficient to ensure a correct description.

For those who loved music there were the dulcet strains of the band of the old "Death or Glory Boys," the 17th Lancers. Pretty women with smart frocks were very much in evidence, though it was a pity to see them carry away little pots and baskets of delicate Ferns and exposing them to a keen frosty air without even a morsel of silver paper as a protection.

The directors and managers of the Hull Chrysanthemum show may fairly consider that this year they have scored a decided success.

FINSBURY PARK.

For several years past this popular resort of North London residents has been celebrated for its splendid autumn displays of Chrysanthemums, and a recent visit proved that this year would not be an exception in this respect. Between 3000 and 4000 plants are grown in all, and what with the masterly attention they receive and the comparatively pure air of the district almost all of them are producing (and have produced) splendid flowers. The plants are generally dwarf, sturdy, thoroughly ripened in the wood, and have the rich green foliage of leathery texture that prove perfect health resultant on good cultivation and congenial surroundings.

The name of Mr. Melville, the Superintendent, is well known in connection with more than one London park, and it is to him that South Londoners are indebted for the beautiful Dulwich Park, as he it was who laid it out several years ago, and thereby proved his skill in planning ere he was transferred to the North, and turned his attention to the Chrysanthemum. During the summer months this park is another evidence of his ability, by reason of the summer bedding, while in the

spring the bulb and other beds are renowned throughout the metropolis. Such men as he are what are required in the management of the London parks, for by his foresight, excellent knowledge of gardening in all its many phases, and his determination to give general satisfaction, something of interest may be seen at every season of the year.

But let us return to the Chrysanthemums. They are arranged in a low span-roofed house, there being a path down each side, with the plants banked up in the centre. In this respect only could any material improvement be made, for with a larger structure less formal placing of the plants would be practicable, and consequently the beauty of the whole would be greatly enhanced. As it is at present, the visitor can only see the flowers, the space at disposal not being sufficient to permit of each plant being plainly perceptible. Then, again, the constant influx of thousands of delighted visitors renders it an absolute necessity that they should pass at a fairly rapid pace along the house, whereas many would doubtless be glad of more leisure to permit of note-taking and close examination of the many newer varieties.

Of course where so many plants are grown it is certain that most of the best of the older sorts must find a place, and so it is at Finsbury. Passing along varieties are constantly seen that have been on the market now for several years, but which still find large numbers of admirers, though the enthusiastic amateur grower ever has his eye open for novelties. Considering how well many of the former are known, it was not thought advisable to name any of them, especially as most of the readers of the Journal will have seen them at various shows in different parts of the kingdom.

Leaving, then, the older varieties to the imagination of our readers, we will make mention of some of the novelties that are to be seen in such splendid condition at Finsbury. Foremost may be placed Mr. H. Runchman, other good varieties being Descartes, Edith Rowbottom, Hairy Wonder, International, Mrs. J. Blackburn, Philadelphia, and A. H. Fewkes.

SOUTHWARK PARK.

WHAT Finsbury Park is to North Londoners Southwark Park is to the more densely populated districts of Deptford, Bermondsey and Southwark. Here may be seen in the summer time numbers of visitors at cricket, others admiring the flowers, and others again making use of the Park as a health-giving promenade. In the autumn months football claims the attention of the athletic section of the community, which does not comprise all, for many thousands find time and opportunity to visit the display of Chrysanthemums during the time it is on view.

Considering the density of the population, the number of factories and workshops in the immediate vicinity of the Park, each casting into the atmosphere its fair share of smoke and other impurities, the Chrysanthemums at Southwark Park are amongst the very best in London. One might expect to find a preponderance of yellow, sickly-looking leafage, and puny, ill-coloured flowers in such a district, but this is by no means the case. Health, demonstrated in good wood, deep green leaves, and richly hued blooms, is the predominating feature, and for it, not alone the inhabitants of the neighbourhood, but also of other parts of the metropolis and all large towns, have to thank Mr. R. Crowle, the excellent superintendent.

Here, perhaps, more than in any other of the London parks, is a lesson in Chrysanthemum culture, for at a glance one can see how amenable to thorough cultivation is this most popular of autumn flowers. That they can be grown, and grown well under the most unfavourable conditions is amply demonstrated, but naturally success can only be attained to by unwearied attention and a thorough grasp of all essential details. Clearly, all points of importance are recognised by those concerned in the culture of Chrysanthemums at this South London oasis, and no stinted word of praise could convey the plaudits that are showered on the plants by the interested visitors. Expressions of admiration and approbation are heard on every side, and none is undeserved.

Upwards of 3000 plants have this season been cultivated, and the result has been one of the most beautiful displays ever provided at this Park, and according to some good authorities it has equalled any show in London this year. It must not be thought that all these plants are arranged at one time, for such is not the case. About 2500 are required to occupy the available space, the remainder being reserved to supply the vacancies made by those varieties that are the earliest to go off and so maintain the display for a period extending over several weeks. If every plant were utilised in the first instance it is obvious that the show could not be kept open for such a time, and thus the public would be deprived of one of its greatest pleasures.

The majority of the plants cultivated belong to the Japanese section, though a capital sprinkling of most of the others may be seen. The labelling of the plants, an important detail, is carried out excellently, and many are the persons who may every day be observed jotting down the names of those that appeal to their tastes, doubtless with the intention of essaying their cultivation in their own homes the following season. By such means the public is educated, and the advantages that accrue from this generous policy of the London County Council in providing such displays of flowers are incalculable. A love of gardening always tends to a nobler view of life, and since the advent of autumnal displays of Chrysanthemums in the various parks this love will have been engendered in thousands of hearts in all quarters of the Metropolis. In addition to tendering thanks to the Council, justice would scarcely be met if mention were not made of Mr. J. J. Sexby,

who has done so much good work in the improvement of the parks and open spaces of London since he has been the Council's superintendent.

To mention in detail the whole of the 275 varieties that comprise the 3000 plants grown would, while occupying a great amount of space, serve no useful purpose, so a few have been selected that are above the very high average of merit. These are Louise, Silver King, Mdle. Thérèse Rey, Chas. H. Curtis, Col. W. B. Smith, Rose Wynne, Chas. Davis, Miss Violet Tomlin, Good Gracious, W. Seward, Mrs. R. C. Kingston, G. C. Schwabe, with Hairy Wonder, *Enfant des Deux Mondes*, Mrs. Alpheus Hardy, and W. A. Manda, the last four being of the hairy petalled section, which finds much favour with the public at most of parks.

CHRYSANTHEMUM SHOWS.

SHEFFIELD.—NOVEMBER 15TH AND 16TH.

THE eighteenth annual exhibition of the above Society was held as usual in the Corn Exchange, Sheffield, on the above dates, and the opinions generally expressed of it as a whole was that it was superior to any previous exhibition held by the Society. The very large building (one of the best for such a purpose to be found in the provinces) was well filled in every part. The "Sheffield Daily Telegraph," commenting upon this in its issue of the 16th, says, "Spacious as is the Corn Exchange, it is hardly large enough for a proper display of all the blooms, and the time is not far distant when more space than at present will be required."

The numerous stands competing for the principal prizes in the open class, "cut blooms," twenty-four Japanese and twenty-four incurves, sufficed to fill a table reaching the entire length of the large building, and few indeed have been the provincial shows this season where all the classes for incurved blooms have been so strongly contested, and the quality of the exhibits so good throughout. We are frequently being told that this once most popular class of Chrysanthemums is losing favour with exhibitors and the public, but a visit to the Sheffield show tends to dispel this belief.

In the open class for twenty-four incurved cut blooms, not less than eighteen varieties, Mr. C. Crookes, gardener to the Dowager Lady Hindlip, Hadsor House, Droitwich, was first; Mr. H. Broomhead, Sheffield (the much esteemed Hon. Treasurer of the Society), second; Messrs. J. R. Pearson & Sons, Chilwell, third; and Mr. P. Blair, Trentham Gardens, fourth. For twenty-four Japanese blooms, distinct—first, Messrs. C. Crookes; second, P. Blair; third, J. R. Pearson & Sons; and fourth, J. Heaton, gardener to R. P. Houston, Esq., M.P., Liverpool. For twelve incurved distinct—first, Messrs. J. Vaughan, gardener to T. Brocklebank, Esq., Liverpool; second, P. Blair; and third, C. Smith, gardener to C. P. Newell, Esq., Stourbridge. For twelve distinct Japanese—first, Messrs. P. Blair; second, G. W. Drake, Cardiff; third, J. Heaton. In the competing groups of Chrysanthemums and foliage plants, occupying a space of 86 feet, semicircular, a most beautiful group, arranged by Mr. C. Green, gardener to Sir H. Watson, Shirecliffe, was awarded first prize.

All the district and cottagers' classes for cut blooms were keenly contested. Numerous entries in each class, and the quality of the blooms shown came but little below those in the open section. Amongst the numerous high class exhibits not for competition Mr. H. J. Jones, Lewisham, was awarded a gold medal for a very artistic and elaborate display of cut flowers, Ferns, and foliage plants. A replica of the display which obtained for him a gold medal at the Aquarium show of the N.C.S. Messrs. Fisher, Son & Sibray, Sheffield, had a meritorious exhibit of Orchids and foliage plants, very bright and pleasing. Messrs. H. Cannell and Sons, Swanley, had a bright display of new Zonal Pelargoniums and Japanese Chrysanthemums. Mr. S. W. Seagrave, Norfolk Market Hall; and Messrs. Crossland, Richmond Nurseries, exhibited large and fine groups of Chrysanthemums, foliage, and general decorative plants. Messrs. Artindale & Son had a very artistic display of cut Chrysanthemums, wreaths, crosses and bouquets. Messrs. J. & R. Pearson & Sons also set up a large collection of the best varieties of Apples, large, clean, handsome specimens of high colour.

The Show was formally declared open shortly after one o'clock on the 15th by Lady Edmund Talbot (sister-in-law of the Duke of Norfolk), to whom a bouquet was presented, composed of Orchids (*Cattleyas*) and Lilies of the Valley, with trailers of *Smilax* and *Asparagus plumosus*, in the presence of a very large and influential gathering, the largest which has ever graced the opening ceremony of this exhibition. The weather was unpropitious each day, rain falling during most of the time, but in spite of this the Show was attended by its thousands of visitors, and particularly in the evening of each day, it was unduly crowded, so that it was with great difficulty a sight of the principal exhibits could be obtained. We are informed that in spite of the unfavourable weather the balance standing to the credit of the Society from last year will be increased rather than diminished, showing unmistakably the hold the Show now has upon the affections and goodwill of Sheffield cutlers and artisans.

A flower stall for the sale of flowers in aid of the Sheffield Gardeners' Benevolent Fund realised about £8, to be handed over to that worthy institution.

CHESTER.—NOVEMBER 19TH AND 20TH.

THE two-days show of this Society was held in the Town Hall, Chester, on the 19th and 20th inst., and was in every way one of the best the Society has yet held. Since the first exhibition six years ago

the show has wonderfully improved, and this year the entries exactly doubled that of last year. The Society has for several years been doing a good work among the horticulturists and agriculturists of Cheshire and North Wales in advocating the systematic culture of vegetables and hardy fruits, especially those adapted to the Society's district, and as one result of the efforts the annual show is held, which is highly creditable to the Society, and must be very gratifying to the Hon. Secretary, Mr. G. P. Miln.

In the class for a group of plants arranged for effect there were seven competitors, and the Judges in placing Mr. Hudson, Sache Hall, first had a very difficult task. Mr. J. Taylor, Hoole Hall, was second with a splendid group, well arranged, the one defect being a weakness in foliage among his front plants. Mr. Charles Wigg, Hoole Bank, was third. In the large class for cut blooms the competition was keen and the quality much above that of last year. Mr. J. Mossford was first, Mrs. Bloomfield second, and Mr. Threlfall third. In the competition for an arrangement of single trusses of naturally grown Chrysanthemums for effect there were nine competitors, and the display made was effective and striking.

The Apples and Pears formed quite an exhibition in themselves, and were without doubt the feature of the show, for fruit grown so far north the average of excellence was very high throughout the whole of the classes. For a collection of fifty dishes of Apples in the open class, Mr. Watkins of the Pomona Farm, Hereford, was an excellent first with faultless dishes of the leading varieties. Mr. Oldfield, of Chirk Castle Gardens, was second. For a collection of dessert Apples, Mr. Sanderson was first, and Mr. Taylor took leading honours in the large class of kitchen Apples.

Messrs. Dicksons, Limited, was well represented by a tastefully arranged group of Orchids, foliage plants, Ferns, and a fine collection of hardy fruit from their nurseries. A collection of Apples and Pears, not for competition, was sent from Eaton Gardens. The Duke of Westminster in declaring the show open referred to the proposal of holding a large summer show at Chester, and said he would be very pleased to aid and supplement any effort in this direction.

WOKING.—NOVEMBER 19TH AND 20TH.

THE second annual Chrysanthemum show in connection with the Woking Horticultural Association was held on the above dates, and it was generally considered a marked improvement on the first, both in the quality and quantity of exhibits. It was well attended too, and it is certain that floral exhibitions will advance with the rapid rate in which the town is extending. Groups were good, and for so late a date the blooms were also excellent, whilst fruits and vegetables were of an equally high standard.

The first prizes for both miscellaneous plants and Chrysanthemums alone were won by Mr. Seabrooke, gardener to N. Stevens, Esq., Woodham Hall. This group contained very fine blooms, but the arrangement might have been a trifle less flat. Twenty-four Japanese blooms was the chief class for cut flowers, and the first prize was won by Mr. H. Padden, gardener to Col. Ricardo, Bramley Park, with an even stand, containing the best exhibition varieties. There were five stands in the class. For twelve incurved Chrysanthemums the same exhibitor was placed first with an exceptionally clean and even exhibit.

In the open class for twelve Japanese blooms, Mr. H. A. Needs, Heath View, Woking, an amateur, took the first prize. This stand contained the finest flowers in the show, Mdle. Thérèse Rey, G. C. Schwabe, Charles Blick, International, E. Molyneux, and Niveus being exceptionally fine. The first prize in the open class for six distinct blooms fell to Mr. E. K. Wilson, Send; second, Mr. H. A. Needs. The last-named exhibitor, however, was first in the class for six Japanese blooms of one variety with magnificent flowers of Louise. These were particularly handsome and well-coloured. Second, Mr. H. Padden, with Mdle. Thérèse Rey.

Non-competitive exhibits added materially to the interest of the exhibition. Mr. H. Shoesmith, Claremont Nursery, Woking, staged sixty well-developed Japanese Chrysanthemum blooms. These contained many of the more recent novelties. Six handsome flowers of *Phœbus* were much admired. Half-a-dozen blooms of *Golden Gate* in the same exhibit were especially rich in colour. Messrs. Jackman and Son and Mr. Baxter, both of Woking, also staged cut blooms. Mr. Nottage of the Goldsworth Nursery had a group of well-grown Chrysanthemums.

BIRMINGHAM AMATEURS' SHOW.—NOVEMBER 20TH.

THE Birmingham District Amateur Gardeners' Association held its first exhibition of Chrysanthemums at the rooms in Colmore Row, on Wednesday evening last. The exhibits were numerous (in some of the classes there were as many as six or seven exhibitors), and the blooms were of excellent quality throughout. The success of the exhibition exceeded the most sanguine expectations of the Committee, and it will act as a great incentive to make it an annual event. The following is a list of the prizewinners:—For six Japanese blooms—first, W. A. Sarsons, Moseley; second, J. H. Burton, Coleshill; third, W. England, Lozells. For three incurved—first, W. A. Sarsons; second, H. Lathwood, Balsall Heath; third, W. England. In the class for three blooms (various)—first, W. H. Peake, Handsworth; second, S. Smith, Aston; third, W. H. Crabb, Saltley. For one specimen Japanese—first, W. H. Crabb; second, W. A. Sarsons; third, J. H. Burton. For one specimen incurved—first, W. H. Peake; second, not

awarded; third, C. Daniell, Handsworth. For two dwarf plants—first, W. H. Peake; second, W. England.

A special certificate was awarded to Mr. T. H. Woolley, Acocks Green, for a very fine exhibit of Chrysanthemum blooms, not for competition. The Association is increasing in numbers so rapidly that the Committee has been forced to look out for a larger room for the meetings, and accommodation has been secured at the new Technical School, Suffolk Street, where they will commence in the new year. These splendid results are to some extent due to the energy and tact displayed by the officers, and we are of opinion that this Association has a great future before it in the Midland metropolis.

SOLIHULL.—NOVEMBER 20TH AND 21ST.

THE third annual exhibition, held in the rooms of the Public Hall, presented a most attractive appearance and a considerable improvement on its predecessors. The exhibitors were confined to the district. The groups of Chrysanthemums for effect were the principal feature of the show, and the leading prize ones would have called for admiration at a much larger exhibition. Meritorious also were the cut blooms, and highly attractive was the superb assemblage of bouquets, buttonholes, and sprays. More especially so was the prize (there being only one prize offered, and that a special) shower bouquet exhibited by Mr. C. Haynes, gardener to W. C. Alston, Esq. Specimen Chrysanthemums in pots reflected much credit on the growers. There was a very fine show of vegetables by amateurs and cottagers as well as gentlemen's gardeners.

For a group of Chrysanthemums arranged for effect Mr. G. Robbins, gardener to T. Hewitt, Esq., was worthily accorded the premier honour, the blooms being large and fresh. Mr. T. Preece, gardener to S. Leitner, Esq., proved a close second with a well arranged display; and the same remarks apply to that of the third prizetaker (Mr. D. Bagge, gardener to W. E. Perks, Esq.), an extra prize being accorded to Mr. J. Eales. In the class for smaller groups Mr. T. Leeson, gardener to H. Chattock, Esq., and Mr. T. Warren, gardener to W. A. Upton, Esq., were respectively first and second with very pretty arrangements. A lively competition in the various classes of Chrysanthemums in pots was worthily participated in by Messrs. J. Eales, G. Preece, G. Robbins, and others.

Particularly fine, both in size and quality, were the prize cut blooms exhibited by Mr. G. Preece, of twelve Japanese varieties, including such as Gloriosum, Charles Davis, Stanstead White, Vivian Morel, Mrs. C. Harman Payne, President Borel and Good Gracious, which secured the first prize, closely followed by Mr. G. Robbins. Mr. G. Preece again proved victorious with twelve incurved blooms, Jeanne d'Arc, Madame Darrier, Violet Tomlin, Queen of England, Baron Hirsch and Camille Flammarion possessed good substance, as also did Mr. G. Robbins' second prize blooms.

Primulas were shown in considerable numbers and were equal to those staged at Birmingham. Mr. G. Robbins led the way with strong plants furnished with flowers of excellent quality, whilst his first prize collection of Cyclamens were examples of high culture. Mention must be made of a stand containing six blooms of Edwin Molyneux Chrysanthemum, exhibited by Mr. T. Preece, and of the "Sunflower" exhibited by Mr. H. Dix, gardener to A. Lovekin, Esq., both being highly meritorious.

SUTTON COLDFIELD.—NOVEMBER 20TH AND 21ST.

THIS exhibition was, as usual, held in the Town Hall, and was one of the best the Society has brought together. The exhibits, both in numbers and quality, exceeded nearly all seen at previous exhibitions, and was the more creditable from the fact that it was of a local character.

The most striking feature were the several groups of Chrysanthemums. The premier honour was secured by Mr. J. E. Pears, gardener to A. Thorpe, Esq.; second, Mr. G. A. Halford, gardener to E. Chatrain, Esq.; both examples evidenced much taste and judgment in their arrangements, and combined with some excellent blooms, deserved the well bestowed encomiums of the Judges. In the class for smaller groups where only one man is kept, Mr. H. Humphreys, gardener to Mrs. Bidlake, was awarded the first prize; and Mr. J. Padbury, gardener to C. H. Pugh, Esq., the second for a very tasteful arrangement. Specimen Chrysanthemums in pots were an attractive and well represented feature. For three Japanese plants, Messrs. Thorpe, Hodgkinson, and Chatrain secured the prizes in the order named.

Cut blooms were numerous staged, and some very fine ones elicited warm praise from the Judges. The first prize was well won by Mr. A. Jenkins, gardener to A. W. Wills, Esq., in the class for twenty-four blooms of incurved and Japanese in equal numbers, and noticeable among which were W. H. Lincoln, Mdlle. Thérèse Rey, Colonel Chase, L. B. Bird, Edwin Molyneux, and Etoile de Lyon. The second prize was awarded to Mr. Hughes who had also an excellent stand. In the class for twelve blooms of Japanese, the first prize fell to Mr. A. Jenkins; whilst the second prize was secured by Mr. J. E. Pears.

Primulas were very well shown, the first prize being accorded to Mr. Thorpe, and the second to Mr. E. Ansell for twelve plants; for six ditto Mr. Thorpe was chief victor. Table plants, Zonal Pelargoniums, and exotic Ferns formed an attractive feature. Floral dinner table decorations, open to ladies, proved another very attractive feature, there being no less than six exhibits. The first prize was accorded to Miss A. E. Eddowes for an exquisite arrangement of orange and light red Chrysanthemums, backed with rich autumn coloured foliage, and long sprays of richly coloured brambles laid across the table-

cloth; the second prize was won by Miss F. Gray, whilst Miss R. Jerome secured the third.

Not the least interesting feature in the show were two collections of fungi, each year prizes being offered for such uncommon exhibits; the specimens under notice having been collected by Mr. G. Gibbs and Mr. A. Horton, both railway linesmen, and who laid Sutton Coldfield Park under contribution for the greater portion of their exhibits.

YORK.—NOVEMBER 20TH, 21ST, AND 22ND.

THE sixteenth annual autumn exhibition was held in the Exhibition Building, a magnificent site, on the dates named. A falling off in the quantity of cut blooms was distinctly perceptible, as also was there in the specimen plants. On the other hand groups of miscellaneous plants were a distinct advance, and so were the fruit and vegetable classes; especially does this apply to the Grapes, of which there was exceedingly keen competition. Mr. Lazenby, the hard-working, courteous Secretary, had all the arrangements made as usual in a methodical manner. Handsome prizes were offered in many classes.

That for a group of Chrysanthemums, interspersed with foliage plants, arranged for effect in a space not exceeding 120 square feet, for which a silver cup and a good money prize were the chief attractions. Five handsome groups were arranged, Mr. G. Cottam, jun., Alma Gardens, Cottingham, Hull, was a decided first with an arrangement that left little to be desired. The Chrysanthemums were of good quality, the foliage plants—Crotons and Palms—well chosen, and artistically displayed. Mr. R. McIntosh, gardener to J. T. Hington, Esq., York, second with a bold bank of bloom, but lacking arrangement. Mr. G. Slater, gardener to Mr. Alderman Close, The Hollies, York, third. Prizes were offered for a circular group of Chrysanthemums only, cultural excellency to be the leading feature. Mr. Everard, gardener to Mrs. Gutch, Holgate, York, was distinctly ahead with plants carrying fine blooms. Mr. D. Dickinson, gardener to W. B. Richardson, Esq., York, second. Mr. W. Hunt, gardener to J. Sinclair, Esq., York, third.

For four Japanese Chrysanthemums Mr. Dickenson won first place with good-sized, not too formally trained plants of Vivian Morel, C. Davis, and Mons. Bernard freely flowered. Mr. Everard second. The last-named won for four and one incurved specimens, for one Japanese and one Anemone-flowered, in all cases showing creditable examples of leading varieties.

Cut blooms were of average quality. The principal class was that for eighteen incurved and the same number of Japanese in not less than twenty-four varieties. A challenge cup, value £20, was added to the first prize of £10. For this four competed. Mr. J. Folkard, gardener to Sir J. Walker, Sandhutton Hall, York, won the premier position somewhat easily by the superiority of his incurved blooms, which were capitally presented. The most striking blooms were Mrs. R. King, Princess of Wales, Hero of Stoke Newington, Mrs. Coleman, Violet Tomlin, Golden Empress, Miss M. A. Haggas, and Empress of India. Japanese: Vivian Morel, Mdlle. M. Hoste, T. Wilkins, Sunflower, E. Molyneux, M. Ch. Molin, and President Borel. Mr. Anderson, gardener to A. Milnthorpe, Esq., Cattal, York, second with better Japanese but poor incurved. Mr. P. Blair, gardener to the Duke of Sutherland, Trentham, Stoke-on-Trent, third. For eighteen incurved Mr. McIntosh won the premier place with small, but neat and fresh blooms—Princess of Wales, Beauty, Golden Queen of England, Lady Dorothy, and Princess Teck were the best. Mr. T. Dunn, Pontefract, second, Mr. Folkard, third.

A really good stand of blooms won for Mr. Anderson first prize for twelve incurved; Messrs. Folkard and Findlay, gardener to R. H. Heywood Jones, Esq., Pontefract, second and third. Messrs. G. Longster & Sons, Mal'ou, won for six incurved. For eighteen Japanese Mr. Folkard won with good blooms of C. Davis, Sunflower, G. W. Childs, E. Molyneux, Mdlle. M. Hoste, Mrs. F. Jameson, and Louise. Messrs. Longster & Sons, second. Mr. T. Ketchell, gardener to C. H. Simpson, Esq., Pontefract, third. Mr. D. Williams, gardener to Earl Feversham, Duncombe Park, Helmsley, secured the leading award for twelve Japanese with the best blooms in the show—C. Davis, E. Molyneux, Madame O. Mirbeau, G. C. Schwabe, Vivian Morel, T. Wilkins, Mdlle. T. Rey, and F. Davis. Mr. G. Anderson second, Mr. G. Craig, gardener to Miss Barclay, Richmond, third.

Mr. T. Dunn staged fully developed blooms of Florence Davis, and secured the leading award for six white, any Japanese, Mr. Williams being similarly placed for six any other colour with creditable examples of Charles Davis. Messrs. Longster & Sons won for six yellow or bronze with Lord Brooke. Mr. Williams followed with W. H. Lincoln. Mr. A. Lunt, gardener to Lord Herries, Everingham Park, York, won for six bunches single-flowered varieties, Mary Anderson and Snow Wreath being noticeable. Anemone-flowered varieties were excellent. For twelve Mr. Ketchell won with perfect blooms of such varieties as Mrs. J. Benedict and John Bunyan. For a stand or table of cut Chrysanthemums, 8 feet by 3 feet, to be cut with stems, quality of blooms to be the first consideration, Mr. G. H. Dobson, gardener to R. Lawson, Esq., Ouse Cliff, York, won the leading position with good blooms displayed amongst small Palms; Mr. Smallwood, gardener to H. Leatham, Esq., Heworth, York, second. Baskets of Chrysanthemums were freely shown. Mr. J. S. Holmes, York, had the premier arrangement of white and yellow blooms only, and pretty it was.

Apples and Pears were a strong feature. Mr. G. Bunyard, Maidstone, had 150 dishes of leading varieties in their usual condition; Mr. J. Watkins, Hereford, had a good display also, and so had Messrs. J. Backhouse & Son, along with a choice collection of shrubs in pots, which were seen to the greatest advantage at the back of the orchestra.

Messrs. Sutton & Sons, Reading, had ninety varieties of Potatoes in large heaps, illustrating well the new and old varieties. Messrs. Sutton and Sons received a gold medal and a certificate of merit of their exhibit, besides four other certificates, of which one was for their Supreme and another for their Satisfaction Potatoes. These found many admirers. These and the previously named exhibits were "not for competition."

WARWICK.—NOVEMBER 21ST AND 22ND.

THE show which a few years ago was started at Barford through the liberality of C. A. Smith-Ryland, Esq., and Mrs. Smith-Ryland—well-known lovers of the autumn queen—was this year transferred to Warwick as being a more central position. The wisdom of this step was amply demonstrated by the fine display brought together in the Shire Hall, the competition in the majority of classes being particularly keen. Cut blooms were undoubtedly the feature of the show, as several prominent Midland growers, fresh from their victories at Rugby and Banbury, journeyed down to Warwick to enter the fray.

In the class for twenty-four Japanese, in not less than eighteen varieties, five good stands were staged. Mr. H. Dunkin, gardener to the Earl of Warwick, proved the winner, with a stand of fine flowers, noteworthy for their depth, colour, and perfect freshness. The varieties were:—Back row: Miss Dorothy Shea (very deep), Princess May, Thos. Wilkins, Mrs. E. D. Adams, G. C. Schwabe, Etoile de Lyon, Chas. Davis (deep and well coloured). Middle row: Mrs. W. H. Lees (fine), Golden Wedding (very bright), Stanstead White, Vivian Morel, W. H. Lincoln, Mrs. J. Myers, and Florence Davis. Front row: Etoile de Lyon (fine colour), Duke of York, Mdle. Thérèse Rey, C. C. Schwabe, A. T. Emery, and Boule d'Or (good). Mr. Masterman, gardener to Countess Camperdown, Banbury, was second, his stand containing very fine blooms of Etoile de Lyon, Florence Davis, Phœbus, and Mr. W. H. Bromhead. The third prize fell to Mr. Blakeway, gardener to P. A. Muntz, Esq., Dunsmore, Rugby, Mrs. E. W. Clarke (grand), G. C. Schwabe, and Miss Dorothy Shea being his best blooms.

For twelve Japanese Mr. Dunkin was also first with a good even stand, the second prize going to Mr. Brown, gardener to J. Cartwright, Esq., Banbury, and the third to Mr. Masterman. Seven good stands were staged in the class for six Japanese, distinct, and after a careful scrutiny Mr. Dunkin just managed to win; Mr. Liney, gardener to W. Low, Esq., Wellesbourne, Warwick, being a close second, and Mr. Blakeway third. In the two classes for incurved, twelve and six, Mr. Dunkin won easily with thoroughly good and well finished flowers, Messrs. Brown and Masterman following in the order named.

For one Japanese specimen Mr. West, florist, Warwick, won the first prize with a good example of Vivian Morel; Mr. J. Simpson, gardener to W. Smythe, Esq., The Lawn, Warwick, being a good second. These exhibitors occupied the same positions for three plants. Mr. West won the premier award for a group of plants arranged for effect, foliage plants being allowed; for the first, superior finish in his arrangement fairly won him this position, although the quality of the blooms in the second and third prize groups was a long way ahead. The second prize fell to Mr. J. Simpson, and the third to Mr. Higgins, gardener to J. W. Margetts, Warwick.

Mr. A. D. Christie, gardener to the Marquis of Hertford, Ragley Hall, secured the first prize for a bouquet of Chrysanthemums, and Messrs. Finch & Co., Leamington, won for a cross of the same flowers. Mr. Simpson was a good first for six Primulas, and Mr. C. Wilson, Warwick, secured the premier award in a strong competition for six table plants.

Mr. F. Perkins, Leamington, made an extremely artistic display with Chrysanthemums, arranged in a variety of ways. Mr. J. Kitley, Castle Nursery, Warwick, exhibited grand examples of Gros Colman and Alicante Grapes, and an attractive collection of Palms in small pots. Mr. C. Wilson staged fine Apples, Pears, and pot plants; Mr. Thos. Marsh, Priory Nursery, Warwick, a large collection of hardy fruits; Grand Pedigree Onions came from the famous firm at Banbury (Deverill); twenty bunches of Grapes, Mr. R. Greenfield, Leamington; and cut blooms and table plants from Messrs. Clibran & Sons. Mr. R. Jones, gardener to C. A. Smith-Ryland, Esq., Barford Hill, Warwick, staged a grand collection of forty-eight Japanese and twelve incurved blooms. These made quite a display in themselves, and included the very best varieties in commerce. Under the careful supervision of Mr. J. Kitley, the Hon. Sec., the arrangements were well carried out, and all concerned have reason to be proud of the first Chrysanthemum show held in Warwick.

NORWICH.—NOVEMBER 21ST, 22ND AND 23RD.

THE annual autumn exhibition of the Norfolk Horticultural Society was held in St. Andrew's Hall, which is a capital site for the holding of such a show. There was a marked improvement in the number of plants exhibited, and also in the Japanese blooms. On the other hand the incurved section exhibited a decided falling off in every way. The arrangements in the skilled hand of Mr. J. E. T. Pollard, the Hon. Secretary, left little to be desired.

Cut blooms were the most important part of the schedule, numerous classes being provided for them. The principal one was that for forty-eight, distinct, Japanese. Five entered, making a pleasing display. Mr. W. Allan, gardener to Lord Suffield, Gunton Park, Norwich, won the premier position with medium-sized blooms of capital quality and well staged. The varieties were—Back row: Stanstead White (this was the premier bloom of the show also), Sunflower, Beauty of Castle-

wood, Madame Carnot, Mrs. C. H. Payne, G. C. Schwabe, Etoile de Lyon, Charles Davis, Rose Wynne, E. Molyneux, Miss D. Shea, Mrs. W. E. Clark, Coronet, Waban, Primrose League, and Vivian Morel. Middle row: Miss M. Blenkiron, President Borel, Countess Hambledon, Lord Brooke, Charles Blick, J. P. Kendall, Niveus, Violet Rose, Golden Wedding, Princess May, Mrs. A. Spaulding, Mdle. T. Rey, Mr. H. Broomhead, Duke of York, and W. H. Lincoln. Front row: F. Davis, R. Owen, Elmir de Smith, M. Ch. Molin, Vice-President Audiguier, Princess Victoria, C. Blussett, Boule d'Or, G. W. Childs, Louis Boehmer, Puritan, R. Flowerday, Autumn Tints, White Louis Boehmer, and W. Seward. Mr. Rogers, gardener to Lord Rendlesham, Rendlesham Hall, was a good second; and Mr. Musk, gardener to Lord de Ramsay, Haverland Hall, third.

Particularly strong was the competition in the class for thirty-six Japanese, open to county exhibitors only. Mr. Ocle, gardener to the Marchioness of Lothian, received the premier award for a most creditable stand of blooms. Etoile de Lyon, E. Molyneux, Col. W. B. Smith, Lord Brooke, G. C. Schwabe, G. W. Childs, and Good Gracious were the most noteworthy. Mr. Atkinson, gardener to E. S. Trafford, Esq., Wroxham Hall, second; Mr. Davidson, gardener to Mrs. Petrie, Westwick House, Norwich, third. The first prize for twelve Japanese was awarded to Mr. Messenger, gardener to C. H. Berners, Esq., Wolverstone Park, Ipswich, for perhaps the best stand in the show. Mrs. W. H. Lees, Madame Carnot, G. C. Schwabe, Triomphe de St. Laurient, Violet Rose, F. Davis, Mdle. Marie Hoste, Mdle. Thérèse Rey, and Beauty of Castlewood were particularly heavy and bright. Mr. Messenger also secured the leading award for six Japanese with really fine specimens. Mr. G. Baker, gardener to B. E. Fletcher, Esq., Warlingford Hall, a good second. Eleven competed.

There were but three competitors in the class for twenty-four incurved. Mr. J. C. Shiddick, gardener to Hon. A. E. Fellowes, M.P., Honingham Hall, won first place easily with small neat blooms; Mr. H. Atkinson second. Mr. G. Baker won for twelve incurved. Mr. F. Kirk, gardener to R. Cross, Esq., Worstead, was first for six incurved, any one variety, with fairly good blooms of Empress of India, one of which was selected as the premier bloom in the show. Mr. Kirk also staged the best reflexed and Anemone Pompons, staging creditably in each class. Pompons, in twelve varieties of six blooms each, were an interesting feature of the show. Mr. J. Eastwood, gardener to J. Sutton, Esq., Telegraph House, Great Yarmouth, won premier position with charming blooms beautifully staged. So pleasing was the effect of the blooms set up in this manner that we give their names:—Rubra perfecta, Golden Madame Marthe, Marabout, Florence Nightingale, Comte de Morny, Ossian, Black Douglas, Madame Marthe, Perle des Beautés, Lizzie Holmes, Eclipse, and Elise Dordan. Mr. W. Turner, gardener to Dr. J. Wilson, Great Yarmouth, was a good second. Mr. Eastwood also won for twelve Anemone blooms with really good specimens, and also for six bunches of single-flowered varieties. Mr. Turner was a close second.

Plants were numerous and good. For six Japanese Mr. G. Woodhouse, gardener to H. Trevor, Esq., The Plantation, Norwich, was first with freely flowered specimens, Mr. S. Fisher, gardener to E. Masters, Esq., Beccles, second. The last named won for six Pompon flowered varieties. Mr. Bolton, gardener to J. G. Snelling, Esq., Eaton Hall, won for six reflexed and for the same number of incurved varieties with creditable examples in both classes. Groups of Chrysanthemums and foliage plants were poor in quality.

Mr. Notcutt, Broughton Road Nursery, was awarded first-class certificates for Japanese Edith Tahor and Major Bonnaffon incurved, often described in these pages. Messrs. Daniels Bros. had a remarkably fine exhibit of Chrysanthemums, fruit, and vegetables, which was much admired; as also had Messrs. Catbush & Son, Highgate.

MANCHESTER.—NOVEMBER 22ND AND 23RD.

A MAGNIFICENT exhibition is the only fitting tribute that could be paid to the excellent show opened in the Town Hall on Friday last. Not only was the competition extremely keen in every class, but the blooms were of superb quality, rivalling the best of those shown at the leading exhibitions this season, and certainly a long way ahead of anything seen in Manchester.

The principal prize was for thirty-six cut blooms, incurved, not less than eighteen varieties. Seven staged, and here as for many years past Mr. West, gardener to E. Behrens, Esq., Whitchurch, was a magnificent first with flowers of exceptional form and colour in the following varieties:—Chas. H. Curtis (2), Wm. Tunnington (2) (superb), Jno. Lambert (2), Mrs. R. King (2), C. B. Whitnall (2), Robert Cannell (superb), J. Agate (2), Queen of England (2), Mr. J. Kearns (2) (fine), Brookleigh Gem (2), Jno. Fulford (very fine), Baron Hirsch (2), Golden Empress, Lord Rosebery, Mrs. Coleman, Princess of Wales (2), Jno. Salter, Violet Tomlin, Miss M. A. Haggas (2), Lord Alcester (2), and Jeanne d'Arc. Mr. Townsend, gardener to Col. Lloyd, Shrewsbury, was a moderate second, his best blooms were Wm. Tunnington, C. H. Curtis, Empress of India and Lord Alcester. Mr. T. Carling, gardener to Mrs. Cope, Dove Park, Woolton, was a good third, and Mr. Goodacre, gardener to the Earl of Harrington, Elvaston Castle, Derby, fourth. Mr. R. Pinnington extra. For twelve incurved Mr. West simply swept all before him with C. H. Curtis, fully 6 inches deep, and Wm. Tunnington, grand. Mr. Townshend was a fair second, and Mr. Vaughan, gardener to T. Brocklebank, The Hollies, Woolton, third.

Eight staged in the class for twenty-four Japanese, and here again Mr. West was a splendid first, with solid flowers wonderfully well

coloured. The stand comprised Mrs. Dr. Ward, Swanley White, E. Molyneux, W. H. Lincoln, Etoile de Lyon, Florence Davis, Silver King, Niveus, Vivian Morel, Duke of York, Mdle. Thérèse Rey, G. C. Schwabe, Miss M. Blenkiron, Mons. Georges Biron, Primrose League, President Borel, Beauty of Castlewood, H. L. Sunderbruck, E. L. Jamieson, International, Vicomtesse Hambledon, Mons. Panckoucke, G. W. Childs, and Louise. Mr. J. Kirkman, gardener to J. Stanning, Esq., Leyland, was second; and Mr. Townshend third.

For thirty-six miscellaneous Mr. Vaughan was placed first—Vivian Morel, Mme. Octavie Mirbeau, Etoile de Lyon, Boule d'Or, Lord Brooke, Jno. Bunyan, Mrs. Judge Benedict, and John Salter. The Earlswood Nursery Co. was a moderate second; Mr. R. Pinnington, gardener to Mrs. Banner, being a capital third; and Mr. T. Hughes, gardener to Arthur Cook, Esq., fourth.

The staked Chrysanthemum plants were something to remember, a huge bank three deep running the entire length of the hall. The majority of the blooms were fully up to exhibition size, well coloured, with dark green foliage to the top of the pots. For nine large flowering T. Harker, Esq., Bank House, Fallowfield, was placed first, a noticeable plant being Mdle. Marie Hoste. G. H. Gaddum, Esq., Adria House, Didsbury, a capital second. Third, J. C. Chorlton, Esq., Didsbury Priory. For six Japanese the same exhibitors won with excellent plants. For six Pompons—first, J. C. Chorlton, Esq.; second, Jas. Brown, Esq., Heaton Mersey; third, R. Hardwick, Esq., Woodbeys Grange.

The trade made an imposing display. Messrs. Heath & Sons, Cheltenham, staged choice Orchids; Mr. J. Cypher, Cheltenham, beautiful varieties of Dendrobium Phalaenopsis and a fine plant of Cypripedium insigne alba magnifica, and many other choice forms; Messrs. Clibran & Sons, Altrincham, new and old Chrysanthemums and a display of miscellaneous plants; Messrs. Cannell & Sons, Swanley, new Chrysanthemums, also bunches of their noted Zonal Pelargoniums; Messrs. Dickson & Robinson, and Dickson, Brown, & Tait, Cyclamens and other plants; Jos. Broome, Esq., cut flowers grown outdoors at Llandudno; John Shorland Ball, Esq., Bowdon, choice Orchids; Mr. Boond, Lymm, Cheshire, cut Chrysanthemums; and Mr. Jno. Watkins, Pomona Farm, Hereford, had a table of fifty dishes of splendid Apples. To all the above certificates were granted.

LUTTRELLSTOWN, CLONSILLA, CO. DUBLIN.

THIS fine demesne, better known as Woodlands, has lately had its ancient name restored to it by its noble owner Lord Annaly, whose ancestors acquired it by purchase from the Luttrell family. In a descriptive guide, entitled "Rambles near Dublin," are the following notes, "It is believed that the estate was granted to Sir Geoffrey Luttrell in the reign of King John . . . Lord Carhampton was the last of the Luttrells who owned it." The account concludes by saying that the name of Luttrellstown was changed to Woodlands when it came into the hands of the present family, in whose possession it has now been for several generations. The demesne of some 600 acres is situated on the northern bank of the Liffey, to which river it contributes a feeder, dashing down through the Glen—a picturesque gorge, which is one of the primary features of the place. The Castle, many turreted and much castellated, bears the impress of antiquity on its face, although one wing only dates back to its original owners. Yet the newer portion has been so happily blended with the old as to form a whole, from one lofty turret of which the red, white, and blue flutters in the breeze, giving an ideal of the feudally romantic. From the south front a commanding view is obtained of the long sweep of the Dublin mountains, and here, at the foot of the Castle, an intricate geometrical design of flower beds is outlined in Box. This owes its origin to the talented hand of the late Lord Otho Fitzgerald, who also left a memento of his artistic skill in the superbly designed organ at Carton House, the residence of the Duke of Leinster.

The Glen, which contributes so much of beauty and interest to Luttrellstown, is worthy of more than a passing notice. During the summer many visitors to "dear, dirty Dublin" have, by the courtesy of the present occupier, J. G. Nutting, Esq., D.L., enjoyed its charms from the top of the Dart coach, though one may easily imagine the journey down the steep, tortuous glen being a trying one to nervous passengers. At the exit by "the Grand Lodge" the dark silent Liffey glides smoothly along, the mile of road from here to Lucan—parallel to its course—presenting fine natural scenery.

Returning to the Castle, between that and the gardens proper, a palatial conservatory of iron and glass contains a good collection of Palms, of such dimensions as contribute effectually to decoration of the spacious apartments when so required. From here the American garden is approached with winding walks and wooded banks but little inferior in natural beauty to the Glen. Many good specimens of the Pinus, Picea, and Abies tribe, from 30 to 50 feet high, flourish in the sheltered situation.

The fine road from the Castle to the Clonsilla entrance is, for part of its distance, bordered with Limes, not set so far back at the original planting as is consistent with the now more fully developed effects. This road crosses the lake by a substantial bridge. Varieties of Canadian and Sebastopol geese have been introduced by Lord Annaly, and with the native wild fowl are afforded protection from master fox by rafts moored in mid-stream. Noticeable in the well timbered parts of the demesne are fine specimen Beech, such Beech as are only (in my experience) to be found on the limestone which here abounds. Such

are the more prominent features of the place presided over by Mr. Buggins, who is manager of "all he surveys," comprising the farm, forestry and garden departments. Needless to say he is a busy man, and in the farming department it is comforting to find one, at least, who is able to answer that knotty question "Does farming pay?" in the affirmative. Here, whether it is Potatoes, Wheat, Oats, or that good stuff for the hunter—first crop hay, he undoubtedly takes heavy crops of prime produce from the soil; but, it may be added, he is generous minded in putting the wherewithal into it. "Bought a dairy yard to-day in Dublin" means that so many boat-loads of rich aliment will be transferred via canal to the lands of Luttrellstown, and "it pays."

Coming (by a roundabout way) to the garden, there are, amongst many others, two distinct features of culture here carried out pre-eminent—viz., Peaches and Tomatoes. Of the latter two varieties are grown, Sutton's Perfection and Challenger, and during a recent brief trip to Tomatoland—tother side o' London—I saw no such prolific yield, space for space of house room, as were grown here. Two lean-to Peach ranges, each 210 feet long by 18 feet wide, have given such results as drew down encomiums from the Irish Press on the head (and hand) of the cultivator. At present the houses are gay with 700 Chrysanthemums grown for cut (not show) bloom, and one cannot but commend the foreman for the results obtained by his vigorous disbudding. Callas are exceedingly well done. Mr. Buggins believes in planting out single crowns; of the 1500 potted into 6 and 7-inch pots a wealth of spathes is now in evidence.

The vineries comprise a range the same length as the Peach houses, in four divisions, planted with Muscats, Hamburgs, Gros Colman, Alicantes, and Lady Downe's. The bulk of the late varieties are still hanging—good useful bunches with, perhaps, not quite so much colour as is usually obtained here. In a sunny nook facing this range is the head gardener's house, framed in front by a low Laurel hedge, a picture of neatness and brightness without, the same within, with hospitality to boot. Our friend is up to date, for that edition de luxe of fruit literature—the "Fruit Grower's Guide"—cannot escape notice, and outside his men were to be seen delving at the roots of Pears and Apples. Good fruit of these are to be seen in the store house, Mère de Ménage being especially conspicuous in its quantity, quality, and high colour.

Vegetables are principally grown under field culture, to which some 6 acres is devoted. A good breadth of Strawberries of the leading kinds is grown under similar conditions, and the moist lime-impregnated soil suits them admirably. Busiest of the busy is he who carries out the triple alliance of duties (previously mentioned). Happiest of the happy, I would add, but that may not obtain until "the rabbits cease from nibbling. . ."—K., Dublin.

OUTDOOR PEACHES.

AT the fortnightly meeting of the Birmingham Gardeners' Mutual Improvement Association on the 18th inst., Mr. A. Young, head gardener at Abberley Hall, Stonorport, read a most instructive and practical essay on the "Culture of the Peach on Outside Walls," and it was considered to be one of the best papers on fruit culture yet rendered at the Society's meetings. One of the members remarked that Mr. Young's teachings were borne out by the splendid crop of fruit he had the privilege of beholding about two months since on the 100 yards of Peach wall at Abberley Hall, and worth a long journey alone to witness.

Replying to the inquiry regarding the immunity of the cracking of the Peach stone at Abberley, the essayist was strongly inclined to attribute it to the large per-centage of lime contained in the heavy soil there, and which it would be folly to dig over in the autumn instead of in the spring. Owing to its retention of moisture thorough drainage of the borders is a great assistant at Abberley towards success.

It was Mr. Young's aim to disprove the almost invariable excuse that the decadence in this country during the last quarter of a century of the successful culture of the Peach and Nectarine was attributable to a change of climate. So far as the open air culture is concerned, allowing, of course, for suitable sites and soil, most satisfactory results may be obtained, and as evidence of the value of the crop of Peaches secured at Abberley this autumn, fruits realised in Covent Garden Market 18s. per dozen, which the essayist deemed a good and paying return. Out of the several varieties Walburton Admirable took the lead; whilst for the newer variety Dymond he predicts a prominent future. In the discussion that was provoked by the essayist's remarks, there was a consensus of opinion that at least within a four or five miles area of the smoky district of Birmingham only unsatisfactory results could be obtained, unless—apart from the protectiveness of glass structures—extraordinary means were adopted.

As a general insecticide one of the least expensive and efficacious, petroleum and water with a little common washing soda, was recommended, and if only for the black or green aphides a decoction of quassia chips and soft soap could not well be surpassed in Mr. Young's estimation. Adverting to that disastrous malady the Peach-leaf blister, one of the members opined that the prevalent notion that it was caused by a species of fungus was erroneous, but it was rather the consequence of the rupture of the vessels of the foliage, and that the extravasated sap afforded a suitable medium for the generation of the fungus spores.

In acknowledging the vote of thanks at the close of the proceedings, Mr. Young intimated that it would be a great pleasure to him to receive a body of the members at Witley Court, the seat of the Earl of Dudley, to whom he has been appointed head gardener, and is to enter upon his duties at Christmastide.

LANKESTERIA BARTERI.

IN supposing *Lankesteria Barteri* to be stove evergreen shrub "R. P. J." is perfectly correct, and the accompanying illustration (fig. 78) will convey to our correspondent the general character of the flower and leaf growth. The profusely borne flowers are primrose yellow in colour, have an orange hued eye, and are very attractive. The plant is a native of West Tropical Africa, and requires strong heat with a moist atmosphere. The compost should consist of loam and leaf soil in equal parts, with a little sand. The plant is of bold habit, with large opposite, oblong, lanceolate, dark green leaves, and the rich yellow and



FIG. 78.—LANKESTERIA BARTERI.

orange-scented flowers are produced in large terminal or axillary spikes. Cuttings of the young shoots inserted in sandy soil in the spring in heat root very readily.

GARDENERS' CHARITABLE AND PROVIDENT INSTITUTIONS.

THE GARDENERS' ROYAL BENEVOLENT INSTITUTION.—*Secretary*, Mr. G. J. Ingram, 50, Parliament Street, London, W.C.

UNITED HORTICULTURAL BENEFIT AND PROVIDENT SOCIETY.—*Secretary*, Mr. W. Collins, 9, Martindale Road, Balham, London, S.W.

ROYAL GARDENERS' ORPHAN FUND.—*Secretary*, Mr. A. F. Barron, Royal Horticultural Society's Gardens, Chiswick, London, W.



FRUIT FORCING.

Peaches and Nectarines.—Where it is required to have fruit ripe in April or early May the earliest house should be started at the beginning of December. The house may be kept close, but admitting air freely above 50°, employing fire heat only to prevent the temperature falling below 35°. The more slowly the trees are excited the stronger will be the blossom, and the better chance of a good set, about which there need be no anxiety, if only the wood is well ripened and the trees are duly supplied with water at the roots. A thorough supply of water should be given to inside borders, and if the trees are weakly afford liquid manure, not too strong, which, and the soil not being made too wet, will tend to a more vigorous break. Sprinkle the trees in the afternoon of fine days, but in dull weather morning syringing and sprinkling in the afternoon will be sufficient, it not being desirable to keep the trees constantly dripping with moisture. The outside border must be well protected with litter or dry fern, as it is important that the soil does not become frozen and remain so for a lengthened period.

Succession Houses.—Except in the latest house all the leaves are off, and from these they must not be forcibly removed until they part readily from the trees. The trellis may be shaken or the trees brushed over lightly with a broom; but there must not be any attempt at forcibly removing them with the hand or other means. When the leaves are all down unfasten the trees from the trellis, prune and thoroughly cleanse them and the house, and if need be paint the woodwork and trellis. Tie the trees to the trellis; not too tightly, as abrasions of the bark are prolific of gumming. Remove the surface soil and supply fresh. Give a good watering to the inside border, thereby having all in readiness for a start when required. If the lights are not removed admit air to the fullest possible extent, so as to keep the trees cool; but it is better to remove the roof lights.

Lifting—Planting Fresh Trees.—Any trees that do not bear satisfactorily should be lifted, have their long bare roots shortened, and those retained laid in fresh material nearer the surface. Where the soil is light it should be well firmed about the roots; but this will not compensate for more substantial material and steady supplies of nutriment. Liftings should always be attended to as soon as the leaves give indications of falling, and with a moderately moist condition of the soil the roots will push fresh fibres and be able to cater for blossom and young fruit, whereby a good set is assured, lifted trees stoning the fruit well. Trees for planting in houses are best trained to walls three or four years, lifted annually, or prepared for removal by digging round them a year previously. Such trees move with abundance of fibres, and being carefully lifted they force well the first season; but they must not be brought on too quickly and have the fruit well thinned, overcropping seriously affecting the growths and after crop. Such trees are preferable to planting young ones, which in rich borders are apt to grow too freely and fall a prey to gumming; as they require time to become furnished with bearing wood, not fruiting much in the first two or three years; hence the advantage of planting trees in an already bearing state.

Melons.—Fruits on the latest plants are beginning to net, and will be ripe during December. To swell them off they require a rather moist genial condition of the atmosphere, damping the house in the morning and early afternoon, admitting a little air early in the forenoon to insure the dispersion of moisture and induce evaporation from the foliage. Maintain the night temperature at 60° to 65°, 70° to 75° by day artificially, advancing as much as can be had after the sun passes the meridian. The plants should have liquid manure about once a week. Plants that set the fruit in September are now ripening. The house should have air constantly and a temperature of 70° to 75°, with as much more as can be accorded by day, husbanding the sun heat, but not closing the house, withholding water from the atmosphere and roots. Fruit, though not of high flavour, proves acceptable from variety at Christmas, or even later.

Cucumbers.—Continued firing dries the atmosphere more than is good for the foliage, and the fruits become stunted and swell irregularly under such conditions, while, when the pipes are close to the roots, the soil is dried too much for healthy growth. Be careful in ventilating, providing it, however, whenever a favourable opportunity offers, but exclude air when the external atmosphere is sharp and cold. In bright but cold weather turn off the top heat when the sun is powerful and likely to raise the temperature above 80° in such weather, damping the house morning and afternoon, and closing early. Care must be taken in damping, so as not to wet the embryo fruits, as they will damp off if water remains on them, or hangs from their points for any length of time. Water will be required at the roots about twice a week. Maintain a temperature of 60° to 65° at night, and 70° to 75° by day.

Winter fruiters, or plants from August or September sowings, having grown to the extent of the trellis, will have produced some and have abundance of fruits showing or swelling. It is not, however, a good

plan to allow the plants to bear to any great extent for some time, unless there is a pressing demand for fruit, and then the cropping will tell disastrously on the supplies later. Winter Cucumber plants cannot be too sturdy in growth and too thick and leathery in the leaves, but they may be too luxuriant, and in that condition highly susceptible of atmospheric changes. Attend to stopping and tying frequently, thinning to avoid overcrowding, allowing space for the unshaded development of the foliage. If canker appear subdue it by rubbing quicklime into the affected part, removing every bad leaf and decayed growth promptly, rubbing a little lime on the wounds. If mildew appear, dust with flowers of sulphur, it being well to dust some over the plants with a view to its prevention.

When white fly is first seen a little sulphur, formed into a cream with skim milk, should be brushed on the hot-water pipes; this is equally efficacious against mildew and "spot" fungus (*Glæosporium*), which sometimes causes brown spots on the fruits, and then they grow crooked and have hard flesh in places. Sulphur fumes are also disagreeable to red spider, and in nowise inimicable to Cucumbers unless the pipes are too highly heated and the fumes given off for a prolonged period at a high temperature. Aphides should be destroyed by vaporisation with nicotine or fumigation with tobacco, being careful not to give too much vapour or smoke. It is best to fumigate on two or three consecutive evenings moderately, or preferably follow the evening with early morning fumigation, choosing calm weather.

Strawberries in Pots.—All plants for early forcing should be in frames. They cannot have too much air, therefore tilt the lights in mild wet weather, and remove them altogether when it is fair and warm, keeping close only when frost prevails. Do not place them in Peach or other houses where they will be subjected to drying currents of air. Evaporation in such is constant and excessive, wastes the energies of the plants, and not infrequently so dries the soil at the sides of the pots as to destroy the active feeders. Drought is the greatest bane of the Strawberries; those in frames must have water as required, always keeping the soil moderately moist. Plants for midseason and late forcing are just as well stood on ashes, and plunged over the rims in that material or cocoa refuse, the situation being sheltered, but not shaded.

Plants of Wonder (if in stock), La Grosse Sucrée, Royal Sovereign, and Vicomtesse Hericart de Thury must be held in readiness for starting next month where early fruit is required. There is no question that a Strawberry house is the most suitable, especially when fitted with stage shelves, so that the plants will be about 1 foot from the glass—that is, the top of pots, as the wants of the plants can be furnished according to their advantageous requirements, which is not always the case when the plants have to be forced in vineries or Peach houses, but they are grown successfully in such structures, and the fruits are always appreciated, the chief point being not to bring them on too rapidly. An early Peach house takes a good number, and is particularly suited to such varieties as Noble and Auguste Nicaïe, as they do not bear as much heat in the early stages of forcing as those named above.

In the case of plants having well developed crowns and abundant roots there is nothing to fear as regards a satisfactory issue, but plants not in that condition should be started later, or be brought on very gradually. That, however, is not applicable to places where ripe fruit must be had by a given time. Where the plants are in a backward condition, their starting satisfactorily may be enhanced by making up a bed of leaves about 2 feet in height, placing the plants in a frame upon it, bringing up the plants so as to be just clear of the glass, packing the spaces between the pots with damp leaves. The bottom heat at the base of the pots must not exceed 65° to 70°, the top being kept cool, air being freely admitted, 50° of top heat not being exceeded, and when mild withdraw the lights.

Activity at the roots of the plants by means of the warmth is promoted, and the crowns will plump, the trusses being advanced considerably in embryo. After three weeks or a month of this treatment the pots must be withdrawn, raising them gradually so as to insure the plants bearing the temperature of the Strawberry house or other structure without check. If taken direct from the bed the roots at the sides of the pots would in all probability get chilled, therefore they must not be taken from the warm bed to the shelves. Very careful treatment is required to secure a satisfactory return with very early forced plants.

THE KITCHEN GARDEN.

Sowing Broad Beans.—Of late years those who must have Broad Beans extra early in the summer sow seed under glass and plant at much the same time as the earliest Peas are also put out. On light soils, or where slugs are not very troublesome, the old-fashioned plan of sowing in the autumn is still the best as being the least trouble. A sheltered border should be manured, deeply dug, made moderately firm, and the seed be dibbled in freely, to allow for losses, in rows 2 feet apart. Bury the seed to a depth of 2 inches. It will be found that this season's seed will germinate the most surely and strongly, and slugs must be either trapped by means of slates, boards, or heaps of Broccoli leaves laid between the rows, or else by frequent dustings over of the plants with soot and lime. For this sowing Early Longpod, Mazagan, and Beck's Dwarf Green Gem are the best varieties.

Sowing Peas.—Much that has been advanced concerning sowing Beans also applies to early Peas. A warm sloping border is desirable, and the early round-seeded varieties should be sown—such, for instance, as Earliest of All, Sangster's No. 1, Ringleader, and William I. Draw wide drills 3 feet apart and 2 inches deep, and sow sound seed freely.

If mice are troublesome first damp and then roll the seeds in red lead, a coating of this usually being equal to warding off mice. Cover with fine soil, and when the plants are well through the ground mould up heavily on the east side.

Early Carrots.—Forcing is not often commenced till January or February, but where frames or pits are plentiful and abundance of young Carrots are required nearly or quite all the year round sow seed now of an early form of Shorthorn. A mild hotbed should be formed, and enough of the shortest of the heating material be placed inside of the frame or pit to bring the soil well up to the lights. About 6 inches of fine sandy soil, such as may be obtained by sifting over a heap of old potting material, is needed, and the seed may either be broad-casted or sown in shallow drills. If the soil is dry at the time give a watering prior to sowing, and cover the seed with fine soil. The lights may be kept on closely and covered with mats or litter till the seed has germinated, after which admit as much light as possible, and ventilate freely, or only lightly, according to the weather. Protect from severe frost, keep a close look out for slugs, thin out lightly, and the result should be an extra early supply of tender roots.

Asparagus.—Nothing is more easily forced than Asparagus, but those who are at all inexperienced in the matter are warned that roots or plants lifted and forced are of no further value, and old or well established beds should not lightly be broken up accordingly. When there are enough newer beds coming into a full bearing condition to admit of an old one being spared, then by all means lift the roots and force, as forced Asparagus is a very choice vegetable, which never fails of appreciation. It is the usual practice with those who force Asparagus extensively to break an old bed every winter, and to form a fresh bed every spring, and in this way there is never any break in the supply. A mild hotbed in preference to the dry heat generated by hot-water pipes should be prepared, a mixture of leaves and well fermented stable manure answering best, and this may be placed either in a deep brick pit, or else in the form of a square bed, and wider than the frame to be set on it. Cover with 4 inches of rich loamy compost, and not with poor dry soil, a mistake frequently made. When the trial stick shows that all danger from overheating is most probably past, carefully fork out the Asparagus plants and pack them as closely together as they can be arranged without unduly cramping the long spreading roots. A thin covering of soil is also a mistake, finer growths, partially blanched, being had when the roots are covered with 3 inches or more of good soil. Not less than two lights should be filled at one time, and in order to keep up a succession introduce fresh roots every fortnight or three weeks. Never let the roots suffer by want of water, and if the soil is rich, and the temperature of the frame or pit does not often exceed 60° (less heat than that is desirable at the outset), every bit of growth forced from the crowns will be serviceable. Asparagus roots suffer from being lifted and stored for days or weeks before forcing commences, and in order to be certain of a supply in all weathers the better plan is to heavily cover a portion of the bed or beds to be broken up with either leaves kept together with strawy litter or bracken. This will keep the frost out of the ground, and admit of lifting being done during the warmest part of a frosty day.

Seakale.—Forcing Seakale where it is growing is very slow work, and the earlier supplies at any rate should, where possible, be had with the aid of fire heat. It is the younger plants that give the best results, and these can be prepared in a single summer. These straight young plants, each with a strong crown or two, may be nearly confined to a single stem, by breaking off the coarser thongs, and storing these for propagating purposes. This admits of their being packed closely in deep pots or boxes of rich soil. The tops of boilers, spaces under stagings in forcing houses, heated pits, and Mushroom houses are all suitable places for forcing Seakale, always providing the crowns can be kept perfectly dark, as it is blanched produce that is wanted. Keep the soil constantly moist, and if poor soil is used apply liquid manure. Thus treated two good cuttings will be had from the plants, though it need hardly be added the first, or that from bold crowns, will be the best. If the more delicate Lily White has not been either lifted and stored, or else protected with ashes, litter, or soil where it is established, it ought to be done at once, as the crowns are very liable to be ruined by frost.

Rhubarb.—The old-fashioned plan of forcing this in the open ground answers well, and is the only available method of raising early Rhubarb in many small gardens. First loosen the soil about the crowns to be forced, then cover with either deep Rhubarb pots, boxes, or flour tubs inverted over them, moveable lids or tops being required in each instance. Heavily bank over or surround with either well-prepared stable manure, manure and leaves, or leaves only, keeping the latter together by means of hurdles, and take good care no harm is done by overheating. It will be found that the heat in exposed beds fluctuates considerably. In cold windy weather the heat may decline far too low, but a change to warmer atmosphere may be followed by a great and perhaps injurious rise in the temperature. An additional covering of old carpets, matting, or litter will serve to enclose the heat in windy weather, but must be taken off and probably the heating material slightly opened out when the trial sticks, kept constantly plunged in the bed, are beginning to get uncomfortably hot, as discovered when drawn out and tested by being held in the hand. The early red forms are the best for forcing, and if strong old clumps can be spared some of these should be lifted, placed closely together, and covered with soil, in either Mushroom houses, forcing houses and pits, or even warm cellars. That is the simplest way of forwarding Rhubarb. Those clumps located anywhere near to hot-water pipes must be kept supplied with water.

THE BEE-KEEPER.

THE APIARY.

OF late the weather has been open and often mild, bees taking the advantage when the sun shone to air themselves. These frequent airings and short flights are beneficial to their health, putting them in good order to withstand the severest weather for the next three months.

None of the bees in my hives shows the slightest signs of bowel complaint in any form. Chloric dropsical fever has almost entirely disappeared, only one hive showing a trace; and this points to an important matter with the worst disease amongst bees that bee-keepers have to contend with. Previous to this I was inclined to believe that the disease originated in the queen, and that it was hereditary; but, although I cannot renounce that opinion, strong presumptive evidence shows the origin of the disease to be in the contents of the hive.

Leaving the matter alone for the present, I will watch carefully the rise and progress of the disease, experimenting with the different solutions of sulphur which stayed the disease in former experiments, at least the disease abated after the application; but the crucial test will be turning the bees into an empty hive. I am strongly inclined to believe the pollen, or water, has much to do with creating the disease, and this is confirmed by the fact that in 1893 several colonies of bees deprived of all and fed up in the autumn of that year kept healthy till they gathered pollen in the spring; all these bees became healthy again by end of July.

All our hives are in excellent order for the winter's campaign. Badly covered ones, or imperfect hives, should be thoroughly examined for damp both internally and externally. Stormy weather drives the rain through hives and coverings which in calm wet weather are quite impervious. The prosperity of hives depends on their being kept thoroughly dry during the winter and spring. In some places last winter the thermometer fell to 10° below zero, yet bees were uninjured. Had they been damp few of them would have survived.—A LANARKSHIRE BEE-KEEPER.

SEASONABLE NOTES.

HIGH westerly winds and heavy rain have prevailed for several weeks past, roofs that were not properly secured being blown in all directions. Hives that are in an exposed position should have their roofs securely fastened, either by hinges or a piece of strong cord with a brick attached at each end slung across the roof, and the bricks allowed to hang just clear of the stand. This will answer the purpose admirably, and it has the advantage of being easily removed when necessary for the examination of the stock.

All coverings ought to be examined, and if wet should be thoroughly dried before placing them on the hives again. The bees need not be disturbed, and on no account should the ticking or covering, which will be found securely fastened down to the frames with propolis, be removed, unless there is a warm dry covering at hand to take its place, as it may result in positive injury to the bees. I have sometimes known stocks of bees to be thoroughly soaked with rain after a gale, when the roofs have been blown off. In that case warm dry coverings were at once given, also dry floor boards, and the bees were none the worse for the mishap.

This shows the advantage of having all floor boards loose and interchangeable. If the floors of hives are allowed to remain damp for any length of time dysentery and spring dwindling will follow, and stocks that would otherwise have been strong will be weak and practically useless when the honey flow comes, and should be united to others. The present is the time to guard against such casualties.

The entrance to hives should be still allowed to remain open their full width, as after trying many experiments I am convinced that fresh air does no harm, provided there is plenty of warm covering on the top of the frames. The majority of my stocks face due west, from which at times we get very severe gales, still they invariably winter well. Some have ventilated floor boards, others have an eke 4 inches in depth placed under the body of hive, but all have their entrance fully open. Less damp will be found in hives treated in this manner than in those which have only an inch of space left.—AN ENGLISH BEE-KEEPER.

TRADE CATALOGUES RECEIVED.

W. Cutbush & Son, Highgate.—*Miscellaneous Plants.*

Dicksons & Co., 1, Waterloo Place, Edinburgh.—*Forest Trees and Shrubs.*

J. Veitch & Sons, Royal Exotic Nursery, Chelsea.—*Herbaceous Plants and Hardy Florists' Flowers.*



TO CORRESPONDENTS.

* All correspondence should be directed either to "THE EDITOR" or to "THE PUBLISHER." Letters addressed to Dr. Hogg or members of the staff often remain unopened unavoidably. We request that no one will write privately to any of our correspondents, as doing so subjects them to unjustifiable trouble and expense.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Bee subjects, and should never send more than two or three questions at once. All articles intended for insertion should be written on one side of the paper only. We cannot reply to questions through the post, and we do not undertake to return rejected communications.

Pelargonium Ellen Terry (T. S.).—The variety you send under the above name is an excellent one, and well worthy of all possible care. It was a pity you did not gum the blooms prior to despatch, as most of the pips had fallen. So far as we could see the only fault was in having too many pips to the truss; but this could be readily overcome by removing some of them in the early stages of development.

Sowing Rhubarb Seed (W. H. M.).—Rhubarb seed sown in the spring, and given liberal treatment, will usually attain sufficient strength in the second season to be fit for forcing in the third year. To effect this it is necessary to sow the seeds in spring, placing on a gentle hotbed, the seedlings being pricked off, when large enough to handle, into boxes, afterwards transferring them to the open ground, planting in rows about 3 feet apart every way, or according to variety.

Lady Downe's Vine as a Stock for Muscat of Alexandria (J. S.).—We have found Muscats generally succeed well on Lady Downe's stocks. These seem more hardy than Muscat of Alexandria, therefore cater better for the growth and crop than is the case with this Vine on its own roots; indeed, the growth, as you say, is stronger, the wood shorter-jointed and darker colour, while the berries as a rule set better and swell to a larger size; but we cannot say that they finish quite so well, and on that depends everything in Muscat of Alexandria Grapes.

Glass for Marketing Flower and Fruit Houses (Hortus).—It is usual to employ 21 oz. sheet-glass for roofs, and 15 oz. for the side lights, and the quality most approved is "thirds" British. Some, however, consider "fourths" quite clear and scorchless enough for general marketing houses, and is that, perhaps, most employed. As for "fourths" foreign glass, some of it is very poor in quality and liable to scorch, but there is bad British as well as inferior foreign glass, and good of both, the question being regulated by the price and the business aptitude of manufacturers and dealers in supplying a reliable article. We have had "fourths" better than "thirds," and *vice versa*, and have found "thirds" British the most satisfactory in the end. Consult a nurseryman in your locality.

Digging in the Haulm of French Beans (Cross).—The haulm of Dwarf Kidney Beans is too strong, as a rule, for digging into the soil, and though we are not aware of its fostering any fungus injurious to Tomatoes, it would not be a wise thing to do, as the two worst of Tomato fungi are fostered by decaying vegetable matter, and if there are any spores about, as there generally is where the food upon which they develop is present, disaster may accrue therefrom to the Tomatoes next season. Indeed, we should clear out the Dwarf Kidney Beans after bearing, and dress the ground with quicklime, using half a bushel per rod. This will convert the nitrogenic nodules into available food matter for Tomato plants, the lime being mixed with the soil to a depth of about 1 foot rather than digging the lime under by turning the top to the bottom.

Blood-fleshed Carrot (Tap-root).—The Carrot has the cells run together, the cell walls having been broken down by some alkaline substance, which appears to be potash. In the matter of colour, that seems to be due to the high concentration of the juices in consequence of dry weather whilst forming, and the presence of large amounts of iron and manifestly manganese in the soil, with the potash also present in quantity, would tend to produce the purplish-red colour. The hardening, or cessation of growth, was certainly caused by the dry weather, resulting in a deficiency of moisture and available nitrogen which is essential for growth—that is, cell multiplication, the most successful crops this season being those that had been manured with stable or farmyard manure, from which plants may possibly derive some organic matter, out of which in very droughty periods to construct cellulose. That is a phase of the subject of manuring well worth considering, and it is manifest that in dry seasons profit is had from decomposing matter which chemical manures fail to supply. Beyond a little scab there is no trace of disease or of insect attacks, but the tissues are wholly abnormal, and that from peculiarities of weather and nourishment.

Cooper's Black and Gros Maroc Grapes (*J. D. E.*).—Yes; your letter was received, and the same opinions are expressed by other correspondents. In view of those expressions we requested a capable representative to investigate the whole subject. He has visited the Belfast show, as "Cooper's Black" is said to have originated in Ireland, also the Edinburgh show, where both Grapes are freely exhibited, for comparing them and obtaining information. We shall publish his report, which cannot fail to be highly interesting, in an early issue, and we suspect it will go far towards settling the point in dispute. You are on the side of the majority.

Evergreen Flowering and Berry-bearing Shrubs (*Nemo*).—*Arbutus Unedo* Croomi, *Aucuba japonica* limbata, *A. longifolia*, and *A. maculata*, but to have these produce berries it is necessary to have the male variety, *A. japonica* maculata; *Berberis Darwini*, *B. stenophylla*, *Buddlea globosa*, *Cotoneaster microphylla*, *Daphne Fioniana*, *Escallonia macrantha*, *Garrya elliptica*; *Hollies*, both green-leaved and variegated, in great variety; *Ligustrum sinense nanum*, *Olearia Haasti*, *Rhabdolepis japonica*, *Skimmia japonica*, *Ulex europæa flore-pleno*, *Veronica Traversi*, and *Viburnum Tinus*. In suitable soil there are the finest of flowering evergreen *Rhododendrons* in endless variety.

Sowing Orchid Seed (*Novice*).—Experience has shown that there is no method equal to scattering the seed on the sphagnum in which a plant is growing freely and receives proper attention in watering, so that the sphagnum is kept fresh. No attempt must be made to cover the seed, and it must not be displaced by watering. The seed may be sown as soon as ripe, or in early spring. It is delicate work raising Orchids from seed, then establishing the plants, and only experts or very careful cultivators can hope to succeed. If you succeed in raising plants you must be prepared to give them the best attention for about ten years before they will flower. Some seedlings are fifteen years before flowers are produced, and then the varieties may not be superior, but, on the other hand, some may prove of value.

Indigoferas (*G. F.*).—Several species are grown, such as *I. decora*, *I. floribunda*, and *I. incana*, which are evergreen shrubs, with pea-shaped flowers, of a pink or rosy purple colour. They are of free growth, and require the wood well ripened to ensure profuse flowering. Prune in February or March, when the plants are beginning to grow, cutting them in rather closely, or in case of old plants spur the shoots in to two or three eyes of their base. Young plants will need to have the shoots left longer, and if in a cool airy part of the house they will break naturally and strongly. When the young shoots are an inch long turn the plants out of the pots, remove most of the old soil—all that comes away without destroying the roots—put in the same size of pot or a little larger, and place in a close pit, shading from bright sun until the potting is recovered from, then expose to light and air, syringing with water morning and evening up to flowering time to keep down red spider. When the roots are slightly matted around the sides of the pot shift into a pot 2 to 4 inches larger in diameter, providing good drainage. Water abundantly when growing and flowering, afterwards expose fully to light and air, and in winter keep the soil dry, not, however, so as to cause the wood to shrivel or leaves to fall prematurely. Equal parts of sandy peat and fibrous loam, a little leaf soil or old dry cowdung and silver sand, with a like quantity of pieces of charcoal, form a suitable compost. They attain a height of 3 to 4 feet, and are best trained as bushes.

Maggots Infesting Base of Cyclamen Corm (*J. J.*).—The grubs are the larvæ of the grooved or black Vine weevil (*Otiorhynchus sulcatus*), which feed on the flesh of roots and, when these fail, the stems of various plants under ground, especially such as are of a tuberous nature. The maggots are very destructive, and so are the weevils, they being very fond of Ferns, also of Vine and other leaves. We do not know of any preventive, as no one can tell where the weevils will deposit their eggs; but it is certain to be in the presence of food for the grubs that issue from them. Of course, killing the weevils is a sure preventive, but the thing is to know where to find them at the right time, as it is sheer nonsense to conclude that because they are seen at a certain place they are sure to deposit their eggs there; indeed, we have known them very busy in vineries and Peach houses and ferneries where no Cyclamen ever came, and found their maggots on the corms of these in structures nearly half a mile away. The grubs are also fond of young Vine roots, and the adventitious of tender roots of various trees and plants. We have not found any of the pests in potting soil, but they may possibly subsist on decaying as well as on living organic matter. Of that, however, we have no positive acquaintance, though we have observed the habits of most insects, and this in particular, for fifty years; yet that is not nearly as remote as that given to the public at the present time as new. This is new—namely, no one knew a specific for them until it was given in the *Journal of Horticulture*, and that is corrosive sublimate—a terrible poison, fatal to low forms of vegetable and animal life without damage to the higher plants, but destructive to all animals, therefore extremely dangerous to use. Of this you may use $\frac{1}{4}$ oz. (powdered) to $1\frac{1}{2}$ gallon of water, mixing and letting stand overnight in a wooden vessel (not metal), and stirring occasionally. Water the affected plants with that, and if you find any damage accrue to the plants, or if there be a grub found alive a few hours after treatment kindly send the specimen. The corrosive sublimate will not put new roots on the Cyclamen, nor make the corms sound where eaten away. These must be effected by new growths, and the things or substances to use for that object are not poisonous, but those acting as manures, such as the prescriptions given in this Journal,

November 14th (page 473), in reply to "E. Critchley," under the heading "Grubs Infesting Cyclamen." We do not recommend corrosive sublimate, but give it as a drastic remedy.

Impatiens Hawkeri (*Novice*).—Keep your plants in 2 or 3-inch pots close to the glass in a temperature of 60°. When ready the points may be removed to induce them to branch. Under this treatment they will grow strongly and make grand plants for early spring flowering if placed when ready into 5 and 6-inch pots. Use for a compost loam, one-seventh of manure, and a little sand. Press the soil firmly into the pots.

Names of Fruits.—*Notice.*—We have pleasure in naming good typical fruits (when the names are discoverable) for the convenience of regular subscribers, who are the growers of such fruit, and not collectors of specimens from non-subscribers. This latter procedure is wholly irregular, and we trust that none of our readers will allow themselves to be made the mediums in infringing our rules. Special attention is directed to the following decision, the object of which is to discourage the growth of inferior and promote the culture of superior varieties. *In consequence of the large number of worthless Apples and Pears sent to this office to be named, it has been decided to name only specimens and varieties of approved merit, and to reject the inferior, which are not worth sending or growing.* The names and addresses of senders of fruit or flowers to be named must in all cases be enclosed with the specimens, whether letters referring to the fruit are sent by post or not. The names are not necessarily required for publication, initials sufficing for that. Only six specimens can be named at once, and any beyond that number cannot be preserved. *They should be sent on the first indication of change towards ripening.* *Dessert Pears cannot be named in a hard green state.* (*W. J. B. R.*).—Both the fruits are specimens of *Beurré Diel*. (*J. H., Berks*).—The Pear is *Josephine de Malines*, and the Apple *Peasgood's Nonesuch*. (*A. P.*).—*Peasgood's Nonesuch*. (*G. M.*).—1, *Nonesuch*; 2, *Cat's Head*; 3, *Winter Greening*. (*J. S.*).—The Apples are not numbered. The one with the knobbed stalk is *Lemon Pippin*, the other *Winter Greening*. (*W. H. B.*).—If the fruits are not small specimens of *Golden Noble*, which we scarcely think they are, the variety is probably local and of no material value. (*J. S. B.*).—1, Not known; 2, *Cox's Orange Pippin*; 3, *Lane's Prince Albert*; 4, *White Transparent*; the Pear is *White Doyenné*. (*F. C.*).—1, *Maréchal de Cour*; 2, *Marie Louise*; 3, *Autumn Bergamot*; 5, *Marie Louise d'Uccle*; 6, *The Goff*. (*W. S.*).—1, *Golden Knob*; 2, *Bishop's Thumb*.

COVENT GARDEN MARKET.—NOVEMBER 27TH.

FRUIT.

TRADE keeps quiet; supplies lighter.

		s.	d.	s.	d.				s.	d.	s.	d.	
Apples, per bushel	2	0	to	3	6	Lemons, case	.. ..	11	0	to	14	0
„ Nova Scotia, per barrel	13	0		17	0	Pears, Californian, per case		13	0		14	0
Cobs, per 100 lbs.	30	0		35	0	Plums, per half sieve	.. ..	0	0		0	0
Grapes, per lb.	0	6		1	6	St. Michael Pines, each	.. ..	2	0		6	0

VEGETABLES.

	s.	d.	s.	d.		s.	d.	s.	d.		
Beans, per lb.	0	4	to	0	6	Mustard and Cress, punnet	0	2	to	0	0
Beet, Red, dozen	1	0		0	0	Onions, bushel	3	6		4	0
Carrots, bunch	0	3		0	4	Parsley, dozen bunches ..	2	0		3	0
Cauliflowers, dozen	2	0		3	0	Parsnips, dozen	1	0		0	0
Celery, bundle	1	0		0	0	Potatoes, per cwt.	2	0		4	0
Coleworts, dozen bunches	2	0		4	0	Salsify, bundle	1	0		1	6
Cucumbers, dozen	1	6		3	0	Seakale, per basket	2	0		0	0
Endive, dozen	1	3		1	6	Scorzonera, bundle	1	6		0	0
Herbs, bunch	0	3		0	0	Shallots, per lb.	0	3		0	0
Leeks, bunch	0	2		0	0	Spinach, bushel	1	0		1	6
Lettuce, dozen	1	3		0	0	Sprouts, half siv.	2	6		0	0
Mushrooms, punnet	1	0		1	6	Tomatoes, per lb.	0	3		0	6
						Turnips, bunch	0	3		0	0

AVERAGE WHOLESALE PRICES.—OUT FLOWERS.—Orchid Blooms in variety.

	s.	d.	s.	d.		s.	d.	s.	d.
Acacia or Mimosa (French)					Orchids, various, dozen				
per bunch	1	0	to	2	blooms	1	6	to	12
Arum Lilies, 12 blooms ..	3	0		4	Pelargoniums, 12 bunches	4	0		9
Asparagus Fern, per bunch	2	0		4	Primula (double), doz. spys.	0	6		1
Bouvardias, bunch	0	6		1	Roses (indoor), dozen ..	1	0		2
Carnations, 12 blooms ..	1	0		3	„ Tea, white, dozen ..	1	6		2
Chrysanthemum, doz. blms.	1	0		4	„ Yellow, dozeu (Niels)	3	0		6
„ doz. bunches	3	0		6	„ Safrano (English),				
Eucharis, dozen	4	0		6	dozen	1	6		3
Gardenias, dozen	2	0		4	„ Red, dozen blooms ..	1	0		1
Geranium, scarlet, doz.					Smilax, per bunch	2	0		3
bunches	4	0		6	Stephanotis, dozen sprays	2	0		4
Lilac (French) per bunch	4	0		5	Tuberose, 12 blooms ..	0	4		0
Lilium lancifolium, twelve					Violets Parme (French),				
blooms	2	0		4	per bunch	3	6		4
„ longiflorum, 12 blooms	4	0		6	„ Czar (French), per				
Lily of the Valley, dozen					bunch	2	0		3
sprays	1	0		2	„ Victoria (Freuch),				
Maidenhair Fern, doz. behs.	4	0		6	12 bunches ..	1	6		2
Marguerites, 12 bunches ..	2	6		4	„ English, 12 bunches	1	6		2

PLANTS IN POTS.

	s.	d.	s.	d.		s.	d.	s.	d.		
Arbor Vitæ (golden) dozen	6	0	to	12	0	Ferns (small) per hundred	4	0	to	6	0
Aspidistra, dozen	18	0		36	0	Ficus elastica, each	1	0		7	0
Aspidistra, specimen plant	5	0		10	6	Foliage plants, var. each	2	0		10	0
Chrysanthemums, per doz	6	0		18	0	Lycopodiums, dozen	3	0		4	0
Dracæna, various, dozen ..	12	0		30	0	Marguerite Daisy, dozen ..	6	0		9	0
Dracæna viridis, dozen ..	9	0		18	0	Myrtles, dozen	6	0		9	0
Ericas, various, per dozen .	9	0		24	0	Palms, in var., each	1	0		15	0
Euonymus, var., dozen ..	6	0		18	0	„ (specimens)	21	0		53	0
Evergreens, in var., dozen	6	0		24	0	Solanums, per dozen.. ..	6	0		12	0
Ferns in variety, dozen ..	4	0		18	0						



JUDICIOUS CHANGE

OR, in other words, changing our system of farming with judgment, care, skill, so as to meet present requirements, growing that which is in demand, giving up the culture of that on which a profit is impossible, always managing so well that the annual balance sheet is in our favour, and so keep our farms going at any rate. To do this in the best way, recognition must first of all be given to the fact that even with reduced rents we cannot expect to obtain anything like such a return from the land as we did when the price of all farm produce was high. We have now to be content with small profits, nor need we mind this so long as the sum total of receipts well covers that of expenditure, leaving us enough for the maintenance of our families, with something to boot, something to add to our reserve fund for emergencies.

How to do this is the problem before us, and this problem is in course of being solved by dire necessity, and all farmers have come to admit that there must be a radical change. Probably the last section to acknowledge this was that which, born and bred to corn farming pure and simple, could not be made for years to see that corn was down in value for many a long day. We retain a lively remembrance of the look of incredulity, the smile superior of the members of an East Anglian Farmer's Club when we in response to the invitation of the Secretary ventured in a lecture to propound our views on mixed farming as a remedy for hard times. They had then bravely borne the brunt of some seven or eight years of the depression, and were still full of fight, still clinging with stolid persistence to a four-course shift. But they have at length had to bow to the inevitable, to own themselves beaten, and are now seeking for light in laying down much of the land to temporary or permanent pasture.

In doing this there is still much ignorance and prejudice to combat. Yet we have the fact before us, which cannot be explained away or denied, that Scotch farmers came to Essex in considerable numbers during the first decade of the depression, and they at once and successfully laid down from five-sixths to seven-eighths of their farms to temporary pasture. Now this was Essex clay, of which many farmers still say that it will not bear good pasture.

If such good men would only modify their views of profits, and would see that under such a change their annual outgoings would be so much reduced that they could live and thrive on the land still. Hear Mr. R. Hunter Pringle on this. He was the Commissioner whose report on the sufferings and loss of corn growers in Essex caused such a profound sensation a short time ago. He says now through the *Agricultural Gazette*, "Grass can never be grown on Essex clay as it can on Meath loam. There will always be liability to disappointment and exposure to risk. There will always be a peculiar necessity for coaxing and humouring, regular observation and timely action, fair play, and intelligent treatment.

"It is because wherever I found these conditions in combination and existence, I also discovered the stiffest fields giving a ready response, that I entertain the hope that something may yet be done with our very coldest clay. Permanent pastures are, in my opinion, altogether out of the question, and even temporary pastures on such soil can never restore such land as Suffolk and Essex clay to anything approaching its former value; but by the application of the ordinary rules of good grass

farming I feel confident that our stiffest soils could be saved from perdition, and made to pay a rent and leave a profit."

The italics are his, and are reproduced as serving to emphasise the opinion of the Commissioner, once himself an East Anglian farmer, and to whose weighty words it is impossible to attach too much importance. That temporary pasture has been—is being—a success on such land, and that some of its permanent pasture is a failure, is quite true; but we have had some excellent old pasture in our hands on Essex clay and much more in Suffolk, and are bound to say that with the thorough cultivation implied by his "coaxing and humouring" permanent pasture is entirely satisfactory on such land. "Out of cultivation" is the term applied to land laid down to grass in that locality. It is correct enough as pointing to the absence of anything like proper care or cultivation of it.

(To be continued.)

WORK ON THE HOME FARM.

As usual there is still much late clearing off root crops being done, Cold wet work for men and boys, heavy work for horses, land much cut up, roots frozen, the whole thing a glaring example of mismanagement. Some farmers always seem behindhand with their work, results never can be satisfactory; yet if only they would set themselves to be as much beforehand they would be practically independent of weather, the work would be better done at less cost, crops and stock would be better cared for, and every advantage taken of a forward season.

See that all cows, store cattle, horses, and pigs have dry, clean litter for bedding, cleaning out every stall, hovel, and sty daily. If we would have our live stock kept healthy and thriving now there must be extra care to keep them clean, comfortable, and well fed. Allow no cows or store cattle to have their coats clotted with filth, as is so generally the case in winter. It is only by close daily attention that they can be kept clean; with it there is no difficulty, as filth cannot dry on them.

Not only should the stock man be kept well up to his duties by day, but the foreman or bailiff in charge of the home farm should always take a last look round with his lantern of an evening. With thirteen or fourteen hours of darkness, every yard with its buildings should be inspected at between eight and nine in the evening. It is the bailiff who ought to know intimately every animal on the farm—its age, pedigree, constitution, and to see that any special wants have special attention.

Allow no delicate cows to be out in yards at night, but have them shut in warm hovels, where it is certain they cannot come to harm. Very much of injury and loss among our live stock might be avoided by the exercise of such care as we intimate. See that farm horses coming off a long journey late have thorough grooming, gruel, extra corn, dry bedding, and plenty of it. Carters come off such journeys as tired as their horses, and a little extra help is well bestowed in the master's interest then.

METEOROLOGICAL OBSERVATIONS.

CAMDEN SQUARE, LONDON.

Lat. $51^{\circ} 32' 40''$ N.; Long. $0^{\circ} 8' 0''$ W.; Altitude 111 feet.

DATE.		9 A.M.					IN THE DAY.				Rain.
1895. November.	Barometer at 32° and Sea Level.	Hygrometer.		Direc- tion of Wind.	Temp. of soil at 1 foot.	Shade Tem- perature.		Radiation Temperature			
		Dry.	Wet.			Max.	Min.	In Sun.	On Grass.		
	Inchs.	deg.	deg.		deg.	deg.	deg.	deg.	deg.	Inchs.	
Sunday .. 17	30.116	49.2	47.4	S.	48.2	54.7	43.7	73.3	37.1	—	
Monday .. 18	30.106	34.0	34.0	N.	46.2	39.1	32.0	42.0	28.1	0.010	
Tuesday .. 19	30.225	38.8	38.6	N.E.	43.7	47.3	32.9	59.0	25.1	—	
Wednesday .. 20	29.924	47.0	46.6	E.	44.1	52.1	39.3	53.9	30.9	—	
Thursday .. 21	30.033	46.2	45.2	N.E.	45.8	51.0	44.2	61.6	41.1	0.017	
Friday .. 22	30.213	50.2	50.1	N.W.	45.1	52.2	45.1	56.3	39.1	0.256	
Saturday .. 23	29.776	37.9	35.9	N.W.	46.1	46.2	36.2	51.8	32.4	0.045	
	3.099	43.3	42.5		45.7	48.9	39.1	56.8	33.4	0.329	

REMARKS.

17th.—Overcast early, and a shower at 9.45 A.M.; generally sunny after 11 A.M., and clear night.

18th.—Cold and dense fog nearly all day, varying considerably, at times very dense.

19th.—Slight fog early; sunny morning; cloudy afternoon.

20th.—Overcast all day, with spots of rain in afternoon and evening.

21st.—Overcast early; frequent faint sunshine in morning; overcast after, with spots of rain at times.

22nd.—Dull and drizzly early; fair day, with a little faint sun in afternoon; rain from 10.30 P.M.

23rd.—Rain till 3 A.M., and showery all the morning, with occasional wet snow; fine afternoon, with some sunshine.

Rather cooler; temperature near the average; rainfall below it.—G. J. SYMONS.

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JOHN WATKINS,
Pomona Farm Nurseries, WITHINGTON HEREFORD.



Journal of Horticulture.

THURSDAY, DECEMBER 5, 1895.

CONFUSION IN GRAPES.

COOPER'S BLACK AND GROS MAROC.

FROM time to time differences of opinion have arisen as to the identity or otherwise of varieties of Grapes which have been distributed and grown under diverse names. This has inevitably led to confusion and a want of uniformity in judging at exhibitions. Difficulties of the nature indicated have arisen in almost all the well-known types of Grape—Sweetwaters, Muscadines, Muscats, Black Hamburgs, Alicantes, which, it may be said, became lessened in intensity with the lapse of time, until they reached the vanishing point. The latest instance of doubt and confusion has arisen in respect to the (alleged by some and denied by others) distinctness of the Grape or Grapes above named, Cooper's Black and Gros Maroc.

We have received more expressions of opinion on this subject than could possibly be inserted, and also many samples of fruit. Some which have been sent to us as Cooper's Black were undoubtedly Gros Maroc when compared with a test bunch which we obtained for the purpose from Mr. Rivers of Sawbridgeworth; others varied slightly, very slightly in shape, and there was in a few instances a suspicion of a difference (nothing distinct or definite) in texture and quality.

Referring to three samples in our issue of November 7th (page 432) without asserting that they were exactly alike (for they were not) we at the same time intimated that they resembled each other too closely for including in a collection of distinct varieties. Other specimens which we have received certainly confirm that opinion, and we now say, without hesitation, that we can any season see greater differences in forms or strains—call them what we may—in Black Hamburgs than in the black thick skinned Grapes which we have been examining inside and out during the past three weeks. We repeat then our opinion, that whatever differences may be detected in Vines of the two assumed varieties when growing, the risk of disqualification at shows where bunches of them are staged as distinct must always be apprehended. The fruit before the judges is all they have to consider, and they decide accordingly. We

I have samples of Grapes before us now under both the names mentioned, that it would be impossible for any experienced judge in Britain to declare were distinct. They are not distinct but identical, and their right name is Gros Maroc, unless it can be proved that the name of "Cooper's Black" has priority in cultivation. "Cooper's Black" is grown much more extensively in Ireland and Scotland than in England; and judging by the samples we have been favoured with, Gros Maroc is somewhat better in quality when grown in the South than the North, but not in size and appearance as indicating high culture. The best flavoured we have had are those from Mr. Rivers, and they are pleasant and refreshing.

This brings us to the introduction of Gros Maroc. It was obtained by the late Mr. Thomas Rivers from M. Vibert of Angers, about 1850, with a very high character, and as ripening under the same treatment as the Black Hamburgh. When Mr. Rivers found that this was not correct he was disappointed, and though he retained the variety, and sold a Vine now and then when it was ordered, he did not in the least press its claims on the public; nor did he attempt to grow the variety well, and it was left to the present accomplished head of Sawbridgeworth to bring out its full beauty and quality. He has grown it admirably, and obtained a first-class certificate for it as a distinct variety and fine exhibition Grape also, as he showed it of more than "second rate" quality. So much for the introduction of Gros Maroc.

Now to "Cooper's Black." We have ascertained that it emanated from the Armagh Palace Gardens, and is supposed to have been raised there, as it may have been, but when and in what manner we are unable to say. It may have been from a cutting brought from France, and it may have been from seed. If from seed it would be interesting to know from what variety. Mr. Rivers says seedlings from Gros Maroc are apt to come true, or a near approach thereto. Mr. Cooper, we are informed, is still alive and prosperous "somewhere in the South of Ireland," but his exact whereabouts is not yet discovered. Perhaps it may be, and if so we shall be much obliged to him for information on the subject.

In the meantime we have been fortunate in obtaining a narrative of considerable interest from a representative who was desired to investigate the subject. This narrative carries on the face of it evidence of the writer's absolute impartiality. He is an accomplished Grape grower, a close observer, and excellent judge. The account that he sends to us will be admitted to be an able one—historical, critical, and judicial. No trouble has been too great for him in his endeavour to arrive at the truth, and he is as fully convinced, as we are, that this only is the object of friends whom he has consulted, on whichever side their proclivities may have leaned; also we believe that whatever has been said or done in reference to the subject in question has been the result of genuine conviction, and not a suspicion of reproach or incapacity can attach to any person who has taken part in the discussion, or who has supplied us with unpublished information founded on experience. But to the narrative of our commissioner. It is as follows:—

"I duly received your favour anent 'Cooper's Black' Grape, and since then I have seen the Grapes at both the Belfast and Edinburgh shows, and carefully examined all the samples of 'Cooper's Black' and 'Gros Maroc' exhibited at them. I have also discussed their 'points' with Mr. Wm. Lees at the Edinburgh show, and with Mr. Bradshaw (gardener at Hillsborough) at the Belfast show, as well as with a host of others, about both the Grapes in question and the history of one of them.

"To begin with Belfast. On Tuesday, 12th ult., Mr. Bradshaw and several other gardeners in the north of Ireland exhibited 'Cooper's Black' varying in shape from 'round,' or nearly so, to 'oval as a Muscat' in the berry, generally well coloured, and carrying a fine deep bloom. Bunches, compact and shapely, but occasionally irregular and one-sided. The Grape is well known in Ulster, and most gardeners grow it who 'go in' for Grapes. On the other hand no 'Gros Maroc' were exhibited under that name, and it does not appear to be much grown, or even known, in Ulster. I took a few berries of my own Gros

Maroc with me for the purpose of comparison. Some of the 'Cooper's' were undoubtedly *identical* in every point with my own; while every one of the samples so closely resembled it, that had they all been exhibited as 'Gros Maroc' no fair-minded person would have disqualified a single bunch, knowing as we do how much some varieties of Grapes vary in size, colour, form of bunch, and shape of berry, and also in flavour, with different soils and treatment. Take our two best known Grapes—Black Hamburgh and Muscat of Alexandria—how many forms have they assumed at one time and another? Let Dr. Hogg's and Mr. Barron's lists answer. The greatest differences I could find in the Belfast samples was in their ripeness and flavour. The one is a consequence of the other as a rule, and although there was a clear difference in the juicy ripeness and refreshing flavour of some of the samples, it amounted to no more than can be found in a similar number of samples of Muscats or Hamburghs grown in different places and in various stages of ripeness. The opinion held by Ulster gardeners *generally* is that Cooper's Black is a *distinct* variety of Grape; but then it has to be remembered they are not familiar with Gros Maroc any more than south of England gardeners are with Cooper's Black.

"To sum up the whole matter, I am more confident than ever that the Cooper's Black grown in the north of Ireland is identical with Gros Maroc, although I am not prepared to prove that Mr. Cooper did not raise the Grape at Armagh, or that the Grape now grown is, or is not, the progeny of his 'Vine.'

"Now about what took place at Edinburgh at the show in the Waverley Market. There were about half a dozen bunches of Gros Maroc exhibited, one of which was 'Cooper's Black' on the label, but according to Mr. Lees was Gros Maroc. Mr. Lees went over the bunches with me, carefully examining every one of them, and he came to the conclusion that a very nice bunch (named 'Gros Maroc') was the only real Cooper's Black in the show! A bunch of 'Gros Maroc' in another lot he 'thought' might be it; but he said it was not 'quite the right thing,' and he was certain the bunch exhibited as 'Cooper's Black' was wrong. The one he selected as the *real* 'Cooper's' was probably the finest type (in colour, bloom, size of berry, and shape of bunch) of Gros Maroc at the show.

"I must give Mr. Lees credit for being *most painstaking*, and anxious to point out what he believed to be the distinguishing points (oval berry, deeper bloom, earlier maturity, and better quality or flavour of Cooper's) between the supposed varieties; but while I am ready to admit that all these points or some of them may be found in any particular bunch, I must candidly say I am sceptical about their *permanency*. In my opinion the bunches exhibited at Edinburgh differed less in their 'points' than those at Belfast, and I have a lurking suspicion that the whole of them were neither more nor less than *Gros Maroc*. The prevailing opinion at Edinburgh was that the Grapes are *identical*, but there was no lack of vigour in those who protested they were *different*. Still, there was no difference of opinion amongst those who had grown both Grapes about the fact of their *similarity* in growth, wood, and foliage. In short, the preponderance of the evidence is in accordance with my own experience of the Grapes, and that is, they are so much alike that the same Vine, say Gros Maroc, produces types of both 'Gros Maroc' and 'Cooper's Black!'

"The only point which I have not yet been able to clear up is the date at which Mr. Cooper is said to have raised the Grape in the Palace Gardens at Armagh. None of the gardeners whom I met in Ireland could inform me, but the present gardener at Armagh Palace, Mr. Charles Crombie, writes me that he has heard that Mr. Cooper is still alive and doing well somewhere in the south of Ireland, and has promised to try to find him out, and to let me know his address. In any case, there has been no difficulty whatever to prevent the direct introduction of Gros Maroc from Touraine, or the Valley of the Loire, in France, where it is well known, any time within the past century or two; and nothing is more natural than that a visitor to Touraine with a fancy for Grapes brought back with him (or her) a cutting of such a fine showy Grape as Gros Maroc. The name might, or might not, be brought with it, but it is quite within the bounds of probability that the Grape first found its way into Ulster as a cutting, and a seedling may have been raised from it.

"The credit of its introduction to popular notice as an exhibition Grape, under the name of Cooper's Black, is certainly due to Mr. Wm. Lees, who is an enthusiastic grower of Grapes, and for years was a very successful exhibitor of them. Suppose the Grape in question is Gros Maroc, he was the first to exhibit it in its best style in Ireland, and the North of England and Scotland; and in his hands at Hillsborough there is not any doubt but that such qualities as the Grape possesses were brought to a high state of perfection. I asked his permission to send you the first letter I had from him on the subject, which gives his views about the Grape as fairly as I could put them; and if you think it worth printing after you have read it you are at liberty to do so. The 'eyes' he refers to were sent to me early in 1878, and from them I raised the Vine that proved to be identical with Gros Maroc got from Messrs. Veitch & Sons, Chelsea, and the fruit of which you identified as Gros Maroc of Rivers.

"My first experience of 'Gros Maroc' was at Trentham, 1858 to 1861. The late Mr. Stevens (who was there at that time), as well as myself, had the idea that there was a 'strong family likeness' between 'Cooper's Black,' as exhibited at Carlisle and later shows, and Gros Maroc, as grown at Trentham in those early days. Gros Maroc was bearing fruit in a late vinery in the latter end of 1858, when I went to Trentham, and continued bearing for the next three seasons, it being then considered a superior Grape to Gros Colman. At that time a large

number of the best continental Grapes, but chiefly French, were grown at Trentham, Mr. Fleming having collected as many as he could get hold of with any reputation for good qualities, but the great majority of them never found their way into general cultivation in this country. Many of the varieties he obtained direct from France and Germany, while he had others from Messrs. Rivers and the Royal Horticultural Society.

"To conclude this long story, of which I am sure you are tired, I am promised fresh cuttings of 'Cooper's Black' from Mr. Bradshaw at Hillsborough, with the view of again testing them against Gros Maroc from Messrs. Rivers, and if in the course of time I find them really different, and the difference *permanent* and *unmistakeable* by ordinary people, then I will report to you, and agree with those who now assert it is a 'distinct variety.'

"I have made no reference to the one or two other varieties which have been exhibited at one time or another under the name of 'Cooper's Black,' as I find no difference of opinion among those who are best able to judge about what is called 'the true Cooper's Black.' It is not like anything but Gros Maroc, and all appear to be agreed that the other varieties shown as 'Cooper's' were wrong, be they what they may."

It will be admitted that our representative has been most thorough in his investigation, and it is clear that he had only one object in view—namely, to arrive at the truth about the matter in dispute, so far as it was ascertainable. From Mr. Lees' letter, above referred to, we take an extract as follows:—

"'Cooper's Black' Grape was raised by a Mr. Cooper, at the Palace Gardens, Armagh, at what date I am unable to say, and is also known as the 'Armagh Black.' I found an old Vine planted in an outside border at Hillsborough Castle in 1874, and on seeing the way it finished its bunches, by a little encouragement it finished still better to my satisfaction, so that I was enabled to gain first prize for bloom with a bunch cut from the old Vine at Carlisle in 1877, against over twenty competitors. It is in my opinion distinct, and also superior to 'Gros Maroc,' taking a better finish, not being so round in the berry, and a neater shaped bunch; whereas 'Gros Maroc' is very coarse and forked in the bunch. The greater part of the Grapes shown as 'Cooper's' are 'Gros Maroc.' Several examples were to be seen at the last September show in Edinburgh. Two good examples of 'Cooper's Black' were exhibited by the Messrs. Buchanan."

We well remember the splendidly finished bunch referred to at the Carlisle show. It was one of those striking exhibits that are not easily forgotten. There is only one remark in Mr. Lees' letter on which we pause to comment. His experience of Cooper's Black is that it is "not so round in the berry" as Gros Maroc. We will now give ours. Both in respect to the berries of the Carlisle bunch ("Cooper's Black") and in respect to almost every alleged bunch of the same variety that has been sent to us, the berries were, if anything, rounder than those of the typical bunch of Gros Maroc (undoubtedly true) from Sawbridgeworth. So much for cultural influence and environment.

We only attach small, if any, importance to slight variations in shape of berry as a factor in distinctness of variety. A few years ago we called on a large grower of Muscat Grapes for market. He was busy at the moment superintending the forking into half the length of the inside border the heaviest dressing of nitrate of soda we have ever seen or heard of being used. "Just an experiment," he remarked. When the Grapes were nearly ripe we were shown the results. The berries were half as large again as those hanging from the other half of the roof, and the oval shape had practically vanished. To use the expressive phrase of the owner the nitrate of soda had "blown them out;" those on the other half of the roof (border undressed) were much smaller and quite oval. This is mentioned as a striking example of variation in which the direct cause was known. We do not advise private gardeners to follow the example mentioned, or they might "wear out" their Vines too soon. This market grower is always working on the express system—clearing out some houses and planting others every year; but this cannot be done in private gardens.

Referring again to the Black Grapes, Mr. David Airdrie, Larbert House Gardens, sends us a bunch each of "Cooper's Black" and "Gros Maroc" with an intimation that the Vines were raised from eyes obtained from the same source as Mr. Beisant's. Mr. Airdrie says he "cannot see one bit of difference between either in their growth, bunch, berry, or flavour." We could perceive no

difference whatever in the Grapes we received. Mr. Kirk, Norwood, Alloa, writes again:—

"'Rusticus' is still of the opinion that Cooper's Black and Gros Maroc are distinct. I am perfectly convinced that the two Grapes named will never be exhibited with any success as two distinct varieties in a collection of Grapes, for I consider you might as well show in a collection Mill Hill Hamburg with Black Hamburg, Bowood Muscat with Muscat of Alexandria, Barbarossa with Gros Guillaume, and so on."

We agree with Mr. Kirk, except in his reference to Gros Guillaume and Barbarossa. He does not know the last-named Grape, but he is right practically, for all the Grapes grown and exhibited in this country as Barbarossa are Gros Guillaume. One more word. We have had Grapes sent to us cut from a Vine raised from an eye supplied by Mr. Lees, from what he regards as the true "Cooper's Black," and when these Grapes were critically examined and compared with the Sawbridgeworth sample of Gros Maroc no difference whatever could be discovered between them.

Adopting the extreme caution of our experienced representative, we do not say that some slight differences are not discoverable between the two alleged varieties by some cultivators, but granting them all they can see, we are decidedly of opinion that *the Grapes grown as "Gros Maroc" and "Cooper's Black" much too closely resemble each other to be shown as distinct varieties, and consequently an exhibit containing them must be liable to disqualification.*

We thank all who have aided us with samples and information in investigating this subject.

BERRIED PLANTS.

THE traditions which cluster round berried plants in association with the Christmas season have formed liberal diet for romancers, storytellers, and artists for generations. No pictorial representation of Christmas, either real or imaginary, seems complete without a considerable infusion of Holly and Mistletoe; indeed, in myriads of pictures these features constitute the chief indication that the illustration is of Christmas. It may be that the time is not far distant when traditions of this nature will be regarded as absurd and unreal, as they are already largely, and yet no one can look to a Christmas time devoid of Holly and Mistletoe without a pang of regret.

It is not so much that these berried plants add mirth or jollity to the festive season, so called, but they do add to our domestic surroundings charm that is as welcome at Christmas as Roses in the summer, or Chrysanthemums in November. But these beautiful flowers are never associated with festivities, domestic or otherwise, in the traditional way that berried plants are at Christmas, simply because we have made of Christmas a sort of national physical feast, when we are supposed to eat more, drink more, and generally do things which it would be far wiser and healthy to have left undone. The world is gradually becoming too matter of fact, too impatient of traditions and absurd customs, to lead to the much longer retention of Christmastide as a boisterous festival—indeed, to-day it is more enforced upon our lives through the agency of the printer and lithographer, and even here far too obnoxiously than in any other way.

But it is doubtful, even if the traditional Christmas should die out eventually, whether we shall ever lose touch with the Holly and the Mistletoe. Even if the bold traditions once fixed on our minds and habits be slackening, yet we do not in any way become too matter-of-fact to ignore the beauty which flowers or berried plants bring into our domestic associations. So far from that being the case we find that these things are rather becoming more and more popular with us, and in greater request. Thus in mid-winter, the dull season of the year, when flowers are scarce and dear, we welcome for their own beauty, apart from traditional associations, any things berry-bearing, so long as they add natural charm and give colour to our homes and firesides. It is strange that with this growing taste we have not more largely catered for the supply of berried plants in pots rather than leaving the public so largely dependent on branches or sprays, which soon wither and decay.

It seems to be quite beyond our capacity to produce miniature Hollies in berry. Is it possible in connection with these shrubs to dwarf them for such purposes on Chinese lines, and thus be enabled to offer them in pots of very moderate dimensions, and set with berries? How beautiful and acceptable would such plants be if they were also well foliated! As a rule, all efforts in the direction

of Holly raising seem to have been devoted to the rearing of fine-growing decorative shrubs, and the production of miniature forms for early berrying appears to have been ignored. It may be, indeed, impossible; but has it ever been attempted? If, too, we can have Mistletoe worked to form standard heads on Apple stocks, why not as dwarf clusters, on the same stock, for pot culture? That may be found possible if tried.

Pernettyas, we know, can be had in abundance as dwarf pot plants. Probably were these better known they would sell freely for Christmas or general winter decoration. Skimmias, too, can be obtained very finely berried as small plants, why not also Cotoneasters, as these are habitually dwarf, and even creeping? and what a telling berried plant, too, for pot work would be the *Crataegus pyracantha*, could it be induced to berry in such fashion as it fruits on walls and houses. These are far from being all the hardy berrying plants that may be utilised in this way, and therefore we have ample material on which anyone desirous of striking out a distinct line in nursery work for the gratification of popular tastes.

And so of tender plants. None excels the *Solanums* for ordinary greenhouse or domestic uses. Somehow we do not seem to make so much use of these remarkably effective plants as they deserve, yet they are readily obtained, heavily set with fine scarlet berries. These we can have from seed or cuttings, though the latter furnish the most even and compact plants; but raising even hundreds of thousands in this way is to a market grower but a common-place affair. Small golden and red *Capsicums* and *Chilies* are pretty, but these will not long endure a low temperature, such as a dwelling house affords. For the same reason we cannot have small plants of the Currant Tomato in the winter, or of that pretty berried plant *Rivina humilis*, because these need heat.

Therefore, apart from the fairly hardy *Solanum*, the chief direction in which to look for berried plants in pots is amongst hardy shrubs, and in that direction we ought not to look in vain, as there is much of material apparently that only needs developing to enable it to be more widely utilised.—A. D.

GROWING SEAKALE.

AFTER the severe frosts experienced last winter, when nearly all green crops were killed, no doubt many a gardener wished he had had more Seakale and other root crops to help him over the time until other vegetables could be grown, and as Seakale is very highly appreciated it behoves every gardener to have a good supply of it, considering it is one of the easiest vegetables to grow, and can be had without half the labour some people imagine. One can still occasionally see the old system of covering up with pots with fermenting material, which entails a great waste of time, as it is quite unnecessary. To anyone who could procure seaweed I would recommend them to cover some crowns over with about a foot of it, as I find it will retard growth longer than any other method (except freezing the crowns), thereby considerably prolonging the season.

Now that the forcing of Seakale has commenced a few words on the subject of preparing and growing for another year may not be out of place, as by following the directions given below anyone having a few roots may considerably increase their stock for another season.

After the first frost, or as soon as the leaves part readily from the crowns, lift them and cut off the roots to within half an inch of the main stem. These should be made into cuttings 6 inches long, cut square one end, slanting at the other. They should then be laid in ashes outside, with the square end uppermost, and covered with 3 inches of the same material, where they remain till towards the end of March. By this time they will be showing signs of growth, when they must be planted 1 foot apart in rows 15 inches asunder, and about half inch of ashes be placed on the top. When they have grown about 8 inches they are gone over and all the shoots removed except the strongest one, which is to make the crown for next season's forcing, and if they receive one or two slight dressings of salt between the rows before the leaves meet it is the only attention they require.

In November, after they have been frozen once or twice, when the leaves part readily from the crowns, lift, cut off the roots as previously directed for another year's supply, and lay the crowns in ashes until wanted for forcing. They may be placed in large pots and have another pot put over the top of them, when they can be stood under the stages of a warm house as may be required. They must be covered to exclude the light. Anyone having a Mushroom house would not require to pot the crowns, as they could be packed in a little soil, the result being perfectly blanched Kale with very little labour.—G. H.



CYPRIPEDIUM MARCHIONESS OF SALISBURY.

STAGED at a meeting of the Royal Horticultural Society held at the Drill Hall on November 12th, this beautiful *Cypripedium* attracted much attention and admiration. It is a hybrid resulting from a cross between *C. bellatulum* and *C. barbatum superbum*, evidences of both parents being readily discernible, though the *bellatulum* type preponderates. The pouch is not large, but is of handsome appearance, and is rosy brown in colour. The dorsal sepal has a ground hue of cream shading towards the edges to a pure rose. The petals, which are drooping, are profusely spotted with maroon on a white base. The plant was exhibited by Messrs. F. Sander & Co., St. Albans, and received from the Orchid Committee a first-class certificate. The woodcut (fig. 79) will convey to readers a good idea of the form and markings of this flower.

GONGORA ATRO-PURPUREA.

THIS singular Orchid is nearly always in flower, and the sweetly scented peculiarly shaped blossoms usually excite interest. The genus to which it belongs is by no means popular, the gorgeous beauties of *Cattleyas* and other favourite genera putting them entirely in the shade. Still, where there is room a few plants should be grown, as they give very little trouble, and the flowering return is ample. *G. atro-purpurea* has deeply furrowed light green pseudo-bulbs, and broad lanceolate leaves of the same colour. From the base of the bulbs the elegant arching racemes of flower are produced, and these bear from a dozen to twenty blossoms, according to the strength of the plant. These are reddish-brown, varying in colour, and usually spotted with purple.

The plants are vigorous rooters, and enjoy a copious supply of water during the growing season; when the growth is complete less will suffice, though they must not be allowed to shrivel. It thrives in a compost consisting of equal parts of peat, loam, fibre, and sphagnum moss, with a few lumps of charcoal to insure porosity. It may be grown successfully either in the *Cattleya* or East Indian house, and must be shaded from the brightest sunshine only.

CIRRHOPE TALUM ORNATISSIMUM.

In many places where Orchids are well grown these pretty little plants are entirely unknown, and a well flowered plant of this variety came recently as a pleasant surprise when visiting a small collection in the neighbourhood. It is only a small-growing plant with roundish pseudo-bulbs and leaves not exceeding half a foot in height. The spikes are the same height as the leaves, and each bears a whorl of flowers of a deep vinous purple flaked with reddish brown, the sepals and petals hairy on the edges and about the base of the lip. This species requires the heat of the East Indian house to grow it well, and while it should be accorded a position in a good clear light, it must not be exposed to direct sunlight under glass.

The compost must be sweet and open, the best peat fibre, sphagnum moss, and finely broken crocks being used. The plants have a creeping habit of growth, and some growers on this account favour the use of dressed blocks for them, but if fairly wide and shallow pans are used less trouble is needed in watering. This must be carefully attended to in winter, as the pseudo-bulbs are apt to decay at the base if too liberally supplied, but during the hot months of the summer the plants require abundant supplies of water at the roots.

PLEIONE LAGENARIA.

This is the first of the *Pleiones* to flower, and one of the best in cultivation. The blossoms are large and very lively in colouring, a few pots having a bright and telling effect among other Orchids. The sepals, petals, and lip are bright rose, the latter being rather the lightest in colour and prettily spotted with crimson. The plants must be repotted directly the flowers are past, using a substantial compost for them, or one in which loam predominates. Two parts of this to one of peat with a plentiful sprinkling of potsherds and a little chopped sphagnum will make an ideal rooting medium.

In potting, the old pseudo-bulbs must be pulled apart, reserving a few of the roots to steady them in the new soil, and having pots of suitable sizes ready to hand and well drained; plant them at regular intervals all over the surface, keeping the bases just on a level with this. The compost should rise a little in the centre, as

this shows the flowers to better advantage. No water will be needed for a few days, and only a little at a time then until the roots are running freely in the new soil. They commence to grow at once, and may be kept in the *Cattleya* house till the growths are complete, when less water and a lower temperature will be needed, diminishing it by degrees as the leaves fall, and when all are off keeping them quite dry until the flowers are showing. This treatment suits most of the other kinds, but the time of repotting will necessarily vary according to their flowering season.

It is very important that they are potted directly the flowers are past, as the new roots are then emitted, and these are easily injured if left too long. *P. lagenaria* grows naturally on trees high up in the Himalayan Mountains, whence it was introduced in 1856.

CYPRIPEDIUM CALURUM.

This is a fine strong-growing hybrid of the *Sedeni* class raised by Messrs. Veitch & Sons. The leaves are long and narrow, deep green, and the spikes are produced at various seasons. These bear a number of flowers, the dorsal sepal of which is very faint green with stripes of pink. The petals are rosy red on the points, becoming nearly white at the base with a margin of rose; the lip is light crimson. This thrives well in a shady position in the *Cattleya* house, and delights in copious supplies of water at the roots all the year round.—H. R. R.

ONCIDIUM FORBESI.

ALTHOUGH Orchids are becoming popular and common in the Eastern States, says the "Garden and Forest," this beautiful species are rarely seen. It is one of the finest of a large and interesting genus, and nearly related to *Oncidium crispum*, which, however, is less showy. The flowers measure about 2 inches across in well-grown plants. The petals have wavy bright yellow edges, the rest being of a rich reddish-chestnut colour. They are produced in few-flowered nodding racemes on rather long peduncles from the base of the flat-furrowed pseudo-bulbs. The leaves are long, lanceolate, of a leathery texture and dark green colour. This is a Brazilian mountain species, and should be grown in moderate heat in a *Cattleya* house. It thrives best in a light and partially sunny position, and, like most *Oncidiums*, it requires a thorough rest in winter and plenty of moisture during the growing season. It blooms during October or November, and the flowers remain beautiful for a considerable time. Blocks of wood or small baskets are most suitable for this species.

HARDY FLOWER NOTES.

CHRYSANTHEMUM ULIGINOSUM.

In the *Journal* of 14th November (page 456) "D." has some practical remarks founded upon an objection of mine to the stature of this plant. The plan of topping the plants, when about 2 feet high, is one which does well in the south, but in colder climates the objection is that should this be done the flowers are generally too late. In most seasons in our climate this *Chrysanthemum* is not quite in full flower when the frost comes and destroys its beauty. It is, however, otherwise in the south, and growers there may well adopt the plan recommended by your correspondent "D." I have seen the plants topped here, but the difficulty caused by their late blooming prevents this method from being continued.

TOPPING MICHAELMAS DAISIES.

Unless with a few very late kinds the same plan may be advantageously followed with the taller Michaelmas Daisies, such as those of the *Novæ Angliæ* type. These flowers seem to be but little retarded by being stopped or cut back when about 18 inches high, and with this aid they make good plants of more moderate height.

KNIPHOFIAS.

These brilliant plants are worthy of a little attention at this season by way of endeavouring to prolong their lives. In a good many gardens they are very unsatisfactory, and die out in a few years. In others they almost all increase and form great clumps, which are very striking with their long leaves and towering spikes of flowers. The Dutch growers plant the crowns a little below the surface, and cover in winter with reeds. We might follow their example; but with plants already in position a little loose litter about the crowns will be found an advantage. Another good thing is to fasten together the leaves so as to throw the rain off the crowns where it sometimes lodges. This is not needed until winter, when the rains are heavier, and when snow also gathers among the leaves. These precautions will not, however, always preserve the Torch Lilies, as there seems to be something in the soil of some gardens which renders them short-lived. In such gardens a number of seedlings might be grown annually to replace the old and effete plants.

SAXIFRAGA APICULATA.

This beautiful little Saxifrage, known previously by the names of *S. Frederici-Augusti* and *S. luteo-viridis*, is crowded with buds, some of

which are already elevated a little above the plant. I have had this bright little yellow Rockfoil in bloom some seasons in December, and find it advisable to give it a little protection from rain and sleet by fixing a sheet of glass a little above. It is quite hardy, but the weather we have some seasons could not fail to shorten the beauty of the flowers. This Saxifrage is a capital grower, and I find it quite unnecessary to follow the advice I once saw tendered, and break it up into little pieces to insure free flowering. I grow it on a rockery facing west, and planted in peat, with grit intermixed.

SINGLE EARLY CHRYSANTHEMUMS.

Last year I penned a brief note urging that raisers of early *Chrysanthemums* would devote a little attention to producing a few singles. I am sorry to see that there is no response as yet, but the fact of the late single varieties being received with considerable favour leads me to think they would be acceptable. Among the seedlings of early flowering *Chrysanthemums* now being so largely raised there must be



FIG. 79.—CYPRIPEDIUM MARCHIONESS OF SALISBURY.

many single flowers of great form and colour. It is surely worth while to try if there is not a demand for these if offered at a reasonable price.

THE NEW DAY LILIES.

The exhibition of *Hemerocallis aurantiaca* major during last season, by Messrs. Wallace & Co. of Colchester, cannot fail to direct some attention to the capabilities of improvement among these pretty garden plants. The beauty of the one introduced by Messrs. Wallace cannot be gainsaid, and now that it is in the market it is likely to find its way into many gardens. It is likely, too, that other varieties of the Day Lily will soon find their way into commerce. The late Mr. Wm. Dean of Birmingham, from whom I had several most interesting letters, and whose death so many of us regret, told me of some hybrid varieties of the *Hemerocallis* which had been raised near York, and some of which had been certificated at the great gala held in that city. So far as I know, these are not yet sent out.

ANDROSACE SARMENTOSA VAR. CHUMBYI.

This superior variety of *A. sarmentosa* does not appear to be very well known, as a good many growers of alpine plants tell me they have not met with it. It is worthy of the attention of growers of rock plants, and its superiority over the typical *A. sarmentosa* is sufficiently well marked to give it a place, either with the type or as a substitute for it. It is a stronger grower, and may readily be distinguished by the greater size of the rosettes and the larger and brighter coloured flowers. I may have something further to say about it shortly.

POTENTILLA ALCHEMILLOIDES.

Several times during the past season I have spoken of this, but the fact that it is still in flower in the last week of November makes it convenient to refer to it briefly once more. It has small white flowers and leaves, like those of the Alpine Lady's Mantle. It flowers here

twice in the year, and each time remains in bloom for a good while. I am indebted to Mr. W. B. Latham, of the Birmingham Botanic Garden, for so kindly giving me this plant.

ARMERIAS.

As may be expected so near the sea, the Armerias or Thrifts do well in my garden; but unfortunately it cannot be said that the finest of the tall species, *A. cephalotes*, is a perennial occupant of the border or rockery. It is true that it has lived for two or three years, but some experience has led me to conclude that it is not to be depended upon. With *A. plantaginea* the case is different, as it is quite perennial and also very free in its flowering habit. This year it is still flowering in the end of November, and should very severe frost delay its coming it will bloom for some time yet. To do this it requires a rather warm and dry position on a sunny rockery. This Giant Thrift, or "Sea Pink" as it is called here, can be raised from seed, which is procurable at a low price.

PROTECTING ALPINES.

While a good deal of injury is done in some gardens by leaving alpine plants unprotected, in others an even larger amount is caused by over-protection. Some collections are to be found in which when winter arrives there is a superfluity of protection. To visit these is to be confronted with an extraordinary collection of boards, boxes, hand-lights, flower pots, and various extemporised coverings. An old tin basin or zinc pail is not the most ornamental object with which to endeavour to counterfeit the protection afforded by a covering of snow on the mountains. One could, however, overlook the hideousness of some of these contrivances were they proved to be necessary to preserve the plants. In many cases these contrivances are inflicting injury to the flowers without any necessity. The majority of the alpinses requiring protection can be better preserved by simply giving them a covering overhead and allowing a free circulation of air to pass over the plants. Slates or sheets of glass are the most suitable, and keep the foliage dry. To detail the plants benefited by shielding from the excessive rains of winter would be a lengthened task, and a few general rules may suffice. These are to protect plants with silky, woolly, and rough leaves. Of these the following may be given as examples:—*Androsaces*, *Geranium argenteum*, and *Onosmas*.—S. ARNOTT.

RIPENED WOOD.

THE character of "Sceptic's" arguments on this subject may be estimated by his reference to myself (page 434). I had said in October (page 412) "Many of my Apple trees have now blossoms and young Apples on them, showing that we may have too much of even such a good thing as 'Ripened Wood.'" Many of the readers of the Journal must have been amused at seeing this sentence noted by "Sceptic" in the next number as a "change of opinion" on my part, "Mr. Raillem now beginning to doubt whether it is not possible that we may have too much of even such a good thing as ripened wood."

It is difficult to speak of such extraordinary "argument" (!) as this. Does "Sceptic" mean to suggest that saying you have too much of a good thing, such as rain, for instance, implies that it is not a good thing, and that you do not want it at all?

He asserts, as I understand him, that sun and heat, with their ripening results, have little or no effect in the production of blossom on fruit and other trees. And when I point out that this year (and I might have added in 1893 also), they have had the effect, which happens not to be useful and is therefore too much of a good thing, of producing two crops of blossom in one year on Apple trees, he says I have changed my opinion, and looks on me as a convert.

It seems to me that "green wood" is a bad term to employ for that which is unripened. Thoroughly ripened wood is that, without reference to colour, where the pith is reduced to a minimum. And the proportionate amount of pith in each shoot should, I think, be taken as the proper criterion of its being ripe or unripe.—W. R. RAILLEM.

THE ANTIDOTE FOR YORKSHIRE POISON.

HAD I followed my own inclination I should have treated "A Man from Sheffield" with the silence his remarkable literary production deserves. But it has been pointed out to me that there are many young gardeners, readers of your Journal, who have few opportunities of sifting scientific chaff from the wheat, who might be led astray if the fallacies of your correspondent's consequential utterances are not exposed.

Of course, "A Man from Sheffield" does not expect to be taken seriously; but he has evidently been smarting for the past thirteen months as if from some vigorous castigation. I fear, however, he has not employed the interval quite as profitably as he might have done. He seemingly is still unable to comprehend the mystery of our sun's "luminous envelope"—a fact of stupendous interest acknowledged by all such stupid and unscientific people as astronomers and spectroscopists. Perhaps, however, the best excuse for him is that he lives in a fog, information which, by the way, was perfectly unnecessary, as the fact was apparent from his writing! Probably he holds by the theory—much favoured in childhood, and at least as worthy of credence as the ripe wood one—that the centre of our system is only a big brandy ball!

To follow "A Man from Sheffield" throughout his wanderings, from France and Belgium to America and Australia, would be a waste of time; nor do I, for the same reason, propose correcting his vague assertions of my having executed a *volte face* upon certain questions raised

a year ago. This could only be done by lengthy detailed quotations; and controversies carried on in that spirit are, I well know, most boring to the general reader. Suffice it to say, my article of a year ago is before me, and I fail to perceive the discrepancies "discovered" by this Northern Rambler.

Your correspondent presumes to catechise me with interrogatories which are either meaningless or their answers self-evident. He can, "by no stretch of imagination," comprehend any plant possessing "vital juices," only a "vital principle," whatever that expression may mean! Then, with the superiority of Mr. Podsnap, he ushers in the mystic word "Protoplasm," fondly imagining that he has thereby fully explained the whole physiology of plant life. Then his notions of electricity are, to quote his own curious expression, "excruciatingly funny." He is evidently blissfully unconscious of the existence of induced currents, earth currents, and silent discharge. I should, therefore, recommend him to study a short article from the pages of the "Electrical Engineer," which appears in your last issue. A study of this will improve his mind upon the question of "electricity in plant growth," for he is clearly unaware that if his friends "the foreign scientists" really "exploded the theory" of electricity influencing the flow of sap that the subject has been investigated experimentally in England, and I believe in India also. Probably from the fact of his trusting to foreigners to supply his ideas and information it has never occurred to him to consider why plants grown in houses become "drawn" when placed far from the glass. It is perhaps an apparently trifling circumstance, but worthy of so profound a thinker's attention.

"Y. B. A. Z." is hopelessly mixed. When he first told that tale about the Apricot tree, he wrote of it as belonging to someone else; now he claims it for his own. "The gross shoot," too, was then unripened; now it has ripened! Such things no feller can understand.—THE SCEPTIC.

[Obviously this rejoinder neither strengthens one view of the case nor weakens the other, as bearing on the main subject—namely, matured, fortified, or ripened wood, call it what we may; nor does it seem to have been intended to do so, but is presented simply as an "antidote," to what is admitted as being more than unpalatable. As a mere antidote to an antidote would confuse rather than instruct, and as fluent writers could go on antidoting for a generation, we are constrained to apply the brake to this method of controversy; and further, as the "Review" of the main subject on page 463, November 22nd, has never been answered or the statements successfully confuted, we are content for the matter to remain as it there stands for the guidance of cultivators. The fiat now goes forth, "no more antidotes."]

TOMATO PLANT ROOTS AND STEMS DISEASED.

THE roots are more or less rotten, and the stems, in the case of some plants, dead at the collar. It appeared a bad case of eelworm, but there were no traces of these pests, present or past; indeed, we found nothing but blackish-brown oval bodies of various sizes, which proved to be those of the fungus named *Sclerotinia sclerotiorum*, Mass. (*Sclerotinia libertiana*, Fuekel; *Peziza postuma*, Berk. & Wils.). This is a dreadful scourge of the Potato and Tomato, also of Cabbages and Beet. The sclerotia are present in the roots and stems in great abundance, and so much dreaded are the effects on crops that it is considered advisable to remove the soil of infested houses a foot or 18 inches deep and supply fresh in its place.

This is a drastic measure and, according to our experience, wholly unnecessary. The sclerotium is a mass of compacted mycelium or cells, and from it may spring mycelial hyphæ, which may be possibly called into activity by the presence of food—freshly set Tomato plants; or, under normal conditions, such as there being no plant affording the essential food of the parasite present, the sclerotium may push one or two to four funnel-shaped (at first, finally plane or slightly convex) bodies into the air, which are called ascophores, and bear numerous narrowly cylindrical asci, each of which contains eight spores, and these becoming mature are liberated by the ascus opening. If they alight on a Tomato plant and manage to gain access into the tissues, the work of development progresses rapidly, and if outgrowths are pushed they produce Grape-like heads of spores—the conidial condition, which form one of the species of the genus *Botrytis*, but this is chiefly produced when the fungal plant leads a saprophytic life; hence there is little of this in the infested Tomato or Potato or other plant rich in nitrogen by reason of cultivation. But the parasite grows and forms numerous sclerotia in the stems of the infested plants, and not a few in the root system. There is a speedy and sometimes sudden collapse of the plants, all the same the sclerotia are formed, and they may retain vitality for a number of years; but they cannot resist favouring conditions of development and the presence of abundance of food.

Now this fungus lives and increases, by its own efforts. It may be that it is specialised for destroying unhealthy plants. Let cultivators see to that, for there cannot be profitable returns without clean and high cultivation, and it is these—the most promising crops—that this fungus invades and most luxuriates in. It is difficult to kill sclerotia, but the growths it produces are tender—easily killed. There is nothing so fatal to parasitic life as the products of coal consumed in the manufacture of gas, and when soluble of so little prejudice to vegetation. What there is, and the reason why there should be substances fatal to parasitic vegetable and animal life of lowly forms, in the carboniferous strata of the earth, it is unnecessary to dwell, but there it is, and what form of parasite can withstand carbolic acid, cresol, and

phenyl has yet to come to notice. But these must be soluble, otherwise they are plant poisons. Indeed, they must be saponified, either before or in consequence of contact with the earth. There are three such substances, all proprietary preparations, and are called respectively Jeyes' fluid, Little's soluble phenyle, and lysol, a German preparation. Any of these, especially the two first, will kill ground fungi, and that means growths from sclerotia. Of course, these may be in old Tomato or Potato stems, but there will not be any if the cultivators burn them; therefore, it is a question of soil treatment.

In the case of the plants submitted by "W. W." the soil in which they have grown may be soaked with any of the preparations named at the rate of three gallons per square yard of solution, half pint being employed to that amount of water, the soil being moderately moist, such as would be the case if it required watering, loosening the surface with a fork so as to let the solution enter evenly, and after letting rest a day turn and mix to a depth of 18 inches. According to accepted views this cannot act on the sclerotia, but it cures the worst cases, especially if the plants at setting-out time are watered with a solution at a strength of 1 oz. to a gallon of water, and that amount given in a circle described a foot all round the plant. In ordinary cases this latter precaution is all that is necessary, but using three gallons per square yard and treating the whole soil surface. This may be supplied just before placing out the plants, and to stave off possible mischief later on, supply a solution, 2 ozs. (a wineglassful) to three gallons of water, two or three times at intervals of about three weeks or a month. The dressings have considerable manurial value, and are equally efficacious against "drooping" disease, as caused by *Fusarium solani* and eelworm.

Another plan, and considered by some quite as curative, is to dress the soil with quicklime, using a peck per rod, slaking with the smallest amount of water necessary, spreading and mixing with the soil to a depth of a foot. This and burning the diseased stems and roots, extracting as many of these as possible, and giving the soil where the plants have been an extra dressing of quicklime at the time of removal, has been found an excellent preventive of both *Sclerotinia sclerotiniarum* and *Fusarium solani*, also of eelworm.—G. ABBEY.

THE LATE MR. RICHARD GILBERT.

LET me pay a meed of respect to the generosity and kindness of heart which so eminently distinguished our departed friend. Some ten years ago, when on my experimental trials of the different Rhubarbs, I wrote something about them in the *Journal of Horticulture*. To my surprise and great delight in the course of the week following their appearance in our Journal I received a letter from Mr. Gilbert on the subject full of just the sort of information I wanted, and ending by saying that there was no early Rhubarb like Hawkes' Champagne, and as I did not appear to have it he was forwarding me a hamper of roots, in order that I might try it, or if I had it already his would do to compare with what I had; his being the true variety, having received it from his old master, Mr. Myatt of Deptford, who had had his stock direct from Mr. Hawkes of Deptford, the raiser.

I scarcely need say with what delight and gratitude I received this spontaneous gift, and how warm I made my words of thanks, bringing back from him the characteristic reply, "Oh! that's nothing. Come and see me." From time to time I heard from him or of him, but my intended visit, unfortunately for me, never came off, and the last I heard of him was in conversation with his near neighbour, Mr. Lovelock, the Earl of Ancaster's gardener at Normanton Park, whom I met at the gathering of gardeners at Chilwell in July last.

Bright, cheery, humorous, generous, clever and good, in Mr. Gilbert there passes away one of the best gardeners of a fast diminishing generation of intelligent, hardworking, practical men.

His funeral at Barnack on Monday was attended by a large number of relatives and a host of friends, including the Marquis of Exeter, and many were the wreaths and floral emblems placed on his tomb.—N. H. POWNALL, *Lenton Hall Gardens, Nottingham.*

ROYAL HORTICULTURAL SOCIETY.

NOVEMBER 26TH.

SCIENTIFIC COMMITTEE.—Present: Dr. M. T. Masters (in the chair); Mr. Michael, Professor Müller, Dr. Bonavia, Rev. W. Wilks, and Rev. G. Henslow, Hon. Sec.

Flies Attacked by Fungus.—With reference to the specimens exhibited by the Secretary at the last meeting, it was reported from Kew that "the fungus is *Empusa culicis*, R. Braun (Alg. Unicell. gen., Nov., page 105). It is common in various parts of Europe, also in the United States, but not previously recorded for Britain." The specimen was prepared by the late Professor J. S. Henslow in 1840.

Apple Diseased.—The black-coated Apple brought to the last meeting proved to be attacked by "*Sclerotinia fructigena*, Rehm. (Krypt. Flora, Discom., page 67). The minute black lumps on the Apple are the sclerotia of the fungus, from which the ascigerous *Peziza*-form grows. Negligence in spraying during the spring season, when the fungus is on the leaves only, accounts for its presence on the fruit.

Cocos Fruits.—The fruits exhibited at the last meeting proved on further investigation to be of *C. eriospatha*, and not of *C. australis*, as supposed.

Carnations Attacked by Grubs.—Prof. Müller exhibited a number of weevil-like grubs which attacked the roots of *Dianthus clusialis*,

completely destroying the stem, so that the upper part became detached. They were forwarded to Mr. McLachlan for examination, who has reported that they are probably those of *Hylemyia nigrescens*, of the group *Anthomyiidae* of dipterous insects.

Vine Stems, Malformed.—Dr. Masters exhibited portions of Vine stems with hypertrophous growths of a tumorous appearance. There did not appear to be any fungus, but they consisted of new cork and wood only. Similar appearances had been seen on Maréchal Niel Roses. It was probably due to some injury, perhaps frost, with a subsequent effort to heal the wound.

Hybrid Abies.—Dr. Masters also showed a branch from a hybrid between *Abies Pinsapo* (female), and *A. cephalonica* (male). An intermediate character was seen in the position of the resin canal, in that while in *A. ceph.* it is situated adjoining the epidermis and in *A. Pins.* it is more deeply seated, in the hybrid there was one layer of cells between the canal and the epidermis. The general form and habit more nearly resembled *A. ceph.*, while the strong branches and thick leaf approximated *A. Pins.* The cones, however, with very visible bracts were those of *A. ceph.*

THE TERCENTENARY OF THE POTATO.

CENTENNIAL celebrations being one of our modern fashions, why should the approaching tercentenary of the introduction of that popular and valuable article of food, the Potato, go unhonoured? Mr. Krichauff, the Chairman of the Agricultural Bureau of South Australia, has directed attention to the fact that it was in the year 1596—just on three centuries ago—that the great English botanist, Gerard, first planted Potatoes in his garden in Holborn—a pleasant semi-rural suburb in those days. It is believed that he obtained tubers or seeds from Sir Walter Raleigh, who had then lately brought from South America samples of this hitherto unknown vegetable, and planted them on his estate at Youghal, near Cork. Gerard, however, recommended them only as a delicate dish, and it is recorded that the tubers were sometimes roasted and steeped in sack—that is, sherry and sugar—or baked with marrow and spices, and even preserved and candied. Shakespeare twice mentions Potatoes—in "*The Merry Wives of Windsor*" and in "*Troilus and Cressida*"—but he seems to have regarded them as a curiosity of the materia medica, rather than as an article of food.

It is curious now to note how slowly the Potato made its way to the tables either of rich or poor. In a housekeeping book kept by Anne of Denmark, wife of King James I., an entry has been found of the purchase of a small quantity of Potatoes, from which we learn that the price was then 2s. a pound. Soon after the Restoration, the Government tried to push the cultivation with the assistance of the Royal Society; but progress was slow. In English books of gardening of the time of George I. Potatoes are not even mentioned, and as late as the year 1784 they were chiefly found in the gardens of noblemen and other rich men. Soon after this, however, the cultivation began to make rapid strides, with good effects upon the health of the people, who, till then, lived chiefly on salted meat and coarse bread, varied by little in the way of garden vegetables. Thus in the year 1796, 1700 acres were planted with Potatoes in the county of Essex alone.

William Cobbett, as will be remembered, was a persistent opponent of the new food. In his "*English Gardener*," published in 1838, he denounced the substitution of the Potato for bread, urging that it had been established by evidence taken before Committees of the House of Commons that to raise Potatoes for the purpose would be a thing mischievous to the nation. In Scotland a few plants could be found in 1725, chiefly in gardens around Edinburgh. After 1760 they began to be more generally planted. Frederick the Great was more successful in inducing the Pomeranian cultivators to take to Potato growing than his father had been. He had recourse to his soldiery, who had to force the farmers to plant them; but Mr. Krichauff thinks that if it had not been for the famine in Germany in 1771-2 the merits of the Potato would not have been so generally acknowledged. France was decidedly behind her neighbours, and even to this day the quantity of Potatoes consumed in France, though very large, is considerably less than with us.

For a considerable time there seems to have been a popular prejudice against them, grounded on a suspicion that they were unwholesome. The Potato, nevertheless, was placed on the Royal table in France as early as 1616; but it was Parmentier, an apothecary, who, more than a century and a half later, first impressed its value upon his countrymen. Parmentier showed his Potatoes, which were then evidently regarded in France as a novelty, to Louis XVI., who gave him upwards of 100 acres of land for experimental cultivation.

The pretty purple and orange Potato blossom, looking like an enlarged variety of the flowers of the Belladonna or Deadly Nightshade—to which terrible plant, oddly enough, it is botanically allied—became a fashionable adornment. The King wore it in his buttonhole; Queen Marie Antoinette twined it in her beautiful hair; and at once Princes, Dukes, and high functionaries fell in love with the Potato flower. All Paris talked of Parmentier and the new "Earth-Apples" (*pommes-de-terre*), as they called them. The King said to the cultivator, "France will thank you one day, for you have found food for the poor." "And France," adds Mr. Krichauff, "has not forgotten Parmentier, for I saw myself, in 1882, Potatoes growing on his grave in the grand cemetery of Père la Chaise, and I was assured that they were planted there every year so that his services might never be forgotten by Frenchmen."—(Abridged from the *Journal of the Royal Horticultural Society*)



EVENTS OF THE WEEK.—As will be seen by the paragraph below the Royal Horticultural Society will hold a meeting at the Drill Hall on Tuesday next, and this, with the annual general meeting and dinner of the National Rose Society to-day at 3.30 at the Hotel Windsor, is the only event of interest to horticulturists in the neighbourhood of London during the forthcoming week.

— WEATHER IN LONDON.—For another week the weather has been very unsettled and extremely variable. On Thursday and Friday last much rain fell, while Saturday, Sunday, and Monday were much colder and dry. On Tuesday, during the early part of the day, it was dull and inclined to be wet, but later it cleared and the evening proved to be calm and dry. At the time of going to press on Wednesday it was dull and cold.

— WEATHER IN THE NORTH.—For the greater part of the week ending the 3rd inst. the weather has been dull and wet. Saturday forenoon was very gloomy, the afternoon and evening the brightest part of the week. December began with a showery day; the following day was dull, and the night boisterous and showery; while Tuesday brought cold wet squalls from the N.W. throughout the day and evening.—R. D., *S. Perthshire*.

— ROYAL HORTICULTURAL SOCIETY.—The next fruit and floral meeting of the Royal Horticultural Society will be held in the Drill Hall, James Street, Victoria Street, Westminster, on Tuesday, Dec. 10th. The Committees will meet as usual at twelve o'clock.

— MR. A. F. BARRON.—We are pleased to learn that the Council of the Royal Horticultural Society has resolved to offer to Mr. A. F. Barron an Honorary Life Fellowship of the Society, and has also invited him to serve on the Fruit Committee for 1896. The last meeting of the year of the Fruit Committee is usually well attended, and we may expect that the meeting on Tuesday next will be no exception to this rule, especially as it will be the last at which Mr. Barron will officiate as Secretary. He has well deserved, and will no doubt receive, the thanks of his friends the members.

— THE HESSLE AND DISTRICT HORTICULTURAL MUTUAL IMPROVEMENT SOCIETY.—At a meeting of the above Society, held November the 26th, a very interesting paper was given by Mr. F. Thurstan, The Gardens, Hesselwood, on the cultivation of Dahlias. The essayist gave an account of the first Dahlia introduced, and very ably dealt with the propagation of this useful flower, both from seeds and cuttings, and the general cultivation of the Show, Fancy, Decorative, and Pompon varieties, stating that the last named might be found of great service for bedding purposes owing to its dwarf habit. At the close of the paper a discussion took place as to the value of the Dahlia as a decorative flower. The usual vote of thanks to the essayist, and Mr. Barker for his services in the chair, brought an interesting evening to a close.—M. S.

— GUMMING IN FRUIT TREES.—In Mr. Iggulden's very interesting remarks (page 499) on Peach tree failures he says, "French experts think gumming is caused by the sun." While I think it may do so in France, I think cold may be one great cause of gumming in England, as we generally find a great deal more after severe winters, and I think the bursting of the cells, while the sap is freezing, has more to do with it than is generally supposed. The chief cause in Peach houses, as Mr. Iggulden says, is bursting the cells by injury from wires, or knocking the bark off by tools; but in each case the cells are burst, and the gum exudes out, and if this gum is left on the bark it injures it to such an extent that it has the appearance of canker, and if it drops on to a sound branch it injures the bark there, if the shoot is a young one with thin bark. I am quite aware that gumming is supposed to be caused by the *Coryneum* fungus. But is this fungus the first cause of gumming? or does it breed spontaneously in the sap after it has exuded? If so, the dropping of the gum (with the fungus in it) on to another branch would cause gumming there by rooting into the bark and into the sap. I find Plum trees on a north wall that have had no sun are badly affected.—J. L.

— MR. HORACE HUNTLEY, who has been teaching gardening effectively in Cumberland, Hunts, and Lincolnshire, has been appointed instructor on horticulture to the Dorsetshire County Council.

— PRESENTATION.—Mr. J. Davidson, manager of the seed department of Messrs. J. Veitch & Sons, Chelsea, and who is retiring through ill-health, has recently been presented by his fellow workmen with a handsome timepiece of the value of £10, together with two valuable candlesticks and an illuminated address.

— WINTER WALLFLOWERS.—Messrs. Sutton & Sons send us a bunch of their Earliest of All Wallflower gathered from plants sown in May. They have been flowering for some time, and will continue in the absence of severe weather, and more profusely in the early days of spring. The flowers are bronzy orange in colour, and highly fragrant.

— INSTRUCTION IN GARDENING.—A correspondent writes:—"You will see by the enclosed handbill that we are doing a little for horticulture down here (Clydach). Class teaching is being conducted by Mr. John Ettle, who hopes that some of his students will sit for the next R.H.S. examination on horticulture. He uses Wright's *Primer*, which he describes as an excellent little work, and also intends using 'Hooker's *Primer on Botany*.' He also intends giving illustrated lectures on fruit culture and other subjects."

— DINNER TO THE RYECROFT EMPLOYÉS.—The staff engaged at Mr. H. J. Jones' nurseries partook of that gentleman's hospitality on Saturday evening last, a large party mustering round the festive board to commemorate the "gold medal" year, as a recognition of the efforts of his staff in sustaining the high reputation which Mr. Jones has so deservedly achieved in commercial horticulture. The function was a happy forethought. In this pleasant social manner Mr. Jones recognised the valued co-operation of the staff, and the members in turn appreciate his thoughtful kindness. The musical evening that followed was enjoyed by all.

— ASTER TRADESCANTI.—At the time I write (November 30th) this Aster is still in bloom. At the end of October the first blooms began to unfold their florets; it has continued ever since. It is now the only Aster in flower. All others have been cut down a week ago. The pure white blooms of this variety are decidedly effective, set off as they are with the smallest foliage of any Aster that I know. What the leaves lack in size is more than made up in density of green, which is the best of contrasts for white flowers of any kind. Growing, this Aster is especially graceful, the branchlets being thinly disposed and slightly drooping at the point. Wherever Asters are favoured this should be cultivated.—E. M.

— NATIONAL ROSE SOCIETY.—At the Society's Crystal Palace shows in 1896 and 1897 the following valuable prizes will be offered for Roses raised or first distributed by Messrs. A. Dickson & Sons, Newtownards, Co. Down, Ireland. There will be a class for amateurs for six distinct varieties, and another for nurserymen for twelve varieties. In each case the first prize will be a handsome silver cup and £2, second prize £2, and the third prize £1. Each silver cup must be won twice (not necessarily two years in succession) before it becomes the property of the exhibitor. The above prizes are presented by an amateur member of the Society, who wishes us to make these classes known now in order that intending exhibitors may be better prepared for them next year.

— MR. D. T. FISH ON DRINK MANUFACTURE.—Our esteemed friend is nothing unless, as befits a gardener, he is florid and even poetical. Still, the poetical may sometimes be other than the exact truth. Thus in his highly imaginative paper which was published in the Journal last week he tells us that our water is distilled—i.e., through plant agencies. That may be a striking figure of speech, but I fear precious little of the water we consume is purified through the agency of plant life. The muddy Thames, from which just now London is deriving two-thirds of the vast water supply, is more indebted to sand filter beds than to plant distillation for the comparative purity we find it when it reaches our cisterns. As to the grain drinks, is it quite correct to say that those of the malt and distilled order are the product of growing embryos, seeing that in the process of malting the embryos are carefully removed and swept aside as malt dust, whilst it is the starch in the grain, stored by Nature as food for the infant germ, that has in the process of germinating been converted into sugar, and this sugar, through the artificial agency of fermentation, been again converted into alcohol. The conception found in the sentence is beautiful, but like so much that is beautiful, it is not quite true.—A. D.

— R.H.S. VOTES OF THANKS.—A very pleasing and courteous custom prevails with the Fruit Committee of awarding to all persons who send products to the Drill Hall meetings to come before that body, and which are not sent for certificate, or have no other award made to them, a cordial vote of thanks for their kindness in sending such exhibits, many of which are very meritorious or interesting. I learned on Tuesday of last week for the first time, in staging some flowers for a friend, that this same courteous custom does not prevail with the Floral Committee. Is it too much to ask that in future it may do so?—D.

— WEATHER AT DRIFFIELD.—Mean temperature at 9 A.M. (corrected), 44.46°; wet bulb, 43.31°. Mean maximum, 49.61°; mean minimum, 38.66°. Highest, 62.0° on the 16th; lowest, 27.8° on the 19th. Mean of maxima and minima, 44.13°. Mean radiation temperature on the grass, 33.38°; lowest, 22.8° on the 19th. Rainfall, 2.76 inches. Number of rainy days, twenty. Greatest amount on one day, 0.42 inch. on the 5th.—W. E. LOVEL, *Observer, York Road, Driffeld.*

— WEATHER IN SOUTH WALES.—The following is a summary of the weather here for the past month. Total amount of sunshine, forty-nine three-quarter hours; there were thirteen sunless days. The wind was in an easterly direction on fifteen days, and in a westerly direction on thirteen days. Rain fell on twenty-three days; total amount, 11.56 inches, maximum 3.18 inches on the 10th; minimum 0.01 on the 1st. From the 4th to the 17th inclusive, there was rain every day, with a total amount of 9.80 inches, accompanied for the most of the time with very strong winds. Total for November, 1894, 7.55 inches.—W. MABBOTT, *Gwernllwyn House, Dowlais.*

— THE ALLOTMENT "LABOURER."—It is difficult to avoid a strong sense of contempt for the wisdom of Parliament, which in its lack of wisdom, inserted reference in the Parish Councils Act of last year, instructions as to the provision of allotments for "labourers." It was right to insist on the provision of allotments by local authorities but why insert reference to labourers? Recently it has been found needful to invoke the aid of high legal luminaries to define the practical meaning of the word "labourer," and that definition is the utterly absurd one that it excludes all who are classed as mechanics, artisans, policemen, foremen, and clerks, all of whom need allotments just as badly as the *bonâ fide* labourer, and as both tax and ratepayers are just as much entitled to them. No doubt this pious legal definition will be allowed to remain a dead letter. It is hoped so, but the matter serves to show what stupid things even a British Parliament can do.—A. D.

— THE JOURNAL OF THE ROYAL HORTICULTURAL SOCIETY.—Part 2 of vol. xix. of this official publication just issued contains matter of unusual interest on the subject of hardy fruit. Mr. Charles Baltet has an exhaustive paper on "Fruit Growing in France," and the papers read at the Crystal Palace Show by Mr. G. Bunyard on "Fruits of Recent Introduction," and by Mr. A. H. Pearson are also included. In addition are given the two prize essays on "The Commercial Aspect of Hardy Fruit Growing," by Mr. L. Castle and Mr. S. T. Wright, both of which contain valuable matter, in some points very similar, in others different, but all worthy of attention, and together the essays form a valuable contribution on the important subject to which they refer. The issue contains a scientific paper on "Manures, and Their Uses," by Mr. G. W. Watson, as well as a good deal of other appropriate matter. The price of the part to non-Fellows of the Society is 5s., and the prize papers alone will be found worth the money by persons who are contemplating the cultivation of hardy fruits for the supply of our markets.

— ELDERBERRIES AND STRAWBERRIES.—I claim the privilege of my country—viz., to speak twice in order to clear the haze off the mind of "T. S." re the matter of Elderberries and Strawberries (p. 507). He will doubtless recollect the call at the Wren's Nest, where (figuratively) he was good enough to accompany me, and, probably, he has not forgotten that the call was made under mild protest; the said Wren's Nest having the same local standing here as the Blue Dragon or Red Lion of England. Well, I wonder had the wine of the country (not brewed from Elderberries) ought to do with us getting a little mixed on the matter of Strawberries—"ripe early Strawberries?" Certainly we did not see any that early autumn day, but as we bowled along I told him all I knew of the matter from past experience. We Dubliners are not drawn thither by gastronomic influence solely. Such, indeed, has but little to do with it, for it is the "darlingest drive" this side of the City, at least, by the route pointed out by an—OLD TRAVELLER.

— DAFFODILS IN FRANCE.—Daffodils from Bordeaux to the borders of Galicia are all of a sulphurous yellow, while from the confines of Galicia their colour is a golden yellow. This is attributed to the formation of the soil, which from Bordeaux in a south-west direction to Galicia is cretaceous, while farther down it is of a hard granitic rock.

— REMOVAL.—Messrs. Messenger & Co., the well-known horticultural builders and heating engineers, have removed their business operations to extensive new premises recently erected by them in connection with their foundry, close to the station of the London and North-Western Railway at Loughborough. The new buildings occupy a site two acres in extent, and comprise spacious shops, show-room, and offices.

— CORRECTION.—Mr. E. H. Jenkins, Queen's Road Nursery, Hampton Hill, writes:—"Will you kindly correct an error, and supply an omission at the same time? My seedling Chrysanthemum is 'Golden Dart,' not 'Golden Dust,' as cited in last week's Journal. 'Golden Dart' also received the 'award of merit,' as a decorative market variety, on Tuesday, November 26th, 1895, from Royal Horticultural Society." [No award of merit card was shown on Golden Dart at the Drill Hall at the time of taking our report.]

— BRUDDER JOE.—It is more than possible that some fellow readers and writers have met with that genial enthusiast Brother Joseph, late of the Dominican Priory, Tallaght, Co. Dublin. If so they will, I am sure, be interested to hear of him, and will, too, share in the regret that for some few years probably his home will be under the burning West Indian sun. Considering how few, very few, years he has been engrossed in gardening matters, there are not many, I think, who have laboured more diligently or profitably in the field of horticulture. "Mushrooms for the Million" was one of his favourite text books, and on the lines laid down therein he was a most successful grower. Any eulogistic analysis of his good works would, I know, be rather distasteful than otherwise to him. From a brief letter bearing the postmark Port of Spain, Trinidad, I glean that he had a pleasant voyage, and is enjoying, as only a true gardener can, the wonderful vegetation of the tropics. Later on I hope to have some notes from him on the subject to share with fellow readers.—K., *Dublin.*

— OUTDOOR PEACH CULTURE.—It is very satisfactory to find so able a gardener as is Mr. A. Young running amuck at the too common suggestion that change of climate has made Peach culture on open walls more difficult than it used to be. When he can accomplish such capital work at Abberley Hall, relatively a good way north, it is evident that whilst skill and knowledge can perform good work under such conditions, it is the lack of these qualities, and not change of climate that leads to failures. Still we have plenty of good outdoor Peach growers. I see evidences of this capacity continually in gardens, though so many are handicapped through poor means, and cannot obtain strong young trees and fresh loam so readily as they desire. Probably Peach trees have suffered more from over-culture or gross feeding, and growing in light soft porous soils, rather than in poorer and firmer ones. A remarkable example of firm border is seen at Swanmore Park, where there are capital trees, yet they have some 4 feet of hard paths over the roots, and beyond that some 6 feet of hardy plant borders.—A.

— GROWING SUGAR BEET IN SCOTLAND.—The Greenock Beet-root Sugar Association recently held its third annual competition for the encouragement and cultivation of Beetroot in Scotland. Prizes to the value of £25 were offered, as formerly, by the Association to farmers in Scotland for the growth of a plot of Beetroots, and seeds of two varieties, French and German, had been distributed amongst intending competitors. Thirty farmers received these seeds; but in consequence of the dry weather in May and June many of the plots were failures, or partial failures, so that only seventeen competitors came forward for judgment. The exhibitors show in most cases six red-top roots from French seed, which are earlier and larger than the white roots from German seed, but these are expected to be richer in sugar. The weight of the half-pole of roots without leaves, lifted and weighed by the judges, was also exhibited, and it is from this the undressed weight per acre is taken. Last year the weight per half-pole was 139 lbs., while this year it is no less than 242 lbs.; while the lightest last year was 50 lbs. against 59 lbs. now. The roots are generally of good shape. The analyses will proceed during this week, and thereafter the prizes awarded. The competitors are from nearly every district in Scotland, including the counties of Ayr, Renfrew, Bute, Dumfries, Wigtown, Selkirk, Dumbarton, and Mid-Lothian.—("North British Agriculturist.")



NATIONAL CHRYSANTHEMUM SOCIETY.

ON Wednesday, November 27th, the Floral Committee of this Society held a meeting at the Royal Aquarium, Mr. T. Bevan presiding. Considering the lateness of the date there was an excellent display, Mr. R. Owen's being by far the most imposing and attractive, and for which he was awarded a small silver medal. Other good exhibits were set up by Mr. W. Wells, Mr. H. J. Jones, Mr. Weeks, M. Ernest Calvat, Mr. H. Briscoe Ironside, and Mr. W. H. Fowler. First-class certificates were awarded as follows:—

W. Slogrove.—A large globular Japanese, somewhat loosely incurving, with broad florets; colour deep golden yellow. Shown by Mr. W. Slogrove.

Olive Ocle.—A Japanese incurved with florets of medium size; colour deep golden bronze tinted purple. From Mr. H. J. Jones.

Surprise.—Japanese Anemone of good size with flat ray florets curly at the tips; colour lilac mauve. Also from Mr. Jones.

Among other novelties, some good ones being honoured with the request to be sent up again, were M. Demay Taillandier, a large Japanese, deep crimson and gold; Madame J. Bernard, a very distinct Japanese incurved, colour rich rosy pink of a pure and deep shade, silvery towards the tips; Longe d'Or, a large yellow incurving Japanese; and Souvenir de ma Sœur, a large, flesh coloured Japanese; R. B. Martin is a Japanese with very long florets, colour crimson and yellow; Miss Phyllis Fowler, a pale primrose incurved, of good form and size; Madeline Davis, a large exhibition Japanese with narrow florets, pale rosy mauve, and reverse of silvery pink. General Roberts, Bellem, Pearl of Maidenhead, and several others, would all have gained high honours a few years ago.

THE Floral Committee of this Society held a meeting at the Royal Aquarium on Tuesday, the 3rd inst., when Mr. Bevan presided. Mr. W. Wells, Mr. Godfrey, Mr. R. Owen, Mr. Jones, were among the principal exhibitors. First-class certificates were awarded as under:—

Mrs. C. E. Shea.—A Japanese with drooping florets, long, and of medium width; colour white, tinted sulphur or primrose. This was staged by Mr. A. Haggart.

Golden Dart.—A free-flowering good-sized Japanese decorative variety having long flat florets. The colour is striking and distinct, being of a pure pale golden yellow. This will probably become a useful market variety. Raised and shown by Mr. E. H. Jenkins of Hampton Hill.

King of Plumes.—A small Japanese variety, useful only for decorative or cutting purposes; colour deep yellow. Exhibited by Mr. Owen of Maidenhead.

Some other promising novelties were submitted, the best being J. W. McHattie, Japanese, colour crimson and gold; H. W. Reiman, rich golden yellow, a Japanese; The Egyptian, an incurving Japanese, chestnut purple; L'Améthiste, violet amaranth, incurved; Mrs. W. Troy, pale canary yellow, Japanese incurved; and Ada Owen, a deep shaped incurved, colour straw yellow.

The annual dinner of this Society was held at Anderton's Hotel on Thursday last, the President, Sir Edwin Saunders, occupying the chair, and being supported by Dr. Grigg, Mr. Sowerby, Secretary of the Royal Botanic Society, and all the officers of the Society. There was a large attendance, and the chief interest of the gathering centred in the distribution of the special prizes and medals won on the occasion of the Society's recent show at the Aquarium. The usual programme was provided of toasts and speeches, and the musical arrangements were carried out by Mr. Mortimer Dudman.

The toast of the evening was that of "The National Chrysanthemum Society," proposed by the Chairman, who commented in eloquent terms on the beauty and usefulness of the flower they all loved so well, and who also gave an interesting account of the social and political features of China, from which country the flower was first derived.

"Affiliated Societies" was proposed by Mr. T. W. Sanders, and responded to by Mr. Weeks of the Bromley Chrysanthemum Society, who, while regretting they had lost the Society's shield, announced the intention of that Society to compete for it again in 1896. He also complimented Mr. W. H. Lees on his great achievement in winning it for the Southgate Society, and also on having gained other notable prizes during the season. Mr. W. H. Lees was called on to receive the two Holmes' Memorial cups, which the Secretary stated had never previously been won both by the same competitor.

Mr. B. Wynne proposed the health of the President, who replied in a short but appropriate speech, expressing his pleasure at being present once more at their annual gathering. Other toasts—"Vice-Presidents and Committees," "Donors of Special Prizes," "The Visitors," and "The Press," were duly honoured.

In the course of the evening it was announced that Mr. A. Taylor had again undertaken the arduous task of making an audit of all the varieties shown in the cut bloom classes at the November show. It appears that they numbered 3720. Of these 1950 were Japanese, in 203 varieties; 594 were incurved, in seventy-six varieties, and the remaining 1174 belonged to the reflexed, Anemone, Pompon, and single-

flowered sections. Of varieties in the Japanese section shown more than fifty times the following names were given:—Colonel W. B. Smith, 113 times; Vivian Morel, 99; Sunflower, 90; Charles Davis, 88; Mrs. C. Harman Payne, 73; Edwin Molyneux, 67; Mdlle. Thérèse Rey, 55; Philadelphia, 61.

The proceedings, which were of a hearty nature, were brought to a conclusion about 11 P.M.—A VISITOR.

N.C.S.—SECRETARIAL METHODS.

I WAS conversing with a member of the N.C.S. Committee at the Aquarium show on November 5th, when he seemed somewhat aggrieved that no luncheon was provided at the expense of the Society for the Committee. I had forgotten the conversation until it was recalled to my memory to-day when reading your reference to the absence of any official notification being received by you of the holding of the annual dinner. Is our Society so poor that it cannot afford to offer to its workers the usual hospitality extended by provincial societies to all who help forward the success of their shows?

The letter from the Hon. Secretary of the N.C.S. in reply to your request for information, which you publish, is one which the members generally will not approve of, and I regret that Mr. Dean should have couched his reply in such objectionable terms. Considering the excellent reports you give of the proceedings of the Society—greatly valued by the members—I should have thought that he would have been glad to have welcomed you in courteous terms to one of the principal functions of the Society, to which he otherwise so efficiently acts as Hon. Secretary.—MEMBER OF THE N.C.S.

[And a very prominent member, too, who has done yeoman's work in popularising the Chrysanthemum and contributing to the extension of and improvement in its cultivation. We have not a word to say against the customs of the N.C.S. Committee. To offer hospitality in the same generous way as at some provincial shows to all who have helped the Society would be to invite an army of its friends. We admit fully the secretarial capacity of the present official, and had we been informed that our notification of the meeting had been accidentally overlooked, that would have been sufficient, but we naturally resented his putting on our simple and necessary inquiry an interpretation wholly foreign to its nature. We have received many references to the peculiar episode, but only publish one, as it is rather amusing.]

A CRACK ON THE HEAD (NOT FOR MUZZLED REPORTERS).

LITTLE Tom Tucker, who sang for a supper,
And doubtless enjoyed that repast,
Was in far better plight than the man who would write
Of the dinner, but yet have to fast.

Oh! incurveds and Japs—reflexed, too, perhaps,
This lesson you teach is a puzzle.
When the N.C.S. feast, reporters, at least,
Might safely go in with a "muzzle."

I can't understand, for I live in a land
That is poor; but has not come to that
For a meal or a bed, or a crack on the head
Is heartily given by—PAT.

N.C.S. RULES, AND AWARDS OF FLORAL COMMITTEE.

I FIND I am accredited in last week's issue of your Journal and others with a silver medal for a collection of seedling Chrysanthemums exhibited at the Floral Committee of the N.C.S. on the 20th inst. I believe, however, that I did not even receive what is sometimes refreshing to an amateur, especially when in company with the great resources of the trade—viz., a vote of thanks—as I have had no official communication on the point. I feel, therefore, only a little uncertain as to whether I ought not to accept a brass farthing for the silver medal. When the Committee broke up on the 20th inst. I certainly received congratulations on having obtained a silver medal, but there is no doubt that were such an award made it was wholly undeserved, and I hold to the opinion that medals or certificates should not be lavishly distributed to be appreciated. Strangely enough, at the meeting the week after—viz., the 27th inst.—I was still informed, semi-officially, that the award in question had been made, but that the minutes not being forthcoming any uncertainty on the point could not be determined. However, I think it most probable that no award was made, and that very possibly a misunderstanding arose owing to the recent application of an old regulation of the Floral Committee—viz., "that no certificate shall be awarded to any new variety unless supported by a majority of those present at the meeting"—and this regulation has, I learn, been made to apply not only to certificates but generally. The eccentricity of this regulation has been seen during the last fortnight in the National Society not being in a position to express any opinion as to whether a certain variety was an incurved or not, the votes of a majority of those present not having been obtained.

Now, Sir, it often happens that one does not feel justified in voting, or prefers to adopt the medium course of not voting at all, and yet, supposing, e.g., there are eighteen members present, and nine vote for a certificate and two against, the certificate is lost, as those not voting are counted as having voted against. This is a further instance confirming the view so often expressed that the rules and regulations of the N.C.S. require a thorough revision, and makes one think in spare moments that after all there is something in the London cabman's reply that he didn't know where to find the Courts of Justice, but perhaps the gentleman might wish to be taken to the Courts of Law.—HENRY BRISCOE-IRONSIDE, Cedar Lodge, Burgess Hill.

MR. W. H. LEES.

ADMIRABLY as have many growers of Chrysanthemums acquitted themselves in the competitive arena in the late great Floral campaign, it will be conceded that this comparatively young gardener has won a distinguished position. He has as a matter of fact defeated all comers in the chief classes at the best shows at which he has exhibited the blooms that he has grown so splendidly for Mr. Bevan, at Trent Park, Barnet, and staged so well for himself.

So signal has been Mr. Lees' success that few if any growers of blooms will dispute his right to be regarded in that section as the champion of 1895. He reminds us of Mr. E. Molyneux's conquering career a few years ago, and may be fairly described as a modern Molyneux, and more—the "more" referring to the Japanese blooms, for while Mr. Lees has not staged better incurved than the ex-champion did, there were no such Japanese varieties grown then as now.

It will doubtless be interesting to many readers of the *Journal of Horticulture* to know where this grower's successes were scored. To commence at the early part of the season we must mention the show at the Crystal Palace early in November, when two first prizes were annexed. One was for thirty-six Japanese in not less than twenty-four varieties, nor more than two blooms of any one variety; and the other for twenty-four incurved blooms in not more than eighteen varieties. The next appearance was at the Royal Aquarium, at the great show of the National Chrysanthemum Society, when a splendid record was made. In the trophy class for twenty-four Japanese, and the same number of incurved, open to Societies affiliated to the N.C.S., Mr. Lees supplied all the blooms in the winning stand shown by the Southgate Chrysanthemum Society, besides securing the Holmes' Memorial cups both for thirty-six distinct incurved, and for forty-eight distinct Japanese, and all the blooms, it need scarcely be said, were magnificently shown.

But Mr. Lees did not win all his honours at London shows; on the contrary, he made a long journey northward, visiting Hull and Edinburgh, as exhibitors at these two great exhibitions know to their cost. Commencing at Hull on November 13th, he secured the silver cup offered for twenty-four distinct Japanese, and a like honour for a similar number of blooms of the incurved type. Not content with these two, he also appropriated the premier award in the class for twelve distinct incurved, staging in each instance superb flowers. The following day (November 14th) found him at Edinburgh pitted against the best of the Scottish growers, and here again signal success crowned the efforts that had been made. At this meeting there is offered, as everyone who has visited the autumn shows held in the Northern metropolis knows, a cup valued at £20 sterling, for a stand of Japanese Chrysanthemums in forty-eight distinct varieties, and this, following in the

track of the several others, also had to come to Barnet, a wind up being made with the first prize in the class for thirty-six Japanese on long stems arranged in vases, the varieties not to number less than six.

From this brief recapitulation it will readily be seen that Mr. Lees has taken premier position in ten classes at the various exhibitions, and in addition to half of them there has been a silver cup, the most valuable of which was that of the Edinburgh Society. It is obvious, too, that this exhibitor seeks only to oppose foemen worthy of his steel, as at the shows he has visited and been so successful would be found the products of many of the best growers throughout the length and breadth of the land. This of course makes his success the more creditable, and it may well be added the more remarkable, as it is a vastly different affair to go in and win at a small local show, to exhibiting at a large one where the keenest competition is found.

Mr. Lees was a pupil of the late Mr. Wildsmith, who told us that his then youthful foreman "would have to be reckoned with some day." The famous veteran thought highly of his assistant both in conduct and capacity, and left to him the only gold cup that has ever been won for Chrysanthemums in this country—namely, at Devizes, in the year 1887.

Mr. Lees owes his success to his cultural knowledge, and his close attention to all details, or in other words doing what is needed at the right time. It is this habit that has made him what he is—a sterling gardener, and a master in the art of growing and showing Chrysanthemums. He is as modest and unassuming as he is competent, and we have pleasure in letting the world see what manner of man he is. It may be well to add, in conclusion, that, while blooms are taken in somewhat large numbers for exhibition purposes, sufficient still remain for decorative use, for which they are highly appreciated. We understand that only just over 600 plants are grown for the production of large blooms.

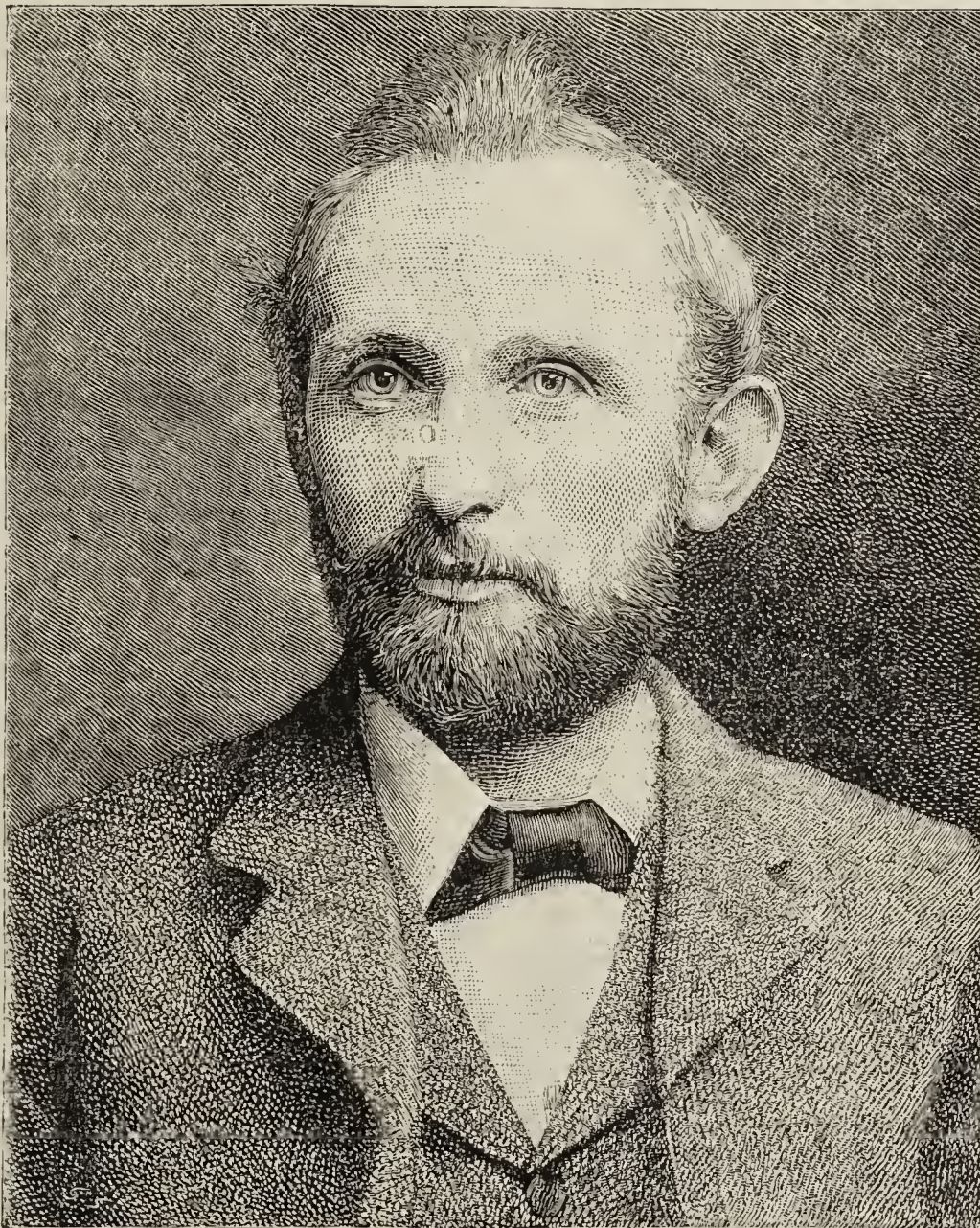


FIG. 80.—MR. W. H. LEES.

MR. HARMAN PAYNE'S COLLECTION OF COLOURED ENGRAVINGS.

AT the recent Chrysanthemum show held by the Société Horticole Dauphinoise Mr. Harman Payne's collection of coloured engravings of Chrysanthemums was awarded a large silver medal by the jury. This award was subsequently altered by the Conseil d'Administration of the Society to a large silver-gilt medal, as they considered Mr. Payne's exhibit of a specially interesting and meritorious nature. A fortnight later the same collection was staged at the Lyons Chrysanthemum show, and received the silver-gilt medal of the Société d'Horticulture Pratique du Rhône, under whose auspices the Lyons show was held. It is worthy of note that the collection has not been exhibited in public since the year 1889, when it received similar recognition at the Ghent Centenary Chrysanthemum exhibition, and in the meantime has been considerably enlarged. It contains a large number of authentic illustrations of varieties originally imported from China, and grown here in the early part of the century.

SELECT NEW CHRYSANTHEMUMS.

ONCE more I present the first instalment of selected new varieties for the benefit of those cultivators who have not had the opportunity of judging for themselves. Now that raisers in various parts of the globe are on the increase the number of new varieties multiply rapidly, and the work of selection is rendered the more difficult. Very often, too, varieties strongly recommended fail to do justice to anyone the following season. The main cause of this is over-propagation of the stock to meet public demands. The plants are thus weakened by unnatural forcing into growth, and cannot reasonably be expected to produce satisfactory results. I quote two instances to prove the reasoning of this statement—viz., Duchess of York and Mrs. C. E. Shea. Of the former good blooms were expected during the present season, but during a tour of all the leading shows in England and Scotland I have only twice seen this variety staged in satisfactory condition. The raiser, Mr. Carruthers, has had really grand specimens of it. From the last named surprising things were expected, but as far as my experience goes it has not once come up to expectations. When in perfect condition both are desirable varieties, as they possess characteristics not obtainable in any other variety.

Following the lines hitherto adopted of giving my estimate of the blooms from actual observation, the description of colours may not in all cases correspond with published descriptions of various catalogues, as I am a staunch advocate of a much simpler method than that adopted by some raisers.

INCURVED VARIETIES.—Now that seedling Chrysanthemums are more numerous than at any other period of the history of this flower, we naturally expect to find additions to the incurved section in proportion. Personally I look much more hopefully on improvement in varieties of this section when they are the result of "sports" than I do from seedlings. From the latter we get far too much of Japanese blood imported into the progeny. I am aware it is somewhat difficult to draw the line as to where an incurved bloom leaves off and the Japanese section begins. Perfection in an incurved bloom can only be found when the florets incurve to one centre. Where they are almost erect and exhibit the inside colouring of the floret they cannot be accepted as true examples.

Although varieties are somewhat numerous this season but one is the direct result of a sport. Past experience has taught critics that too early condemnation of particular varieties is a mistake. Very often a seedling does not develop its true character until it has undergone a two years' trial in the hands of an efficient cultivator. If raisers were all of the latter calibre then we might expect earlier and better results from certain varieties. With these somewhat too lengthy remarks I will give the description of those varieties I have selected as desirable for extended culture.

Charles H. Curtis, although sent out last year, was not seen in nearly such perfect condition as has been the case this. Undoubtedly this variety occupies the premier position of any incurved Chrysanthemum seen this season. It is of seedling origin, and now that the stock is extensive and its wants understood, it will rank as one of the foremost varieties in cultivation. Fully developed blooms measure 5 inches by 4 inches, the petals, which are somewhat narrow, incurving properly. The colour—rich golden yellow—has long been in request for brightening stands. *Globe d'Or* was raised by Bruant in 1893, and was only sparingly seen last year. Sufficient, however, were shown to warrant its extended cultivation, and this opinion has been fully borne out by this season's experience. It is one of the best back row blooms we have, measuring as much as 5½ inches in diameter. The perfectly incurving petals are rich yellow with a bronze suffusion, deepening or otherwise with the late or early "taking" of the buds.

Mrs. R. C. Kingston is an American raised seedling possessing much merit. The florets incurve thoroughly, are rather broad and regularly arranged. The colour is pleasing—soft lilac pink, with faint white lines running through each petal. While expanding each petal is gold-tipped; this, however, passes away with age. *George Haigh* is a sport from the well-known R. Petfield, a qualification requiring no further recommendation. Whether it will be sent out for next season's growth I cannot say. In size and form it is identical with its parent. In colour it is rosy carmine, shaded with bronze. *Major Bonaffon* was introduced as a Japanese incurved, but this season's experience has proved its right to be classed as an incurved variety. The colour, clear yellow, is pleasing; the petals somewhat narrower than in C. H. Curtis when both are developed from late buds. *Harold Wells* might easily be taken as a sport from some member of the Queen family. The petals are more blunt at the point than in that type. It is said to be a sport from Japanese Sir Trevor Lawrence. The colour, cream yellow, is quite distinct from any Chrysanthemum I know. At present it has not been seen in really good condition, but when well cultivated I prophesy for it much popularity.

D. B. Crane is an English raised seedling, and valuable for the front row. The neatly incurving petals are bronze buff, shaded red according to the age of the blooms. *John Fulford* is a large globular shaped bloom with somewhat blunt petals, but they incurve thoroughly. The colour is a dull crimson red, paler towards the centre.

W. Tunnington belongs to the same type of bloom as Baron Hirsch. The petals are too erect and pointed to exhibit perfection as an ideal incurved bloom. The petals are massive in build, dull red, lightly striped gold. *L'Amethyste*, a French raised variety, was sent out as a Japanese incurved, but it will rank as a purely incurved variety when it becomes better known. The colour, dark violet suffused with silver,

is novel, distinct, and pleasing. The petals are substantial, and incurve perfectly. *Lord Rosebery* was sent out in 1893, but was not seen in its true character until the present season. Under ordinary treatment it is an inferior variety, the petals failing to incurve. When, however, it is so managed as to produce late buds, not only do the petals incurve thoroughly, but the colour is perfect mauve flushed with silver. *M. P. Martignac* cannot be classed as absolutely new, but it deserves to be better known. Well grown blooms measure 4½ inches across; *Jardin des Plantes* colour. *Bonnie Dundee* reminds one very much of *Barbara* in form and colour, but fortunately it is much easier of production than that old variety, and brighter in colour also.—E. MOLYNEUX.

A ROOTING BREAK.

WHEN cutting down some incurved Chrysanthemums recently I found in breaking up a stem of *Jeanne d'Arc* a root which appeared to have first started from the natural break and proceeded downwards through the centre of the stem into the soil, a distance of about 18 inches. From this main root, which was about the thickness of stout twine, were emitted many small rootlets which had penetrated into the pith of the old stem. It would be interesting to know if other growers have in their experience known a like occurrence.—H. T. M.

MR. W. J. GODFREY'S CHRYSANTHEMUM HOUSE.

THE engraving on page 511 of the *Journal of Horticulture* is an exact representation of the house arranged with Chrysanthemums as I saw it last year. Exmouth and its neighbourhood is, I should say, especially well suited to the growth of Chrysanthemums. Mr. Godfrey imports the bulk of new varieties from whatever source they may be obtained, with the object of making a selection of approved forms and varieties for the public benefit. In such a house as that engraved there should be no difficulty in developing the blooms thoroughly well as to size, colour, and quality.—E. M.

DISQUALIFICATION—GLASGOW STRINGENCY.

ON first reading the note from Messrs. Pearson & Sons (page 510) one is naturally led to the conclusion that the whole pith of the matter lies in a protest lodged by a disappointed exhibitor. If this were so, how can the Judges shirk the responsibility? Rules are made, and should be carried out, therefore it is not the Judges who are to blame in such matters; it is the exhibitor himself. Although it may appear extremely hard to Messrs. Pearson & Sons, the Judges had no alternative. What about the "spirit" in which the delinquent stands were "spotted," I would ask? If I am right in assuming the prompting came from an exhibitor, I wonder if he will feel any the happier by winning a prize by such a method? The Judges might have ignored in their own minds such a trifle, but if it were pointed out to them, with a request to carry out the law of the schedule, then they had no right to refuse to act.—SADOC.

JUDGING AT CHRYSANTHEMUM SHOWS.

THE subject introduced by your correspondent, Mr. F. C. Smale, on page 460, anent the judging of Chrysanthemums, is one of very great importance, and one which I trust will be fairly and squarely discussed, so that some definite and reliable understanding may be arrived at regarding the lines that are to be adopted in the adjudication of prizes at Chrysanthemum shows. At present there is always a certain amount of difference of opinion regarding the position of stands of cut blooms, more especially if the stands are close in point of quality, and another judge would in all probability reverse their positions, so much depending at present on the individual taste of the judge. If some recognised principles were adopted in judging it would be infinitely more satisfactory for adjudicators, competitors, and for all who take an interest in the cultivation and exhibition of the autumn queen.

Mr. Smale cites Vivian Morel and Mrs. Alpheus Hardy as varieties where a good deal of difference of opinion may arise. So far as my experience goes, I have never seen a bloom of Mrs. A. Hardy which I considered fit to compare with a good bloom of Vivian Morel. I do not think judges ought to take into consideration the ease or difficulty, as the case may be, in the cultivation of the varieties staged in competition, but simply award the prizes on the merits of the blooms as they appear on the exhibition board. If such matters are to be taken into account in awarding prizes, there are many others which may just as reasonably be considered, such as the advantages one competitor may have over another in situation, in accommodation, in numbers of plants grown, and in many other ways that will readily suggest themselves.

I maintain that a gardener whose garden is situated in an open and thoroughly exposed situation, enjoying air and sunshine *ad libitum*, has a decided advantage over his less fortunate opponent whose garden is surrounded by high walls and partially shaded by huge trees. I know of some such places where it is utterly impossible to get thoroughly ripened wood, and consequently the flowers lack that depth and finish which is characteristic of first-class blooms.

Now, as Mr. Smale says, a competitor can choose the varieties he wishes to compete with, but how many can choose the situation most favourable for the perfect growth and development of the plants? Very few, I should think. Consequently I contend that if judges are to allow a point or two for blooms reputedly difficult to produce, they are just as much entitled, and more so, to allow a few points in favour of competitors who are handicapped by unfavourable situations or any other drawbacks they may have to contend with, and over which they have no control.—WM. LITTLE.

CHRYSANTHEMUM MADAME CARNOT.

At the recent Bawtry, Yorks, Chrysanthemum show, Mr. Grant, gardener to Viscount Galway, Serlby Hall, staged a remarkably fine bloom of Madame Carnot. It measured over 13 inches in diameter, and was of great depth. Truly a noble bloom, which was justly admired by all who saw it. It was awarded the prize as the premier bloom in the show.—YORKSHIREMAN.

POMPON DOLLY.

Dr. Walker of Wimbledon is a well-known enthusiast in Chrysanthemum cultivation, and having obtained some colonial saved seed a few seasons ago, sowed it in the hope of obtaining something interesting and new. As a result he has obtained a pretty little Pompon with flat reflexed florets on which he has bestowed the above name. When exhibited at the N.C.S. Floral Committee last season it was commended, but on the 11th inst. Dr. Walker produced several blooms that had been disbudded and was awarded a first-class certificate for his seedling. The colour is a pale pure yellow, and as new Pompons do not reach us in any great number, a note of any such additions may be acceptable to growers who appreciate that class.

CHRYSANTHEMUM MAJOR BONAFFON.

Can this variety strictly be termed an incurved? It is certainly a very closely built solid globular flower, but it seems to me to have a decided mixture of Japanese blood in its constitution. It is one of Dorner's varieties, and, like several of the American raised incurved, is a very distinctive bloom. I have seen blooms from seven or eight growers, but we must not forget that it is its first season here, and experience this year has taught us that American novelties are somewhat fickle. Instead of assuming a perfectly spherical form, Major Bonaffon comes rather in the shape of a flattened cone, and the multitude of narrow pointed florets would in the eyes of some of the old school florists place this variety on debatable ground. In the incurved section a broad floret, nicely rounded at the tips, ought to be one of the chief points; but present-day florists and some self-constituted authorities do not cling so tenaciously to "properties" as the fathers of the Chrysanthemum did in years gone by.—P.

CHRYSANTHEMUMS AT SOUTHWICK, DUMFRIES, N.B.

UNFORTUNATELY there is now no show of Chrysanthemums held in Dumfries, although some years ago an attempt was made to establish an annual one. Some two or three exhibitions were held, and then the movement collapsed from want of the necessary financial support. It is unfortunate that this is the present position, as the shows had a considerable influence in giving a stimulus to the cultivation of the "mums."

There are several good growers within a radius of twenty miles of Dumfries, and one cannot but see that progress is being made. Among these collections may be mentioned that at Southwick, the seat of Sir Mark J. Stewart, Bart., M.P. for Kirkcudbrightshire. The glass at command only admits of about 200 plants being grown, but these include about 160 varieties of various types. There were, on the occasion of a recent visit, among them many blooms which would have given a good account of themselves in strong competition. As may be expected, the Japs were in the majority, and some splendid flowers showed Mr. Blacklock's skill as a grower.

Among these may be mentioned Maggie Blenkiron, W. Tricker, Mrs. W. H. Lees, Lord Brooke, Duchess of Wellington, Col. W. B. Smith, Lilian B. Bird, Eda Prass, G. C. Schwabe, Miss Dorothy Shea, Miss Ethel Addison, and Madame Carnot. There were also some good blooms of incurved, Baron Hirsch being very good; but Chas. H. Curtis has not been so good here as was expected. Several of the hairy varieties of Japanese are also grown, and a few Anemones and singles. The plants were remarkably healthy, and the foliage looked in splendid condition, although from the situation of the garden mildew is very troublesome.—S. ARNOTT.

CHRYSANTHEMUM SHOWS.

SOUTH SHIELDS.—NOVEMBER 20TH AND 21ST.

SUCCESSFUL as were the previous exhibitions that have been held at the Royal Assembly Rooms, South Shields, the recent show was far superior in every respect, and there appears a likelihood of this great Northern Counties' show gaining a wide spread reputation. The space in the rooms on the present occasion was full to overflowing, each of the fifty-two classes that comprised the schedule being well represented. Cut blooms were most numerous, and consisted of massive, bright examples of cultural skill. Groups were artistically arranged, the plant classes were well filled and of excellent quality, while the bouquets, epergnes, shoulder sprays and buttonholes made quite a feature in themselves, occupying a centre table the entire length of the hall.

In the class for twenty-four Japanese, not less than twelve varieties and not more than two flowers of one variety, there were ten competitors all running each other very closely, the premier position finally falling to Mr. J. T. Wheeler, gardener to Mrs. Mitchell, Jesmond Towers, Newcastle, for a grand stand consisting of—Back row: Vivian Morel, Chas. Davis, Mrs. C. H. Payne, Boule d'Or, Vivian Morel, Niveus, Mrs. C. H. Payne, and Charles Davis. Middle row: E. S. Trafford, Mdlle. Thérèse Rey, Eva Knowles, Niveus, Florence Davis, Eva Knowles, Sunflower, and Waban. Front row: E. Molyneux, Louise, Duke of York, Sunflower, President Borel, W. H. Lincoln, G. W. Childs,

and Kentish Yellow. Mr. G. Shotton, gardener to H. Andrews, Esq., Swarland Hall, Northumberland, was a good second, staging large heavy blooms, but not set up to the best advantage. Mr. J. Corbett, gardener to the Rev. the Marquis of Normanby, Mulgrave Castle, was a good third, and Mr. Peter Blair, gardener to the Duke of Sutherland, Trentham Gardens, fourth.

For twenty-four incurved, corresponding in variety with the Japanese, Mr. G. Shotton was well ahead with massive and solid blooms of—Back row: Golden Empress, Baron Hirsch, Queen of England, Alfred Salter, Empress of India, Baron Hirsch, Lord Alcester, and Violet Tomlin. Middle row: Alfred Salter, Princess of Wales, M. Darrier, Empress of India, Violet Tomlin, Golden Empress, Princess of Wales, and Mrs. R. King. Front row: Jeanne d'Arc, Mrs. Coleman, Venus, Lady Hardinge, Lord Alcester, Queen of England, John Salter, and Empress Eugénie. Mr. James Coultas, gardener to Alderman Hardinge, Hollyhurst, Darlington, was awarded the second honours; Mr. Peter Blair, third; and Mr. G. E. Smith, Paull, near Hull, the fourth.

For eighteen Japanese, of not less than twelve varieties, Mr. Wheeler was awarded the first prize for splendid flowers of Mrs. C. H. Payne Stanstead White, Mrs. C. H. Payne, Marie Hoste, Chas. Davis, Vivian Morel, Jameson, Lilian Bird, Col. W. B. Smith, Alberic Lunden, Standen Dibbin, Rose Wynne, W. H. Lincoln, Mdlle. Ad. Chatin, Mons. Bernard, Pallanza, and Madame C. Capitante. Mr. Peter Blair was a good second, having conspicuous flowers of Mons. Panckoucke, Mrs. D. Ward, Sunflower, and Madame Chatin; Messrs. Shotton and Pettefor were placed third and fourth in the order of their names.

For twelve Japanese, distinct, Mr. Blair was first; Mr. Burden, gardener to G. H. Cockburn, Esq., Birkenhead, second, and Mr. Pettefor, third. In the corresponding classes for eighteen and twelve incurved, Messrs. Shotton, Blair, Coultas, and McKenzie, shared the honours between them. Anemones, Pompons, and reflexed were well represented and good prizes offered.

Groups of Chrysanthemums and other flowering and foliage plants were a prominent feature, the first prize being awarded to Mr. John McIntyre, gardener to Mrs. Gurney Pease, Darlington, for a very tasteful arrangement. In the back ground of this group there was a slight defect which a few more Chrysanthemums would have improved, still we were glad to recognise this artistic departure from the old style of crowding a mass together. The second prize was awarded to Mr. J. Wood, gardener to E. Hopper, Esq., Riverside, Morpeth, who had arranged some very fine grown Chrysanthemum blooms, well mixed with Crotons and Palms, but as a whole it was considered too crowded, and Messrs. Burton and East shared the third and fourth prizes respectively. Ferns, fine foliage plants, Primulas, and table plants were remarkably well staged and added to the other attractions, while the bouquets were marvels of artistic arrangement, especially so in the classes for hand and bridal bouquets, in each of which Mr. J. Summers Fawcett, Sanderland, and Messrs. Perkins & Sons, Coventry, competed, and were awarded first and second honours in order of their names in both classes. Epergnes, shoulder sprays, bouquets of Chrysanthemums and buttonholes were all creditably shown.

Grapes and vegetables were largely represented and of most excellent quality throughout. In all it was a grand exhibition, and reflects the utmost credit and praise to the promoters and organisers, especially to Mr. Bernard Cowan, whose master mind must be ever active in his duties to the cause of horticulture; the Treasurer, J. T. Reed, Esq., Alex. Purvis, Esq., Chairman, and the whole of the hard-working Committee, who were most enthusiastic in their efforts for success and to which aim they grandly succeeded as they deserved.

ALDERLEY EDGE.—NOVEMBER 29TH AND 30TH.

THOUGH somewhat late in the season the Chairman and Committee of the above Society are to be congratulated on the beautiful show, opened by the esteemed President, Colonel Dixon, J.P., C.C., in the Drill Hall, on Friday last. The quality of the exhibits, for they were really first class, should be a strong incentive to the Committee to still further strengthen their classes another season. It being the first show a prize list of about £50 was provided, the classes were numerous, and the competition in every instance very close.

The principal open class for cut blooms was for thirty-six, distinct, incurved and Japanese, eighteen of each, a close fight resulting in the Judges placing Mr. T. Roderick, gardener to J. H. Sykes, Esq., first with a fine stand, his best Japanese being Vivian Morel, Charles Davis, Mons. C. Capitane, G. C. Schwabe, Princess May, and Mdlle. Thérèse Rey. Incurved: W. Tunnington, Princess of Wales, Robert Cannell, C. B. Whitnal, Jeanne d'Arc, Lady Dorothy, and Lord Rosebery. Mr. R. Pinnington, gardener to Mrs. Banner, Blacklow House, Roby, who had some fine blooms damaged in transit, was second with a stand containing many handsome blooms; and Mr. A. Trail, gardener to R. B. Lingard Monk, Esq., third.

For twelve Japanese, distinct, Mr. G. Mottram, gardener to H. Heenan, Esq., first; Mr. R. Pinnington an excellent second, and Mr. G. Corser, gardener to A. Ashton, Esq., third. For the same number of incurved, Mr. T. Derbyshire, gardener to J. Whitehead, Esq., and Mr. R. Pinnington were placed first and second with admirable stands, Wm. Tunnington and C. H. Curtis being especially good; Mr. Corser being third. The radius of two miles from Alderley Edge or Wilmslow stations was allowed for local growers, Mr. G. Mottram winning for twelve Japanese with a very bright stand, Mr. A. Trail second; the corresponding class for incurved being taken by Mr. Derbyshire. A

successful winner in the minor classes was Mr. Geo. Heap, gardener to Mrs. Bradley, who took first honours in the remaining five classes. The names of the best blooms are not given, as they were similar to those previously mentioned.

Chrysanthemum plants formed a bright feature, the first prize for groups arranged for effect in half-circle form being worthily taken by Mr. A. Trail; Messrs. T. E. Johnson, gardener to W. Cobbett, Esq., and T. Derbyshire being second and third, the latter winning for a group with Chrysanthemums excluded. Three large-flowering, distinct, and one specimen Japanese, Mr. T. Derbyshire; Mr. T. E. Johnson winning with three Pompons and specimen. Some excellent specimens were noticeable amongst miscellaneous plants, Messrs. Jno. Wilson, C. Illingworth, S. Harrison, and A. Hall, gardener to Crewdson Waterhouse, being the winners. Miscellaneous cut flowers, sprays, buttonholes, bouquets, and bunches of decorative Chrysanthemums were extremely pretty.

Exhibits not for competition were put up by E. Ashworth, Esq., Harefield Hall, Wilmslow, who gave an impetus to the show, such as very few private gentlemen could do, by a table of Orchids in flower, comprising many of the finest varieties, with which Mr. Ashworth's celebrated collection abounds—a grand exhibit without doubt; Messrs. Johnson & Wheeler, a box of Chrysanthemums; Messrs. W. Clibran and Sons, exhibit of new Chrysanthemums in variety and a handsome contribution of Apples. To the above certificates were unanimously granted. For the future of the show we can only wish it every success, and the courtesy of the Secretary (Mr. G. Leadbeater, jun.) must go a long way towards making it so.

DUNFERMLINE.—NOVEMBER 13TH.

THE fourteenth anniversary of the Dunfermline (Scotland) Chrysanthemum and vegetable show was held in the Drill Hall on the 30th ult., and as regards quality in exhibits proved to be a decided success. Cut blooms and Chrysanthemum plants were wonderfully well shown, considering the very late date the Society had fixed for its exhibition, while vegetables were fully up to the standard of other Scotch shows. The attendance of visitors might perhaps have been better, but no doubt the prolonged wet weather had all to do with this weakness.

In the open class for twelve blooms of Japanese there was strong competition. Mr. James Dunigan, gardener to Major Hunt, Pittencreeff, was well to the front with clean blooms of great substance. These were Vivand Morel, Miss D. Shea, Mdle. Marie Hoste, Chas. Davis, G. C. Schwabe, Sunflower, Duke of York, Etoile de Lyon, J. P. Kendall, Wm. Seward, Mons. A. E. Carrier, and President Borel. The second prize was awarded to Mr. John Reach with blooms not quite so large. Mr. Dunigan was again first with six Japanese.

For twelve incurved Mr. James M. Proctor, gardener to Dr. Dow, Dunfermline, took premier honours with well finished blooms of Golden Empress (2), Alfred Salter (2), Empress of India (2), Lady Dorothy, John Lambert, Jardin des Plantes, Lord Alcester, and Baron Hirsch (2). The same exhibitor was first with six incurved.

In the class for six pot plants of three varieties, Mr. John Walker was first with well-grown plants, and Mr. Jas. Foote a good second. For three pots, incurved, the first prize was awarded to Mr. Foote; and for three Japanese plants Mr. John Scott proved successful. Pompons were very well shown. For three plants the first prize fell to Mr. Robt. Speirs, who was also to the front with two plants of the variety "Rosinante." In the class for six buttonholes Mr. Alex. McFarlane was the winner, and for the table bouquet the first prize was gained by the same exhibitor. Foliage plants were well shown, both in the gardeners' and amateurs' classes.

For a collection of vegetables (six kinds) Mr. Wm. Lumley, gardener to Lord Elgin, Broom Hall, was first. Mr. John Reach, gardener to Alex. Mitchel, Esq., Luscar, was a good second. Mr. Reach was successful with six Leeks. The amateurs' classes were all well filled, the competition in several cases being very keen.

The only non-competitive exhibit in the show was from Messrs. Dobbie & Co., Rothesay, who staged in their usual way a fine collection of Japanese blooms, mostly new varieties, including Sir Trevor Lawrence, a pure white, in shape and size like W. H. Lincoln; Amiral Avelan (Calvat), a dazzling yellow; and Mrs. C. Harman Payne. These were backed up with vases filled with decorative and incurved varieties, of which J. Agate and John Fulford (both new varieties) showed very prominent among the rest. A fine lot of Onions (Ailsa Craig) and plants grown in Jadoo fibre were also staged by this firm.

ROYAL AQUARIUM.—DECEMBER 3RD, 4TH AND 5TH.

CONSIDERING the late dates on which this show was held the National Chrysanthemum Society is deserving of praise and congratulation for the exhibition that was brought together. Not only were the flowers in the Chrysanthemum section numerous but they were of very high quality, which says much for the excellent methods of culture that are adopted. In many of the classes the exhibits were numerous and the competition keen, while in a few of the others there were no stands at all. Miscellaneous exhibits were seen in good numbers, and in fine condition. The arrangements, in the experienced hands of Mr. R. Dean, were well carried out.

Eight exhibitors competed in the premier class for twenty-four Japanese of not less than eighteen varieties. A fine collection, staged by Mr. A. Haggart, gardener to Mrs. Johnston Foster, Moor Park, Ludlow, took the highest award, and was composed of Etoile de Lyon,

G. C. Schwabe, Mdle. Marie Hoste, E. Molyneux, Mrs. W. H. Lees, Le P. du Bois, Niveus, Lord Brooke, Vivand Morel, Duke of York, Madame Ad. Moulin, Beauty of Castlewood, International, Mons. Pancoucke, Golden Gate, Mdle. Thérèse Rey, Mrs. C. Harman Payne, and Robert Owen. Mr. H. Perkins, gardener to the Hon. W. F. D. Smith, M.P., Henley-on-Thames, was a good second, showing, amongst others, fine blooms of Madame Carnot, Rose Wynne, Golden Wedding, Robert Owen, Graphic, W. H. Lincoln, Etoile de Lyon, Primrose League, and Viscountess Hambleton. Mr. W. Mease, gardener to A. Tate, Esq., Leatherhead, occupied the third place.

Mr. H. Perkins was first with twenty-four bunches containing three blooms each of any varieties, the exhibit containing many fine flowers; Mr. J. Aplin was a creditable second, and Mr. C. J. Waite, gardener to the Hon. W. P. Talbot, Esher, third. Ten exhibitors vied with each other for the premier position in the class for twelve distinct Japanese. Mr. A. Haggart was again first with a superb exhibit, showing in perfect form Mrs. C. Harman Payne, Golden Gate, Madame A. Moulin, Niveus, G. C. Schwabe, Sunflower, Duke of York, Madame Marie Hoste, Vivand Morel, Etoile de Lyon, E. Molyneux, and Mdle. Thérèse Rey. Mr. W. Messenger, Wolverstone Park, Ipswich, was a creditable second, showing good flowers of Mrs. W. H. Lees, Madame Ad. Chatin, Duchess of York, Etoile de Lyon, and G. C. Schwabe. Mr. J. Aplin, gardener to M. Baker, Esq., Hasfield Court, Gloucester, followed with the third.

Mr. A. Haggart was also to the front among ten exhibitors for six Japanese, showing excellent flowers of E. Molyneux, Niveus, Beauty of Castlewood, Etoile de Lyon, G. C. Schwabe, and Charles Blick. Mr. J. Aplin and Mr. W. Collins, gardener to J. W. Carlill, Esq., Ponsbourne Park, Herford, followed with second and third in the order named.

For twelve incurved, in not less than six varieties, Mr. W. Neville, gardener to F. W. Flight, Esq., Winchester, was first with Lord Alcester, C. H. Curtis, W. Tunnington, Alfred Salter, Mrs. Robinson King, Beauty, and Mrs. R. C. Kingston in good form. Mr. A. Haggart, gardener to Mrs. Johnston Foster, Moor Park, Ludlow, was a good second, and Mr. J. Aplin, gardener to W. M. Baker, Esq., Hasfield Court, Gloucester, third. There were five competitors in this class. Eleven stands were staged in the class for six incurved blooms, distinct, and many splendid examples were noticed. Mr. H. Perkins, gardener to the Hon. W. F. D. Smith, Greenlands, Henley-on-Thames, was placed first with C. H. Curtis, Lord Rosebery, Princess of Teck, J. Agate, Mrs. R. C. Kingston, and Mrs. J. Gardiner. Mr. W. Neville was a fair second, and Mr. H. Alderman a close third.

There were four exhibitors in the class for twelve bunches of Japanese blooms in not less than six varieties, and Mr. R. C. Notcutt, Broughton Road Nursery, Ipswich, was a splendid first. The varieties included Duchess of York, Mrs. W. H. Lees, W. H. Lincoln Improved, Niveus, Challenge, Mdle. Thérèse Rey, Robert Owen, Rose Wynne, Mrs. Dr. Ward, Etoile de Lyon, Golden Gate, and Louise. Mr. H. Alderman, gardener to G. Hatfield, Esq., Morden Hall, was second; and Mr. S. J. Cook, gardener to J. H. Harbridge, Esq., Hendon, third. Five exhibitors competed in the class for six bunches of Japanese, and Mr. W. Slogrove, gardener to Mrs. Crawford, Gatton, Reigate, deservedly received the premier award. The varieties staged were Wm. Slogrove, Souvenir de Petite Amie, G. W. Newitt, Etoile de Lyon, Mdle. Thérèse Rey, and a yellow seedling. Mr. T. Tullett, gardener to G. Alexander, Esq., Brentwood, was a good second; and Mr. A. Newell, gardener to Sir Edwin Saunders, Wimbledon, third.

For twelve bunches of large flowered single varieties Mr. G. W. Forbes, gardener to D. Nicols, Esq., Regent House, Surbiton, was an easy first with an exhibit comprising excellent examples of Alphonse, Rudbeckia, Purity, and others. Mr. W. C. Pagram, gardener to J. Courtenay, Esq., Weybridge, the only other exhibitor, received the second prize. In the class for twelve bunches of small flowered single varieties Mr. A. Felgate, gardener to the Duchess of Wellington, Burhill, Walton-on-Thames, was the only competitor, and was adjudged the first prize.

In the class for six bunches of large-flowered single Chrysanthemums there were two competitors, Mr. T. Tullett being placed first, and Mr. A. Meridew, Camberwell, second. For six bunches of small-flowered varieties the positions were reversed. Only four competitors staged in the class for six Japanese, distinct, the premier award going to Mr. H. Love, Sandown, Isle of Wight, who showed Mrs. C. E. Shea, Good Gracious, Golden Wedding, Eugène Daildouze, Mrs. J. George, and Mrs. Jerome Jones. Mr. E. Linfield, East Finchley, was second, and Mr. W. Amies, South Ashford, Kent, third. Mr. D. B. Crane, Archway Road, Highgate, was a splendid first for a vase of large-flowered Chrysanthemums arranged with foliage; Mr. W. Green, jun., Harold Wood, Essex, being second, and Mr. F. Durant, Ware, third.

There was apparently only one competitor in the class for twelve double Primulas, this being Mr. W. Mease, who with splendid examples secured the chief award. Messrs. H. Cannell & Sons took first prize for twelve single Primulas with well-grown plants, Mr. T. P. Macgregor, gardener to the Dowager Lady Hay, Putney Hill, being second. Mr. J. F. Macleod, gardener to J. P. Morgan, Esq., Roehampton, was first for twelve plants of Cyclamens, with handsome plants, carrying good flowers and foliage. Mr. Rapley, gardener to H. Grinling, Esq., Harrow Weald House, was a good second.

For a collection of *Primula sinensis* Mr. A. Newell, gardener to Sir Edwin Saunders, Wimbledon Common, was first with moderately flowered plants. Mr. T. P. Macgregor, gardener to Dowager Lady Hay, Putney Hill, S.W., was granted the second award. The first prize for a collection of Cyclamen was awarded to the St. George's Nursery Company, Hanwell, whose exhibit was composed of sturdy plants

fairly well clothed with bloom; Mr. J. F. McLeod, gardener to J. P. Morgan, Esq., Dover House, Roehampton, taking the second award. Mr. W. Howe gardener to H. Tate, Esq., Streatham Common, was the only exhibitor for a collection of flowering, berried, and foliage plants, for which he received first prize.

Very bright was the group of Zonal Pelargoniums arranged by Messrs H. Cannell & Sons, Swanley. The flowers were of large size and richly coloured, many of the leading ones being seen. Particularly noticeable were Princess Alix, Duchess of Devonshire, Lord Farrer, Hyacinth, Seagull, Mrs. D'Ombraim, Royal Purple, and Golden Hand. The same firm also staged a few Chrysanthemums in variety (silver-gilt medal). Mr. C. J. Waite, gardener to the Hon. W. P. Talbot, Glenhurst, Esher, showed a handsome collection of vegetables in variety, including splendid Celery, Carrots, Beets, Turnips, Tomatoes, Cauliflowers, Brussels Sprouts, Potatoes, Onions, Leeks, and green vegetables (silver medal). Mr. W. Mease, gardener to A. Tate, Esq., staged Chrysanthemums, not for competition, as also did Mr. A. Haggart, Ludlow. Mr. E. H. Jenkins, Hampton Hill, sent flowers of the decorative Chrysanthemum Golden Dart.

Messrs. W. Cutbush & Sons, Highgate, arranged a small table of miscellaneous plants. The foliage plants were good examples of culture, but somewhat too numerous in proportion to the flowering kinds, which were mostly Ericas (silver medal). Mr. N. Davis, Camberwell, showed a collection of Chrysanthemums, in which many of the leading varieties were seen (silver-gilt medal). From Mr. W. J. Godfrey, Exmouth, came a collection conspicuous more for quality than for quantity. The best varieties were Egyptian, H. W. Rieman, Duchess of York, King of Orange, L'Amethyste, and Brightness. A few Carnations also came from Mr. Godfrey (small silver medal). Mr. R. Owen, Maidenhead, exhibited a table of charming Chrysanthemums, comprising amongst others Ada Owen, Admiral Avellan, Pearl of Maidenhead, Robin Adair, and several seedlings (silver medal). Mr. A. Meridew, The Gardens, Camberwell House, Camberwell, secured a silver medal for table decorations with an arrangement that was somewhat heavy.

Mr. W. Wells, Redhill, Surrey, was represented by a large and varied collection of Chrysanthemums, both cut flowers and plants, arranged for effect. Amongst the former were noticed good blooms of Hairy Wonder, Rose Wynne, Mrs. H. J. Jones, Madame Calvat, President Carnot, Golden Gate, Black Beauty, Madame Alf. Moulin, Silver King, Owen Thomas, Robert Owen, Surprise, Mollie, Thérèse Rey, Mons. Charles Molin, Philadelphia, Sir Trevor Lawrence, and J. Agate, together with foliage plants, which assisted in making an effective display (silver-gilt medal).

Mr. H. J. Jones, Lewisham, had a large group of Chrysanthemums, arranged with Crotons, Ferns, and other foliage plants, which was undoubtedly one of the chief features in the show, and was awarded a gold medal. The group occupied a large space, and was arranged in undulating form with the foliage plants rising above the blooms, and when the lateness of the season is brought into consideration the exhibit was a highly creditable one. Mr. Jones also staged a large number of cut blooms of both the incurved and Japanese sections. Messrs. G. Prickett & Sons, Tottenham, exhibited a large collection of Chrysanthemum L. Canning in bush form, very suitable for decorative purposes (silver medal). Messrs. Richard Sankey & Son, Bulwell Pottery, Nottingham, sent specimens of flower pots, pans, and specimens of rustic and artistic pottery; and Mrs. W. Colchester, Ipswich, had an exhibit illustrating the benefits of Ichthemic guano.

FRUIT TREE ROOTS.

WIDELY extended observation has convinced me that few greater mistakes are made in cultivation than by neglect of the roots of plants under our care. Early in my gardening career this truth was impressed



FIG. 81.—IMPROPERLY CUT ROOT.

upon my mind by many lessons from a respected tutor, and subsequent experience has served to confirm it in every respect. Whether we are dealing with plants in pots grown under artificial conditions as to heat and protection, or with occupants of the open ground, the results are similar. Work connected with potting or planting is too often carelessly or thoughtlessly performed, because the immediate neglect is concealed, but the effects are sure to become apparent later on, when it may be too late to repair the mischief. It is most difficult to convince beginners what delicate and important organs the roots of all plants are,

and I have found close supervision, repeated and patient instruction, or sometimes stern reproof needed before the matter is properly grasped. But it was not my intention to discourse upon root neglect generally just now. I wished to point out with regard to fruit trees one little attention that all should receive at planting time—namely, cutting the damaged ends of the roots cleanly, so that they can heal quickly and thoroughly. Thousands of trees are planted as they are received from

the nurseries. Probably the roots are spread out carefully and the planting done in a correct way in all other respects, but a large proportion of the labour is lost when that one point is overlooked. It is as necessary to cut the root ends smoothly and sharply if fresh feeding fibres are desired as it is to make a clean section of a cutting to be rooted.

Some years ago I was present at a lecture delivered by Mr. J. Wright in the Crystal Palace, when the chief subject under consideration was the treatment of fruit tree roots at planting time and the subsequent results. Diagrams were employed to illustrate what was being explained, and one of the most striking was that which depicted the effects produced by cutting the tips of roots cleanly as compared with rough hacking or non-attention to trimming. Such results had come under my notice many times in actual practice, but I had never seen the matter so clearly illustrated before, and that appeared to be the general opinion of those present.

It is so important that I thought a few examples would serve to call attention to it now. Specimens are therefore enclosed cut from roots of dwarf Apple trees planted last year and which have just been lifted to enable some alterations to be made in the garden. They are fair examples of several hundreds and were not specially selected.

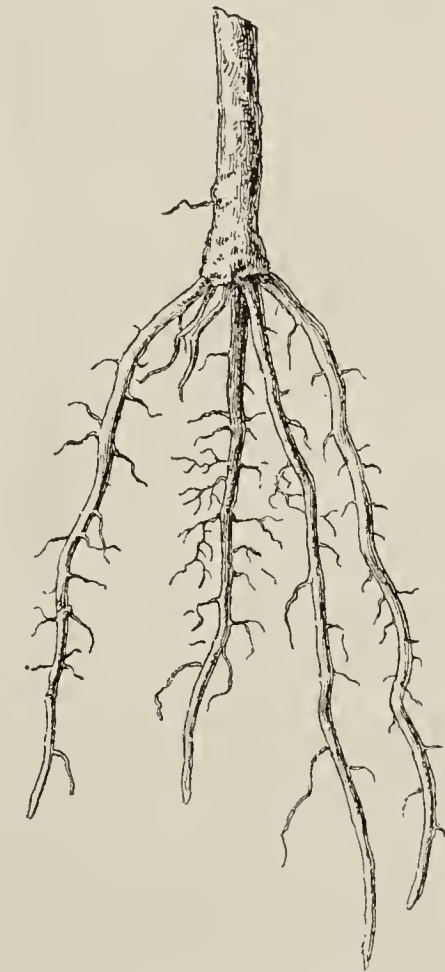


FIG. 83.—PROPERLY CUT ROOT.
(CRAB STOCK.)

of Apple on the Crab stock, and is sent to show the marked difference in the style of root growth in a very early stage, the roots few, straight, and comparatively fibreless.—A BRITISH GARDENER.

LADY DOWNE'S GRAPE NOT COLOURING.

YOUR correspondent, "A. Y." must indeed have come on what he describes as "a worthless variety" of Lady Downe's. He seems to have given it every possible care and attention, and though growing as well as could be desired, and apparently in the best of health, it still refused to colour. "A. Y." does not say if it bore a heavy crop or not. Possibly and probably it would, as no complaint of non-fruitfulness is made against it; it must therefore have been a worthless variety.

For many years, when Lady Downe's was a popular market Grape, we grew a large quantity of it, and had no difficulty in producing well coloured crops. It is a healthy growing Vine, singularly free from the

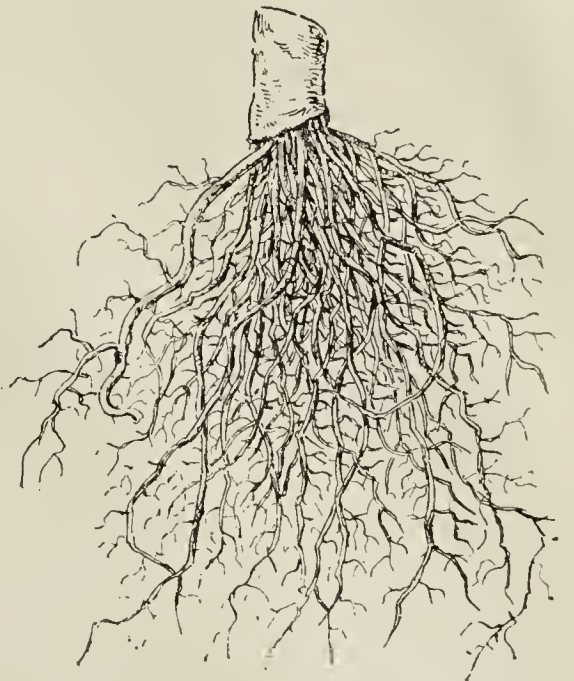


FIG. 82.—PROPERLY CUT ROOT. (PARADISE STOCK.)

Fig. 81 (Worcester Pearmain on the Paradise stock) is a portion of a root that was improperly cut. The lower portion has not healed, and the only new rootlets produced are a few in the upper part. Happily there are not many such unsatisfactory specimens, as nearly the whole of the root trimming was done by myself or under my immediate supervision. Fig. 82 (the same variety) includes examples of careful and clean cutting, where complete healing of the wounds has taken place, and a quantity of young feeding rootlets have been produced from the ring of new tissue formed round the cut edge; while in one case the whole of the cut surface has been covered with fresh cellular growth, which has emitted a thicket of fibrous roots. The value of such growth as this compared with the former cannot be misunderstood. In the latter the trees had not only recovered from the check, but they were even in a better condition as regards their roots than they were at the first planting.

Fig. 83 is from the same variety

insect pests that often attack other varieties, and the only particular treatment we gave it was to maintain a brisk temperature when in bloom and to maintain cooler and more airy conditions when the stoning period came round.

To me it seems a pity that Lady Downe's is not still popular as a market Grape. It has splendid qualities as a keeper, and its merits as a Grape for the dessert table, when thoroughly ripened and hung till end of January, are not to be despised. It lacks the bold appearance of some other varieties, but at the same time it possesses qualities that make it a Grape that should still be appreciated in the months of January, February and March.—JOHN THOMSON, *Clovenfords*.



HARDY FRUIT GARDEN.

Winter Pruning Fruit Trees.—There are very few trees that are not benefited by winter pruning, if judiciously carried out. One of the most important points to keep in view is that of allowing ample space between the branches of all forms of trees and bushes. This is such a primary essential in the management of fruit trees that pruning and thinning of the branches is frequently recommended before the leaves fall. The latter method has one obvious advantage, and that is, a better judgment can be formed of what should be removed. Crowding of the wood is not quite so apparent after the fall of the leaf as before, but yet it is evident to the practical cultivator who knows the habit of the trees. The removal of weak branches, dead wood, and spray also forms part of the superfluous material annually dealt with.

Pruning Large Bush Trees.—Apples and Pears are most frequently grown on this system of training. The branches may attain to a considerable length, starting from points within short distances of the ground, so that the trees have practically very short stems or boles. The principal branches consist of simple cordons for the greater part of their length, or other branches may originate from them at various positions for filling up vacancies. No branches with spurs should originate nearer together than a foot, and if the spurs are elongated it is probable the trees will be crowded.

With old-established trees it is advantageous to gradually reduce the longest of these, and thus insure the fruiting spurs being kept closer to the branch. The number of leaves is in this way regulated, preventing undue shading of one another, while finer examples are produced, which build up equally fine buds and strengthen generally the bearing wood, as well as indirectly the blossoms and fruit. When the spurs are arranged in a compact form, yet not numerous or crowded, actual spur pruning will not be required, but the current year's extension from such, whether shortened in summer or left full length, must be cut back to one or two eyes. Weakly shoots which can be dispensed with had better be cut out entirely. When extension of the leading shoots is required for increasing the length of the branches the leader may be shortened to a foot. Extension not being required it must be cut closely in. Endeavour to keep the bushes as symmetrical as possible, and the branches at regular intervals. Fill up vacancies, if any arise, by encouraging strong growths in suitable positions. Cut out spray entirely, consisting of long, thin, watery shoots that originate from eyes on the old wood.

Pyramid Trees.—Apples and Pears grown in pyramid shape are subject to overcrowding if not well regulated annually by correcting any disposition the trees may have to produce too many branches. If allowed to do so they cannot be productive, owing to the inability of light and air to reach the basal leaves. These leaves require every possible assistance that can be given by free exposure to light, so that bold fruit buds can be built up. Therefore in pruning old trees rectify, if necessary, to some extent annually the evil of overcrowding, as it is far better to proceed gradually, both in branch thinning and spur reduction, than to adopt severe methods in a course of winter pruning. In training young trees keep this main object in view, as it will early induce fruitful habits and thus simplify the management.

Like other restricted forms the wood growth emanating from the spurs and forming the current year's shoots requires to be shortened to one or two buds. If previously in the season these shoots were shortened to four leaves or summer pruned, the basal buds, having had the sap concentrated in them, will more readily develop into fruit buds. Where the shoots are weakly or ill-placed the basal buds will invariably be wood buds; therefore, such shoots may be cut completely out, if possible pruning them back to a prominent fruit bud. Some trees with crowded spurs have many dead portions intermixed with the healthy buds, and they ought, of course, to be carefully removed without damaging the live wood or injuring promising buds.

Standard Trees.—This form of tree seldom needs very severe pruning, the chief requisite being attention to prevent overcrowding and adopting methods to secure and retain a symmetrical and well balanced shape. Branches that cross may be removed, pruning out the least promising or indifferently placed at their origin. The interior of the trees should be kept open, always removing spray, dead wood, and

weakly branches in favour of those of intermediate vigour and a fruitful tendency. In this form of tree shortening of the branches and spurring of side shoots are best avoided, the aim of the cultivator being to have a free-growing prolific tree growing in a natural manner, with just sufficient regulation of the growth carried out in a judicious manner for insuring a good appearance.

Standard trees are frequently spoilt in outline and their bearing capabilities reduced by being allowed to occupy positions too near to each other or adjoining trees. Full standards ought to be planted 24 to 30 feet apart, and away from the shading and impoverishing influence of surrounding trees and shrubs. Exposure to light and air on all sides conduces to perfection in bearing and training quite as much as careful pruning of individual trees. Many trees are rendered unsightly and comparatively valueless from ignoring a few simple rules which, carried out from an early period, are of incalculable benefit not only to trees separately, but to the whole fruit garden or orchard.

FRUIT FORCING.

Vines.—*Early Forced in Pots.*—The earliest Vines started in November, whether in pots or planted out, will need to have the temperature increased to 60° at night in mild weather, 55° in severe weather, gradually increasing it so as to have it 60° at night when the Vines are coming into leaf, 65° by day in severe weather, and 70° to 75° in mild weather, with a little ventilation daily to insure a change of air. The evaporation troughs need not be charged if there are fermenting materials in the house, but if not the troughs should be filled and kept so with the drainings of the manure yard or stables, and cow hyres, but avoid the drainings of piggeries. The liquid, if strong, must be diluted, neat drainings with five times the bulk of water, or employ guano, 1 lb. to 20 gallons of water, straining before placing in the trough. The liquid is also useful for watering Vines in pots, always applying it at the temperature of the house. Tie up the Vines in position as soon as the growth has well commenced, and before the shoots are so long as to be damaged in the process. Sprinkle the house two or three times a day in clear weather, avoiding a very close atmosphere on the one hand, and a dry one on the other. Disbudding should not be practised until the fruit shows in the points of the growths. Only supply water at the roots to keep the soil moist, not much watering being needed until the Vines come into leaf.

Earliest Forced Planted-out Vines.—In order to have a supply of ripe Grapes in May of the Sweetwater class—Black Hamburgs and Buckland Sweetwater, and Foster's Seedling—a much better setter than Buckland Sweetwater—the Vines must be started at the beginning of December, nothing favouring a good start more than a good bed of leaves and sweetened stable litter placed on the floor of the house and turned daily. The outside border should have the needful protection from cold rains and snow; a covering of bracken or leaves with litter on the top so as to throw off rain, will be considerably warmer than exposed, and in their case covering with fermenting material may be dispensed with; but a covering of fresh leaves so as to raise gentle warmth is preferable, especially to those entirely outside. The inside border should be brought into a moist condition by applying water, and in the case of weakly Vines liquid manure. Avoid making the soil sodden by needless waterings, as Vines require only moderate root moisture until they start into growth. Start with a night temperature of 50° in severe weather, 55° in mild weather, and 65° by day, except the weather be severe, when 55° will suffice, not exceeding those figures until growth commences. Maintain a genial atmosphere by syringing occasionally, but avoid excessive moisture, as it excites the emission of aerial roots from the rods. Depress the canes of young Vines to the horizontal line or below it, to insure the regular breaking of the buds.

Midseason Vineries.—Vines in midseason houses from which the Grapes have been cut should be pruned, not delaying this after the leaves are all down. Any Grapes still hanging may be cut, placed in bottles of clear rain water with a piece of charcoal in each. The Grapes often keep better that way than on the Vines, as the temperature of a room from which frost is excluded is more equable, and there is less danger of damping, than can be commanded in a vinery. Keeping Grapes hanging after they are matured and the leaves fallen may not prejudicially affect the Vines unless prolonged to a late period, but there is a sort of preparation for future growth going on in the buds, as the sap is more or less in circulation, and there is a certain amount of waste which cannot take place when the Vines are pruned, as the matter is then concentrated on the buds left. Prune, therefore, directly or shortly after the leaves are fallen, cut any thin-skinned Grapes, as they do not require the maturing so necessary for such varieties as Gros Colman and late thick-skinned varieties generally.

In pruning adhere to the practice that has proved satisfactory. If the Vines are in good condition they will give sufficiently large bunches if pruned to a couple of buds, good useful Grapes, large in berry and perfect in finish, so essential for marketing or keeping the table supplied with fresh fruit daily. But if larger bunches are required, or the Vines from weakness or other causes do not afford them so large as desired, leave more growth, only be careful to select sound, round, well developed buds on firm well ripened wood. Large bunches, especially on early forced Vines, are indifferent in setting and uneven in swelling the berries, and defective in the finish of medium sized bunches; aim, therefore, at finish. Vines that afford well finished examples when pruned to one bud will give a larger bunch and of equal finish from the second bud. But the wood and buds of Vines are greatly influenced in fruitfulness and the character of the produce by the soil.

If the soil be plentiful, loose and rich, the shoots or canes will be gross, long-jointed, having large, thin-textured flabby leaves, the buds large, pointed, or if laterals are encouraged flat, and these give sensational bunches, which to be presentable have to be tied into form, and are only satisfactory when their merits are calculated by weight. If, on the other hand, the roots are in a firm but favourable rooting medium, causing much root ramification and steady instead of spasmodic supplies of nutrition, then the wood is stout and short-jointed, the leaves thick and leathery, and the buds at their base are round, plump, and well matured, as also is the wood. It is, of course, assumed that the foliage has had full exposure to light for the solidification of the growth as made, and that cultural requirements are granted in full measure. Let the house be thoroughly cleansed, the Vines dressed, and everything put into proper order, so that there may not be any hurry later on. Keep the house cool, insuring as complete rest as possible.

Late Houses.—Take every precaution possible against damp. Leaky roofs are a prolific cause of Grapes decaying; a single drop of water getting into a bunch of Grapes is sufficient to spoil it. Though the decay may only be a berry, it soon spreads and ruins the whole bunch, especially when the faulty berry is in its interior, so that it escapes detection until the mischief is done. Remove all leaves as they become mature, affording only sufficient fire heat to maintain a temperature of 40° to 45°, admitting air on all favourable occasions, but close the houses in damp weather, seeking to insure a dry, cool, equable temperature. Muscat of Alexandria should have a temperature of 50°, a gentle warmth in the pipes constantly so as to prevent the deposition of moisture on the berries; but when the weather is cold and sharp allow the temperature to fall 5°, being careful not to allow the temperature to be much accelerated by sun heat or natural warmth without a free admission of air.

Pines.—Suckers ready for starting now may be kept until March, and if there is likely to be a scarcity of suckers any recently potted may be kept in 5-inch pots, affording a light position in a moist pit with a slight bottom heat, and a temperature of 55° at night, keeping them rather dry at the roots.

Young stock suffer irreparable mischief from being kept too close and warm, particularly at this season, the plants being drawn and weakly. Well-ventilated span or three-quarter span-roofed pits, or small houses properly heated and ventilated, are the most suitable for Pine-growing. A temperature of 65° at night should not be exceeded, but a mean between that and 55° at night, which, with 65° in the daytime, will keep young stock gently progressing, admitting a little air at the top of the structure at 65°, leaving it on all day, but not to lower the temperature below that point, and when the sun raises the temperature to 75°, a free circulation of air should be allowed. Keep the bottom heat steady at 80°, avoiding anything approaching to a damp atmosphere; moderate humidity will suffice. Apply water only when the plants become dry, and then give weak liquid manure. Keep the glass clean, the plants near to it, and allow them plenty of room.

In the fruiting department 65° will be ample at night, 5° lower in the morning in cold weather, 70° to 75° by day. Take every opportunity of collecting leaves whilst dry, Oak and Beech being the best, and whenever a favourable opportunity offers push forward whatever may be necessary in the renewing or augmenting the fermenting beds.

Cherry House.—Attend without delay to pruning the trees. Those full grown and regularly stopped during growth will require very little pruning. Shoots not wanted for extension or filling vacant space should be cut back to about an inch from their base or the current year's growth, and the worn-out spurs as well as the decayed may be removed. The terminal shoots in the case of young trees not full-sized must not be shortened unless the extremity of the trellis is reached, and the central shoots of young trees will require to be cut back as may be necessary to originate shoots for filling up the space regularly, care being taken to always prune to a wood bud. Fan-training is the most eligible system, particularly suited to the Cherry, as it admits of replacing any branch that may fall a prey to gumming. The house should have a thorough cleaning, the trees being washed with soapy water, 3 or 4 ozs. to a gallon of water, and then dressed with an insecticide. A composition formed of a solution of softsoap, 4 ozs. to half a gallon of water, one quart tobacco juice diluted with a similar quantity of hot water, with slaked lime and sulphur in equal parts sufficient to form a thin paint, is an excellent dressing for Cherry trees, applying with a brush, being careful not to injure the buds. The roof lights need not be put on until the time arrives for starting the trees, which may be with the new year to have Cherries in April.

if ever answered satisfactorily. When reason is brought to bear on colonies and the fecundity of the queen it is an easy matter to arrive approximately at the truth.

Put a youthful fertile queen to a colony of 6 to 8 lbs. of bees, ordinary prime swarms. If the weather is favourable no feeding will be necessary. At the end of twenty days from the time the hive was tenanted lift comb after comb from the full-sized hive, measure the length and breadth of the brood in each, mark on a slip of paper, and multiply the length by the breadth in inches. Each inch contains fifty eggs, larvæ, or bees in the pupa state, and gives the number of eggs the queen has deposited in twenty days, which total amounts to upwards of 70,000. Add these to the swarm, and it will bring the total to 100,000. Now, when the fact is taken into consideration that they will go on breeding at the same rate for some weeks more, and that the death rate during the summer does not exceed 15 per cent., a little calculation will show how many bees are and should be in a hive, and a little more calculation will give the exact size hives should be to give the maximum of honey.

In some instances I have counted 100,000 eggs, larvæ, and pupa in the time given. No such results could follow were hives half size. As interesting and instructive as the counting of eggs and bees is the weighing of hives at stated periods throughout the day and at different seasons, by which the practical bee-keeper gets exact data how to proceed, and initiates the beginner in valuable facts.

In all my experiments the greatest weights I have known bees to carry in, a pound of bees, was 1 lb. On the first day of September, 1894, 4 lbs. of bees, as per steelyard in three and a half hours, gathered 12½ lbs., and in 1888, in about eight hours, 33 lbs. But it must be said the bees in the first instance were only weighed until the weight began to rise, and perhaps it would be more proper if 8 lbs. of bees were stated. One thing certain to be successful with bees to the fullest extent, bee-keeper's appliances and his arithmetical calculations should be based in unison with his expectations, weather permitting, which should always be kept in view, as well as the likelihood of it being unfavourable. Work at all time for the best and the most, and we seldom fail to be amply remunerated.—A LANARKSHIRE BEE-KEEPER.

FEEDING BEES.

KINDLY inform a new beginner what quantity of sugar would be sufficient for 4 lbs. of driven bees. About the middle of September I placed them in a hive on two combs and three sheets of foundation, and gave them 16 lbs. of sugar made into syrup. Will they require any more? A little instruction will oblige—A NOVICE.

The middle of September is too late to give sheets of foundation to driven bees with a view to them being drawn out and filled with syrup and sealed over, which should be the aim of all bee-keepers when feeding their stocks for the winter. In the first place 4 lbs. of bees is a small quantity to place in an empty hive so late in the season. There would have been a much better chance of success had there been double that weight. In all probability the syrup would be stored in the two frames of fully drawn out combs, and but very few cells, if any, of the foundation, will have been drawn out. It would have been better to have procured half a dozen frames of fully drawn-out combs. The majority of bee-keepers who keep only a few stocks usually have several on hand that may have been used for extracting or other purposes, and who will assist a less fortunate brother in the craft.

It would perhaps help "Novice" if I state the conditions under which I invariably find driven bees do well. Last September I obtained several lots of driven bees; two or more were placed together, according to the number of bees in each; these were placed on eight or ten frames of fully drawn-out combs, and each stock received 26 lbs. of sugar made into thick syrup. This was fed to the bees in a rapid feeder placed on the top of frames, and was taken down in about forty-eight hours. Several layers of carpet or similar material were placed on the top of frames, and to all appearance the stocks of driven bees are now in as good condition as the colonies of bees that were not disturbed.

The stock should be examined on the first favourable opportunity, choosing a fine day for the purpose, but the bees need not be disturbed; take off the covering, and turn the quilt back from the top of frames, but do not lift them out. The bees will have formed a cluster between the frames; if there are a few square inches of sealed stores in view they will be quite safe, and no more food will be necessary at present; if not, they should be fed at once with candy, as it is not advisable to feed with syrup at this time of the year, or dysentery will follow.

The recipe for making soft candy, by the late Wm. Raitt, is preferable to any other that I have tried. Use a brass or enamelled iron pan, put in 10 lbs. of white granulated sugar, two

THE BEE-KEEPER.

NOTES AND HINTS.

THE very mild weather we have been having for a month past has been very favourable for bees. Already several of our hives are making efforts and showing signs that they are on the eve of breeding. It is about three weeks earlier than usual, but in the event of a severe winter it is to the advantage of well provisioned hives. How many bees are in a hive and how many eggs do queens lay in twenty-four hours? are questions frequently put but rarely

imperial pints of cold water and half a teaspoonful of cream of tartar. Set or hang over a brisk clear fire, and stir gently now and then till the sugar is all melted. This should require about fifteen minutes. Almost immediately afterwards the whole will reach the boiling point, at first throwing up a quantity of froth. The fire may be moderated or the pan withdrawn a little at this stage, when the foamy boil will settle down to a clear crackling one. This boiling should only occupy about ten minutes. Now try a drop; let fall on a cold surface, withdrawing the pan from the fire in the meantime. If the drop at once begins to set, so that in a few seconds it will draw out as a thread when touched with the finger, the mess is cooked enough. If not, boil it a few seconds longer and try again. Remove the pan from the fire, and set it in a trough of cold water. It may be left there for a few minutes while the moulds (flat or soup plates will do) are being set ready, each with a thin sheet of paper rather larger than the mould laid in.

Returning to the pan commence and continue to stir briskly until the mass begins first to get dim in colour from incipient granulation, and then to thicken to the consistency of thick honey. Then pour into the moulds, warming slightly any that remains that seems inclined to set in the pan; this cooling and stirring process should take about fifteen minutes more, thus in about thirty minutes we finish the whole process, with the result that we have 12 lbs. of candy from 10 lbs. of sugar.

The cakes should set within an hour so as to be safely turned out of the moulds. When quite cold they should be soft enough to be easily scratched with the finger-nail, and to melt in the mouth with a soft grain. Invert them over the cluster of bees with the paper left on, and cover up warmly, this may be done while they are still somewhat warm, a cake of candy given to a stock every few weeks will carry them safely through the winter, and they will come out strong and healthy in the spring.—AN ENGLISH BEE-KEEPER.

TRADE CATALOGUES RECEIVED.

Barr & Sons, King Street, Covent Garden.—*Sale List of Bulbs.*
Otto Putz, Erfurt.—*Trade Seed List.*



* All correspondence should be directed either to "THE EDITOR" or to "THE PUBLISHER." Letters addressed to Dr. Hogg or members of the staff often remain unopened unavoidably. We request that no one will write privately to any of our correspondents, as doing so subjects them to unjustifiable trouble and expense.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Bee subjects, and should never send more than two or three questions at once. All articles intended for insertion should be written on one side of the paper only. We cannot reply to questions through the post, and we do not undertake to return rejected communications.

Lycaste Skinneri (*J. H. C.*).—The Lycaste is an excellent one, and proves your system of culture to be in every respect correct. The substance of the flower leaves little to be desired, and the colouration of the petals and the labellum is exceptionally rich. It occasionally produces flowers as you mention.

Passiflora Propagating (*Reader*).—The Passion Flower, or Passifloras, are readily propagated from cuttings of young shoots, about 6 inches long, taken in spring with a heel, and inserted singly in small pots of sandy soil. The cuttings should be placed in a close propagating frame or under a bell-glass, where they will root in due course. Once rooted, and gradually inured to the open house, the plants grow rapidly, and when repotting rather large shifts may be safely employed.

Autumn Asparagus (*J. E.*).—Very good Asparagus has been sold for some time in London, at what, if you had to sell it, you might call fine prices. It comes from France, but we cannot say exactly "where and how" it is grown. We see, however, no more difficulty in having Asparagus out of season whenever it may be desired than in having bunches and leaves of Lily of the Valley all through the summer and autumn with the aid of refrigerators, for keeping the crowns at rest till wanted for starting. A long artificial winter does not seem to hurt them in the least.

Cypripedium insigne (*T. E.*).—The variety of Cypripedium insigne you send is certainly a very good one, the dorsal sepal being particularly fine. While it is well worth keeping in a private collection we would not suppose it would have any material commercial value, as it too closely resembles other varieties already extant.

Erecting a Greenhouse in Belgravia (*C. R.*).—There are plenty of empty greenhouses where there need not be through little energy on the part of owners or tenants. We have seen very satisfactory Orchids grown in the locality you name, also Azaleas, Camellias, Liliums, and Pelargoniums. The thing to contend with and likely to do most harm is the London fog, and to keep the glass clean, removing the slimy deposits as these form, so as to give the plants all the light possible in the winter season. Bottom ventilation has no effect other than that of ventilation generally, unless given so as to cause a draught, then it is prejudicial.

Removing Old and Pruning Young Vine Rods (*Reader*).—It would have been much better to have cut away the old rods to the young canes that are to supplant them whilst the Vines were in leaf, the earlier that being done the better, so as to get as much stored matter in the new canes as possible. The young canes are best shortened to about one-third of the rafter or trellis they will ultimately occupy, as you will then get vigorous breaks at the base, and every lateral appearing on opposite sides of the rod at 18 inches apart or thereabouts on each side may be allowed to carry a bunch of fruit each, except that from the uppermost bud, which should be trained forward as leader or extension of the Vine, all other laterals but these specified being rubbed off. Thus in three years you would get a very satisfactory rod with vigorous spurs, provided the Vine was properly managed. By leaving the new cane its full length, or nearly so, you will get a number of laterals or side growths of varying strength, and the Grapes, if taken the whole length of the rod, would so weaken the Vine as to give indifferent results another season. This is our experience, and may be of service to you. We have had twenty to twenty-four bunches of Grapes on a strong cane of the previous year's formation, and though good in every respect the rod proved very unsatisfactory afterwards. On the other hand, the one-third extension of space system gave us better results in the three years, and that we commend to your attention.

Cattleyas and Dendrobiums (*Inquirer*).—As has been stated in these pages, the amount of water required by Cattleyas depends entirely on the state of the roots, whether these are active as shown by their green points or at rest, and the state of growth. At no time should Cattleyas be kept quite dry for any lengthened period, as this leads to shrivelling of the growth and is decidedly harmful to the plants. Observation of the latter will help you to success much more than didactic information, but the instance below may help you. We have at present a fine batch of Cattleya labiata, some of them in flower others having passed their beauty. The roots are however active on all of them and all are watered alike—viz., given a thorough soaking when they need it and left to get quite dry before any more is applied. When we see that the roots have finished growing and the plants are quite at rest we shall leave them without water for a longer period; in fact only giving enough to prevent the shrivelling before mentioned. A little consideration on your part will enable you to see that we cannot give more definite instruction without seeing the plants and knowing the exact conditions under which they are grown. Dendrobiums must be kept watered until the growth is quite finished and swelled to its full size, though towards the end of the growing season the supply should be somewhat lessened. The evergreen section should never be kept quite dry for any lengthened time, but the deciduous kinds may as soon as all the foliage has fallen be kept so with advantage.

Miss Jolliffe Carnation Diseased (*W. W.*).—The thicker roots and stem of the plant show brown stains when examined in longitudinal section, and pass from below upwards. The discolouration is chiefly confined to the wood next the bark, which has been traversed by the mycelial hyphae of a fungus, and the contents of the cells abstracted. On the external surface of the stem above ground is the outgrowth of the fungus, and consists of fasciculate hyphae, flexuous and nodulose upwards from the nodes of which spring cylindric-oblong, ends rounded, three-septate conidia, of a smoky olive colour. Those are the "fruits" of the fungus (*Helminthosporium exasperatum*, *B.* and *Br.*). It is generally regarded as a saprophyte, and is found on stems of Dianthus and Silene species. This means that the stems have been killed by some other cause, such as deep setting, and an excess of moisture at the collar of the plant. It, however, is not natural history, and ignores the fact that the parasite, for it is nothing less, has entered the plant by the roots and ascended the stem, appropriating the sap, and, girdling it at or just above the soil, the plant collapses. This takes place gradually, the plant first becoming sickly, the "grass" dying back at the tips, and by degrees the plant succumbs to the enemy. The spots on the leaves are caused by a closely allied species of fungus (*Heterosporium echinulatum*, *Che.*), which differs only from *Helminthosporium* in having warted conidia. It is a well known parasite infesting Carnations, and is generally considered to be induced by a wet condition of the soil, and a close moist atmosphere. For this you may spray or sponge with permanganate of potash solution (Condy's fluid) diluted half with water, keeping the plants drier at the roots, and the atmosphere more freely ventilated. The *Helminthosporium*, which has probably been introduced as spores with the soil, may be prevented from attacking the plants by treating the turf liberally with quicklime, about a tenth, as a rule, sufficing, mixing a few days before use.

Errata.—Corrosive Sublimate and Maggots.—Through a typographical error the amount of water to be used with the quarter oz. of corrosive sublimate is given at $1\frac{1}{2}$ gallon instead of $7\frac{1}{2}$ gallons in the reply under the heading "Maggots Infesting Base of Cyclamen Corm (J. J.)" in last week's *Journal of Horticulture*, page 521. We desire to call particular attention to this, as though corrosive sublimate is fatal to maggot life, it must be used with extreme care, as it is a virulent poison.

Clearing Vines from Thrips (A Gardener).—Thrips very often pass from plants grown in the house to the Vines, but there are plenty of thrips in vineries where no plants are grown. As you grow plants in the house they probably lurk on these during the winter, or they may issue from eggs that remain dormant during the winter. In that case, and it would do no harm under any circumstances, you should dress the Vines now or when pruned with a solution of soluble petroleum or other advertised insecticide, following the instructions carefully. The best remedy for thrips during the growth of the Vines is the smoke of good tobacco paper or the vapour of tobacco—the so-called nicotine. The fumigation is effected by various means, and the vaporisation by the XL All Vaporiser, both or either of which are certain and safe remedies. Of course, damage can be done to Vine foliage under improper administration and excessive doses, but there is no occasion for this, and the thrips will assuredly be killed by proper fumigation or vaporisation repeated at intervals so as to destroy the insects at the time existent and until they are all annihilated.

Destroying Wireworm (A. B.).—There are several methods of destroying or getting rid of these pests, few of which, from an agricultural point of view, are better than sowing the infested land with Mustard in the spring, and when in full flower, but before seed vessels are formed, ploughing in under somewhat deeply. This is the best procedure on heavy land, and the ground is got into good condition in plenty of time for the Wheat crop. On light land a farmer of 700 acres sows the Mustard in the usual way, but instead of allowing it to get very strong—(where sheep are kept it is preferable to let them consume the crop on the land and then to plough)—ploughs it under when the first flowers open, and finds this better on the light soil, as he gets more nitrogenous matter into the ground without its lying so open as when the Mustard is allowed to get into full flower. The stalky matter and the stronger, deeper-rooting plant, helping to open and bring up matter, is considered best for heavy land. Another farmer's plan, and we have noted its excellent results both as regards wireworm and crop, is to use rape dust, that known as Homco (East India rape meal) being the most advisable, as it is rich in nitrogen (equal to $7\frac{1}{2}$ per cent. ammonia), and has the manurial advantage of having had nearly all its oil extracted, so that it will the more readily decompose in the soil. It, however, is not used alone, but in mixture as follows:—East India rape meal, 5 cwt.; superphosphate, 3 cwt.; kainit, 3 cwt., mixed, per acre. For Potatoes apply before or immediately after planting the sets. If the land is poor in lime, substitute for superphosphate 5 or 6 cwt. of basic cinder if on heavy land, or 3 cwt. phosphatic Peruvian guano or bonemeal if on light land. For corn about half the amount per acre as for Potatoes, exercising judgment so as to prevent the corn lodging. Use the mixture in the spring, when the wireworm ascends from its wintry depths and commences to work on the corn. The wireworm will "fall to" eating the rape dust, the pests leaving almost anything to feed on it, and gorge themselves to such an extent that they become helpless and the kainit finishes them off. For further remedies see *Journal of Horticulture*, July 25th, 1895, page 75.

Names of Fruits.—Notice.—We have pleasure in naming good typical fruits (when the names are discoverable) for the convenience of regular subscribers, who are the growers of such fruit, and not collectors of specimens from non-subscribers. This latter procedure is wholly irregular, and we trust that none of our readers will allow themselves to be made the mediums in infringing our rules. Special attention is directed to the following decision, the object of which is to discourage the growth of inferior and promote the culture of superior varieties. In consequence of the large number of worthless Apples and Pears sent to this office to be named, it has been decided to name only specimens and varieties of approved merit, and to reject the inferior, which are not worth sending or growing. The names and addresses of senders of fruit or flowers to be named must in all cases be enclosed with the specimens, whether letters referring to the fruit are sent by post or not. The names are not necessarily required for publication, initials sufficing for that. Only six specimens can be named at once, and any beyond that number cannot be preserved. They should be sent on the first indication of change towards ripening. Dessert Pears cannot be named in a hard green state. (J. Daves).—1, Vicar of Winkfield; 2, Van Mons Leon Leclerc; 3, Doyenné du Comice; 4, Beurré Kennes. (G. Stanton).—1, Pigeon; a continental variety not often seen in England. The distinct purplish-blue colour was thought to resemble that on the wing of a variety of pigeon, and hence the name. 2, not recognisable; 3, a small fruit of Golden Reinette. (A. C. T.).—1, Kerry Pippin; 2, Warner's King; 3, Nonesuch; 4, Figue de Naples; 5, Glou Morceau; 6, Nec Plus Meuris. (F. M. M.).—The Pear is Beurré Diel. It is a most variable Pear, and this is one of the best flavoured forms of it. We are obliged by your reference to the Directory. (R. T. C.).—1, Waltham Abbey Seedling; 2, Lady Henniker; 3, Lord Burghley; 4, Comte de Lamy. (W. Carr).—1 and 3, Easter Beurré; 2, Beurré Rance. (G. S.).—Cox's Pomona.

COVENT GARDEN MARKET.—DECEMBER 4TH.

FRUIT.

TRADE keeps quiet; supplies lighter.

	s.	d.	s.	d.		s.	d.	s.	d.		
Apples, per bushel	2	0	to	3	6	Lemons, case	11	0	to	14	0
„ Nova Scotia, per barrel	13	0		17	0	Pears, Californian, per case	13	0		14	0
Cobs, per 100 lbs.	30	0		35	0	Plums, per half sieve ..	0	0		0	0
Grapes, per lb.	0	6		1	6	St. Michael Pines, each ..	2	0		6	0

VEGETABLES.

	s.	d.		s.	d.		s.	d.		s.	d.
Beans, per lb.	0	4	to	0	6	Mustard and Oress, punnet	0	2	to	0	0
Beet, Red, dozen	1	0		0	0	Onions, bushel	3	6		4	0
Carrots, bunch	0	3		0	4	Parsley, dozen bunches ..	2	0		3	0
Cauliflowers, dozen	2	0		3	0	Parsnips, dozen	1	0		0	0
Celery, bundle	1	0		0	0	Potatoes, per cwt.	2	0		4	0
Coleworts, dozen bunches	2	0		4	0	Salsafy, bundle	1	0		1	6
Cucumbers, dozen	1	6		3	0	Seakale, per basket	1	6		1	9
Endive, dozen	1	3		1	6	Scorzonera, bundle	1	6		0	0
Herbs, bunch	0	3		0	0	Shallots, per lb.	0	3		0	0
Leeks, bunch	0	2		0	0	Spinach, bushel	2	0		2	3
Lettuce, dozen	1	3		0	0	Sprouts, half siv	2	6		0	0
Mushrooms, punnet	1	0		1	6	Tomatoes, per lb.	0	3		0	6
						Turnips, bunch	0	3		0	0

AVERAGE WHOLESALE PRICES.—OUT FLOWERS.—Orchid Blooms in variety.

	s.	d.	s.	d.		s.	d.	s.	d.
Acacia or Mimosa (French)					Orchids, various, dozen				
per bunch	1	0	to	2	blooms	1	6	to	12
Arum Lilies, 12 blooms . .	3	0		4	Pelargoniums, 12 bunches	4	0		9
Asparagus Fern, per bunch	2	0		4	Primula (double), doz. spys.	0	6		1
Bouvardias, bunch	0	6		1	Roses (indoor), dozen . .	1	0		2
Carnations, 12 blooms . .	1	0		3	„ Tea, white, dozen . .	1	6		2
Chrysanthemum, doz. blms.	1	0		4	„ Yellow, dozen (Niels)	3	0		6
„ doz. bunches	3	0		6	„ Safrano (English),				
Eucharis, dozen	4	0		6	dozen	1	6		3
Gardenias, dozen	2	0		4	„ Red, dozen blooms . .	1	0		1
Geranium, scarlet, doz.					Smilax, per bunch	2	0		3
bunches	4	0		6	Stephanotis, dozen sprays	2	0		4
Lilac (French) per bunch	4	0		5	Tuberose, 12 blooms . . .	0	4		0
Lilium lancifolium, twelve					Violets Parme (French),				
blooms	2	0		4	per bunch	2	6		3
„ longiflorum, 12 blooms	4	0		6	„ Ozar (French), per				
Lily of the Valley, dozen					bunch	2	0		3
sprays	1	0		2	„ Victoria (French),				
Maidenhair Fern, doz. bchs.	4	0		6	12 bunches	1	6		2
Marguerites, 12 bunches . .	2	6		4	„ English, 12 bunches	1	6		2

PLANTS IN POTS.

	s.	d.	s.	d.		s.	d.	s.	d.
Arbor Vitæ (golden) dozen	6	0	to 12	0	Hyacinth (Roman) dozen				
Aspidistra, dozen	18	0	36	0	sprays.. .. .	0	6	to 1	0
Aspidistra, specimen plant	5	0	10	6	Lycopodiums, dozen	3	0	4	0
Chrysanthemums, per doz	6	0	18	0	Marguerite Daisy, dozen ..	6	0	9	0
Dracæna, various, dozen ..	12	0	30	0	Myrtles, dozen	6	0	9	0
Dracæna viridis, dozen ..	9	0	18	0	Narciss (French) doz. bchs.	2	6	4	0
Ericas, various, per dozen ..	9	0	24	0	Palms, in var., each	1	0	15	0
Euonymus, var., dozen ..	6	0	18	0	„ (specimens)	21	0	53	0
Evergreens, in var., dozen	6	0	24	0	Pink Roses (French) per				
Ferns in variety, dozen ..	4	0	18	0	dozen	3	0	4	0
Ferns (small), per hundred	4	0	6	0	Safrano Roses (French)				
Ficus elastica, each	1	0	7	0	per dozen	1	3	2	0
Foliage plants, var. each	2	0	10	0	Solanums, per dozen.. ..	6	0	12	0



JUDICIOUS CHANGE.

WHEN so high an authority as Mr. Hunter Pringle says that the laying down of heavy land to permanent pasture is altogether out of the question, we very naturally inquire the reason why. Wherein lies the obstacle to permanent pasture on such land? The correct answer is its want of mechanical division and imperfect drainage, and if to the cost of cleaning the land and laying it down to grass we add the heavy item of thorough drainage, leaving out mechanical division altogether, the matter becomes too costly for an impoverished landlord.

In our own practice on such land we have found Dr. Hogg's tables in the "Horticultural Directory" a perfectly safe guide in the preliminary calculations. The total cost per acre given for draining compact tenacious clay is £8 0s. 6d.; stiff adhesive clay, £7 2s. 6d.; friable clay, £6 7s. 8d.; and free soft clay, £5 4s. 3d. For details we must refer inquirers to the tables, where they are given fully. All authorities agree that drainage is an absolute necessity, and even in these hard times we know estates where generous landlords have not only done the drainage, but have supplied the tenants with seeds for the pasture. We think at this juncture, when so much more of such land is going down to grass, it may help many a struggling farmer if

we give in sufficient detail the method of a successful heavy-land farmer.

This plan was to clean the land and get a fine seed bed by means of a steam cultivator in spring and early summer, so as to have it ready for sowing in July, using 5 cwt. of chemical manure per acre with the seed sowing in order to insure vigorous growth, and to have the young pasture well established before winter. But there is always much uncertainty about heavy land, and if it could not be got ready before August the sowing was not done till the following spring on a stale furrow, over which heavy harrows would first of all be passed a few times. In either case the sowing is done without a corn crop, the aim being vigorous pasture growth from the first. The seeds consist of 6 pecks of Cocksfoot, 2 pecks Perennial Rye Grass, 6 lbs. Cow's Grass, and 2 lbs. Dutch Clover.

Preference is given to the July sowing, and to folding lambs on the seeds in September, as much space being given twice a day as they can eat level, and the folds moved forward every second day, the lambs being taken off altogether in wet weather. Trough food is given in the folds—lamb food, or crushed Oats, or Waterloo feeding cake. Next spring the seeds come in for folding with the ewes and lambs, and so it goes on through the second and third year, judicious sheep folding and nothing else, feeding the sheep well in the folds, and by the end of the third year the pasture is well knit and established, the only special subsequent care in grazing being to avoid stocking in winter for several years. By folding persistently the young pasture is evenly grazed and thoroughly manured. Such treatment comes under Mr. Pringle's category of "coaxing and humouring," it points both to economy and profit, no outlay for manure being required after the seed is sown; the sheep folding certainly involves some extra labour, the cost of which they well cover.

Mr. C. Randell of Chadbury, Evesham, whose practice we have thus described, said in reference to it, "All this requires attention, and involves cost; but let no one suppose that a turf of any value can be obtained on clay land without considerable cost. I know that what will more frequently happen is that seeds will be sown with a corn crop without manure, and that they will be grazed by sheep with other stock in the ordinary way, with this result—they will carry a moderate amount of stock the first year, very much less the second, still less the third; by that time the sown Grasses will have died out, and for several years the pastures will be all but worthless, and nothing gained but getting rid of the expense of cultivation. Manuring may strengthen the natural grasses, and after a time enable the land to carry store stock, but for the sort of land in question I think my treatment will be found eventually the most satisfactory."

It may be claimed for his practice that it is really pasture cultivation, a sensible and necessary care of the "seeds" from the first, the making of success a certainty, the building up of a sound, flourishing pasture by the exercise of infinite care, leaving nothing to chance, avoiding the common destruction of much of the young plant from overfeeding. Well is it to notice that all this could only be done by systematic folding, by close observation, by avoiding any possibility of poaching the young pasture in the withdrawal of the flock in wet weather, and in the exercise of much care about winter grazing. So managed permanent pasture on heavy land answers, and when corn becomes sufficiently profitable to be worth growing again the necessary land can always be broken up for it.

(To be continued.)

WORK ON THE HOME FARM.

The folding yard has been placed in good order for the lambing so as to be available for ewes at any time now should the weather become very cold and stormy. Such shelter available at any time is indeed a great boon, and in case of heavy snow storms the flock is quietly driven in, an ample provision of dry food being ready for the sheep in trough

and rack. Upon the wise far-reaching principle that prevention is better than cure, it is well to turn such or any means of shelter to the best account now that the ewes are heavy with lamb.

If there has been the due exercise of care in withdrawing all doubtful ewes from the flock losses should be reduced to a minimum. On the home farm we have the advantage of shelter from belts of trees with dense undergrowth, so that there, recourse would not be had to the lambing yard before the lambing, unless the weather becomes exceptionally severe. Whatever artificial provision of shelter for the flock is made must be according to its size and special requirements, only take care that the accommodation is ample, and there is plenty of food stored close by fold or yard for immediate use when required.

We avoid risk of disturbance by stray dogs at night now by having the ewes in a paddock with a dog-proof enclosure. Abortion is caused by the driving of such dogs, exposure and strain in muddy folds, by the consumption of cold watery roots, all which must be avoided. Sound food, shelter, kindly gentle care tell always, but now especially. The shepherd should also be on the alert for cast sheep, which so frequently occurs among pregnant ewes; they roll over upon their backs and lie there helpless, struggling vainly to get up, and if not helped in time they die.

Proud was our home farm bailiff of the hoggets when we last looked them over with him. All were well, not a kneeler among them, as he said, they were "doing"—i.e., making satisfactory progress, and the half-pint of crushed oats per diem per head was no mean factor to this end. The knowledge that when they are sold there will be no per contra from cake bills or other purchased food added to our satisfaction. The Oats are home grown, and are being used as well for the dairy cows, and for the score or so of bullocks being fattened for Christmas, also for the bacon hogs, as ground Oats on which they do so well.

MILK AND BUTTER TASTING STRONG.

THIS is a catastrophe which my dairy has always prided itself on avoiding; my wife is very particular in the matter, and, indeed, I am not sure that she does not make a better average in prizes for butter and cream cheese than I do for Roses. We never use any Swedes or white Turnips for feeding, but give Carrots from October to January, and Mangold from the new year till there is sufficient grass. The Carrots or Mangold are cut up and mixed with crushed Oats and hay cut into chaff. We have always had a high opinion of Carrots for producing first-class butter, and were much surprised lately to find the milk tasting decidedly strong, like that from Turnip-fed cows. All investigation proved useless till the secret was discovered a few days ago, and as it may be a useful item of information I have much pleasure in making it known.

The Carrots were part of a fine large crop, but a certain proportion of them had stood out of the ground a little, some to the extent of 2 or 3 inches or more, and so far the roots had turned green, as Potatoes will if uncovered with soil. It occurred to me that these parts of the Carrots might, like Potatoes, be a good deal changed in flavour, and an experiment in tasting showed that this was so, and that the green parts were very rank. Upon discarding these discoloured butt ends, and using only the yellow portions, our milk and butter at once returned to their usual sweetness. The hot dry season may have had something to do with it, and I do not at all suppose that the discovery is a new one, but I have no doubt there are a good many amateur cow-keepers who are not aware of it. —W. R. RAILLEM.

METEOROLOGICAL OBSERVATIONS.

CAMDEN SQUARE, LONDON.

Lat. 51° 32' 40" N.; Long. 0° 8' 0" W.; Altitude 111 feet.

DATE.	9 A.M.					IN THE DAY.				Rain.
1895. November.	Barometer at 32° and Sea Level.	Hygrometer.		Direc- tion of Wind.	Temp. of soil at 1 foot.	Shade Tem- perature.		Radiation Temperature		
		Dry.	Wet.			Max.	Min.	In Sun.	On Grass.	
	Inchs.	deg.	deg.		deg.	deg.	deg.	deg.	deg.	Inchs.
Sunday .. 24	30.273	38.8	34.6	N.E.	44.5	43.6	36.1	50.2	30.8	—
Monday .. 25	30.236	42.1	39.9	N.E.	43.8	45.2	37.7	61.7	35.2	—
Tuesday .. 26	30.169	38.3	36.1	E.	43.8	42.1	38.1	46.9	37.7	—
Wednesday 27	30.008	42.0	41.2	N.E.	42.1	47.1	32.3	43.0	28.0	0.041
Thursday.. 28	29.871	41.2	41.2	N.E.	42.9	51.8	40.9	52.0	34.1	0.583
Friday .. 29	29.703	50.8	50.0	E.	41.9	52.7	41.2	53.3	41.1	0.226
Saturday .. 30	29.639	50.9	49.8	W.	46.1	51.6	50.2	52.6	48.7	—
	29.985	43.4	41.8		44.0	47.7	39.5	52.1	36.5	0.850

REMARKS.

24th.—High wind all day; generally cloudy, but some sunshine in morning.
25th.—Fine with occasional sunshine.
26th.—Fair with a little sunshine about noon.
27th.—Foggy all day, with frequent spots of rain and slight showers.
28th.—Dull and showery early; continuous heavy rain from 11.30 A.M. to 7.30 P.M.
29th.—Dull and drizzly morning, almost incessant rain from 0.30 P.M. to 9 P.M.
30th.—Dull and damp morning; fair afternoon; clear night.
A typical November week, with temperature very near the average.—G. J. SYMONS

NEW ROSES

WORTH PLANTING.

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— THE —
OLD NURSERIES, CHESHUNT,

Recommend the undernamed, of which they hold Large Stocks:

Pauls' Carmine Pillar.

The splendid new Single Pillar or Climbing Rose, 5/- and 7/6; Standards, 7/6.

Alister Stella Gray.

The new Cluster Yellow Autumnal Climber, 3/6 and 5/-.

THE NEW CRIMSON H.P.'s.

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Earliest and latest of the nearly white H.P.'s to flower.

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A new variety of great merit, INTRODUCED BY US LAST YEAR. This was raised by Mr. Steel, of Ealing, and is the finest market variety grown for Covent Garden. Free grower, heavy cropper, large handsome fruit, fruiting very early, and lasting well through the season until very late. In 1892 he began gathering second week in June, and continued until November. The fruit is essentially a Dessert Fruit, being large, handsome, and very superior flavour. Strong Canes, 6/- per 100; 50/- per 1000. Now ready for delivery. Special Quotations for large quantities on application.

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Journal of Horticulture.

THURSDAY, DECEMBER 12, 1895.

THE ROYAL HORTICULTURAL SOCIETY—CHANGES.

VERY natural, and, in itself pleasant, was what may be termed the parting incident relative to Mr. Barron's retirement from the Secretaryship of the Fruit Committee on Tuesday last. Our friend received, as he deserved, the unanimous thanks of the Committee for efficient services rendered during a very long period, coupled with sincere wishes for his future welfare and usefulness. He was also congratulated on the distinction conferred on him by the Council, in virtue of which he becomes an honorary Fellow of the Society, with a seat on the Committee, with which he has been officially connected for a longer time than has any member of it, except Dr. Hogg, who was its originator and also the secretary in its early days. It is the oldest Committee of the Society, having about two years seniority over the Floral Committee, and it is appropriate, therefore, that Mr. Barron, the oldest servant of the Society, should be associated with it in his retirement. Dr. Hogg resigned his position in 1865, Mr. Barron undertaking the duty in January, 1866, or just thirty years ago to a meeting. He entered the Gardens in 1857.

That Mr. Barron will be useful on this Committee every member admits, and hence, also as a mark of personal respect, the special welcome that was given to him; but he will be useful also over a wider field. He will be free to act as a practical adviser in gardening. Of landscape gardeners there is no lack; men of ability and taste in that line are well known; but as an adviser on gardening in its more utilitarian aspects; on points referring to cultivation, on the selection of fruits, and methods of planting and pruning; on the preparation and renovation of gardens; on the profitable or satisfactory employment of glass structures, Mr. Barron, if he has views in that direction, must of necessity occupy a commanding position; and there must always be owners of land or gardens who will be glad from time to time to avail themselves of his services. Then as a judge of garden produce at shows who has had greater experience than he? He will be at liberty now to accept all such congenial employment, and we hope and suspect that the period of

NEW CHRYSANTHEMUM.

MRS. CHARLES BLICK.—New Pure White.

This variety has received a First Class Certificate, National Chrysanthemum Society, October 23rd, 1895; First Class Certificate, Birmingham, November 13th, 1895; First Class Certificate, Cardiff, November 13th, 1895; an Award of Merit, Royal Horticultural Society, October 29th, 1895. It was raised from seed by Mr. C. Blick, gardener to Martin Smith, Esq., The Warren, Hayes, Kent, the whole stock of which has been secured by ourselves. It is, without doubt, the finest pure white Japanese yet introduced, the flower is made up of a deep, dense, but graceful spreading mass of long florets, which incurve slightly at their tips. The habit is very compact and dwarf, the foliage being an extraordinary size, indicating that the plant is very robust. All who have seen the variety pronounce it to be a grand acquisition and a fine exhibition variety.

Plants, in March, 5s. each.

CATALOGUE OF ALL OTHER NOVELTIES POST FREE UPON APPLICATION.

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No. 807.—VOL XXXI., THIRD SERIES.

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freedom on which he will soon enter, with the just and generous provision of the Royal Horticultural Society, will not be the least happy term in his useful career. We have felt from the first, and we feel still that his retirement while still active, with its corresponding compensation, will be of greater advantage to him in every way than if it had been postponed for an indefinite period, and we earnestly hope that it may be so.

And now as one change suggests another we may be permitted to point out other directions in which we know that many persons think changes or departures might be made by the Council of the Royal Horticultural Society that would be at least as popular and of wider interest than the substitution of one official for another. We have not in view anything that might be done at Chiswick. If we had we should be inclined to suggest, having regard to what has happened, that the Garden Committee or "Chiswick Board" would seem to have been superseded by events. However, we pass to a wider field, not of administration only, but of policy.

Rightly or wrongly, there is a large volume of feeling in the country that the Royal Horticultural Society is too much localised. It is felt by hundreds of genuine horticulturists that the Society is unduly metropolitan, whereas it ought to be broadly national. It may be, and has been, pointed out that its work and proceedings as recorded in the official journal that is periodically issued are brought before all the Fellows of the Society, reside where they may, but that does not satisfy. What seems to be wanted is that leading provincial horticultural societies should be brought in actual touch with the Royal, and this not by a mere paper affiliation alone. It is felt that efforts which are made in the provinces for the advancement of horticulture should be, directly and in some tangible way, countenanced by the chief society of the kingdom. Whether the statement be altogether palatable or not, it is all the same a fact that this Society, even though Royal, is not looked up to with the feelings of pride that many persons would like to entertain towards it as if it were regarded by them as also truly national. It is not so regarded at present a hundred miles from London, and as a matter of fact we have been desired to give expression to the views of a representative assemblage of horticulturists who met and discussed the matter on the evening of a great provincial show.

It did not satisfy the leading provincial gardeners and nurserymen to be told that the governing body of what they acknowledged as being the chief Society was desirous of making its influence felt, in the advancement of the art it was established to foster, all over the kingdom. That desire was not questioned, nor was the ability and integrity of its Committees in the discharge of their duties. The appointment of gentlemen who resided in the provinces on those Committees was admitted and appreciated. The Society was referred to at this summer gathering in terms of the greatest respect, and not a word was heard of an uncomplimentary character as applying to any official, member of Council, or Committees. Nor was the excellent tone that prevailed due in the least to the presence of members of the London Committees. The meeting took a higher and broader view, and the discussion had reference entirely to principles and not personages. Had one or two members of the Council been there they would have been gratified rather than otherwise, and it is certain they would have been heartily welcomed.

Let it be said that the meeting in question was in no sense convivial in the usual acceptance of that term. It was an assemblage of gentlemen, many of whom occupy recognised positions in the horticultural world, the discussion being as serious, orderly, and business-like as any meeting of the Council at headquarters could be. There was a desire throughout, not to weaken but to strengthen the Royal Horticultural Society, not to hinder but to help it in its progress, and the progress of horticulture, but in what way? That is exactly the question which it was felt then and is thought now worthy of the consideration of the responsible directors of the chief Society at the Council Board. As regards the

general feeling of the provincial assemblage, if it could be compressed into a sentence it would be somewhat in this form, "Come out and help us, and let us help you."

But, again, in what way? Provincial shows, it was pointed out, had been tried by the Royal Horticultural Society, and on the whole had not answered. They were of too speculative a nature, and gave no adequate return for the labour and expenditure involved. It was not in that direction that anything was desired or expected. There is no difficulty in providing shows, but it was thought that something might be done that has not been done by the chief Society in connection with leading provincial shows and otherwise. Let the provincial managers provide and conduct their own shows in their own way, but let the Royal Horticultural Society officially recognise them and the work that is being done in the popularisation of horticulture generally in provincial centres.

If a deputation including members of the Council and Committees of the central Society were to attend officially some of the chief provincial shows, the compliment in itself would be appreciated, and in addition their sanction of the honours bestowed (which they might in fact assist in bestowing) on new products, would then have greater weight, as certificates would then be regarded as *certificates of the Royal Horticultural Society*, carrying exactly the same value as certificates granted in London. That would be something tangible to begin with. Provincial cultivators cannot, as a rule, and for various reasons, attend the London meetings, but they can and do attend important district shows in their vicinities. Then apart from new products, Royal Horticultural Society's certificates for "excellence in cultivation" or "meritorious display" could be given as added honours to specially worthy exhibits. Such certificates would cost little, yet if appropriately ornamental would be highly cherished.

Then, again, as an adjunct to the shows, evening conferences might be held and attended by authorised representatives of the Royal Horticultural Society. A short paper might be read by a local contributor, giving a concise narrative of the work of the society he represents and its influence in the district, and a discussion follow having a wider bearing. It would not be very surprising if out of such discussion were to emanate suggestions for the formation of local committees composed of Fellows of the Royal Horticultural Society, to work in association with the central Society under conditions that might be formulated for effective and mutually satisfactory co-operation. Provincial committees so formed could organise meetings of an educational character under the auspices of the Royal Horticultural Society, examine new plants, flowers, and vegetables in their districts, report thereon and make recommendations to headquarters. Some such procedure would not in the slightest degree affect the London routine, while it would have a direct tendency to broaden the character of the Royal Horticultural Society, and invest it with more national attributes than it is thought to possess now by hundreds of earnest horticulturists in various parts of the kingdom.

AFTER THE WARS.

"BRILLIANT but brief" is the battle of the blooms. Necessarily so, yet a year's drilling—careful, conscientious handling of the raw material—must perforce be given ere the short and sharp encounter takes place. This is obvious to the youngest commander who but newly commissioned is, either from inclination or duty, or both happily combined, looking forward to active service in order to exhibit his prowess in the field. There may be exceptions, though I know of none, under the more severe ordeals of modern warfare in which the novice in Chrysanthemum culture has in one short year climbed to the height of ambition by bearing off the blue riband of rivalry. That all who thus compete hope to do so is another matter, nor would I damp their ardour by any pessimistic preamble to some few lessons of the many suggested by the late autumn manoeuvres, suggested, too, by experience gained on more ancient battle grounds. "Hope deferred maketh the heart sick." Fortunately this sickness, which I am certain is afflicting many at

the present time, and in which they have the sympathy of an old sufferer, is seldom fatal. Should it kill off any embryo exhibitors, then, I fear, there are but few who mourn their loss, if loss it is.

Thoughts on the subject bring to my mind two cases which may serve to illustrate the text. A and B were youthful aspirants to fame, and evenly balanced so far as their resources at command were concerned. This was the wars of the Roses. Each went, of course, for the biggest thing on the boards, and each was wiped out by the giants. A, figuratively; B, literally. A said little, but probably thought much, and judging by the stern rigidity of the facial muscles after the judges had passed him by, it was evident that he was only "scotched," not killed. B went forth a sadder, but I fear not a wiser man, for, as an exhibitor, he was no more seen, and his tale is told. True to time A again appears in the arena to be again defeated, but not so crushingly, and to spend the remainder of the dismal day, not in bemoaning his fate, but in a systematic espionage of the opposing forces. Apart from personal feelings, which were well concealed, I know that further stimulus of a disagreeable kind was passed on from headquarters in the remarks, "As you have failed again, would it not be better to stop competing?" So, I conclude by this, the second defeat was especially hard to bear. Hard lessons but bracing ones, bringing victory the third year—hard fought, well won victory, followed up by two years similar triumphs.

"Nothing succeeds like success." I believe it; and I would that all young warriors on entering the lists could receive a little, just a little, stimulus to carry them over the sick time, when they are prone to handicap future efforts by present disgust. As a matter of fact, and as a matter of duty, the ordinary routine may be again pursued, but those nice points of finesse on which hinges the door to victory are, for the time being, lost sight of. In considering how pregnant this time being is with future possibilities our young ensigns would do well to read, mark, learn, and digest its teachings. The rosy fate of my champion who would not be slain, but lived to fight and fight again, is not far fetched from the depths of fiction or he should have figured in the front ranks of the great army of "mummers," to whom I now return.

What a sermon is in that text, "From the cutting to the silver cup!" One may, must, in fact, work with the best materials on the most approved methods, and will too, if wise, hear all an old soldier has to say under the above heading who, figuratively, "shoulders his crutch, and shows how fields were won." It will not, I beg, be inferred that he was ever crippled in action, though honourable scars may not be wanting. I regard (from experience) this little book as the key to success in Chrysanthemum growing, but as the key only. Could our teacher have told us all he knows of love's labours—of that bond of sympathy linking the worker to his work by which the quiescent life of Nature becomes more and more responsive to the ministering hand, then indeed the royal road would stand out clearly revealed.

"From the cutting." Let no blighted hopes veil the starting point from disappointed eyes. Do not be deluded into shelving the question to a more convenient season, nor expect that giant strides when falling in later on can compensate for laggard foot-steps now. In three months' time the elasticity of youth will again send you bounding on the journey "to the silver cup," which, though not yet won, may to you be irrevocably lost. Look well after the thumbs and the 10-inch pots will take care of themselves. No desultory shooting at the mark, but one long, steady aim over the full course—"to the silver cup."

It is a long range, but the veteran never feels the time passing. "All is fair in love and war," and there are a hundred minute strategical moves combining to success. There is a joyousness in winning by which the strong man is prompted to take a keener interest on the spot than he who suffers defeat—as a rule. He has gleaned a rich harvest from local experience, and is now noting in the show reports such varieties as have predominated in the winning stands; and, moreover, the disposition of the troops by victorious generals is, to him, a matter of importance—front rank, rear rank; front row, back row—and so on.

"Adversity borrows its sharpest sting from impatience." Now it is just possible that some, especially the wounded, who have taken up their *Journal of Horticulture* for the week ending November 21st, in which twenty-nine engagements are reported, that they have thrown it down again with the mental remark, "Oh! I can't be bothered reading all this; read one report and you have read the whole!" Not so, my young friend; you, who *fain* would conquer, cannot afford to despise any means to the end. Embrace all, and the secret of success lies within yourself. I fear that older heads than yours have been wont to condemn this plethoric reporting as superfluous; but, to my mind, the reports are invaluable statistics, nor does the analysis following neutralise their value. From Bristol to Barnsley, from Eccles to Edinburgh, should present scope sufficient to localise parallel conditions with

your own, and this may prevent some waste of force and consequent disappointments in the future. Small matters truly, but "many a little makes a mickle."

I did not intend this brief homily to run into an exposition of culture, but am tempted to broach a small matter pertaining to it—feeding. It is a long cry to feeding time, but when it arrives I think some young growers, and old ones too, are apt to indulge their pets to excess as compensation, perhaps, for earlier neglect, especially in big bloom culture. The Chrysanthemum is a long-suffering plant, but there is a limit to its powers of endurance. Many plants so treated have I seen to which the term "craw-sick" might be applied. Year by year, from whatever cause this satiety springs, the impression more forcibly obtains that this canteen business is overdone, and that much trouble at blooming time results from it.

In a general review of the whole battalion of big blooms there appears to me to be a development not foreseen at the birth of that prodigy, *Etoile de Lyon*. Then, perhaps, an opening was not so clearly presented in the quick march that is now in evidence, for the danger was then imminent of size, and size alone, taking precedence. Refinement is now taking the place of coarseness without sacrifice to size, and growers—those whose chief object is big blooms—cannot but congratulate themselves on the great advantages given to this method of culture by a race of dwarf, vigorous varieties supplanting the long-legged favourites of yore, consequently the coming man in making his mark knows not the difficulties of the man who did.

A pleasing experience of the passing season is that so far those little differences of opinion between the judges and the judged are (practically) conspicuous by their absence. No doubt both parties are from experience taking a more philosophic view of the matter, and out of the necessary evils of past severe criticism present benefits have been derived. Still, we are not out of the wood; and I am sure that when the authorities in question are, after their prolonged labours, delivered of their views that they will be warmly welcomed by most of those concerned.

Very wonderful was that Chrysanthemum show (my first) I saw at Woolwich twenty-five years ago. Then the Chinese—incurveds—had not been overwhelmed by the Japs, and Rundles, Glennies, with other ancient varieties, twisted and contorted into balloons, umbrellas, and other quaint devices were the prevailing features. So good an exhibition was this considered that the late Emperor Napoleon the Third drove over from Chislehurst to see it, creating, as far as I recollect, some vexation to the reception committee by his punctuality, they having, after sweeping and garnishing, gone for a clean up themselves, to find on their return the Imperial visitor had come and gone, and doubtless admired, in their absence. What lessons are learned by Chrysanthemum growers—patience, perseverance, and even punctuality. Yet what a tame affair was that show of other days to those of present times. To what will they eventually attain? Who can tell? To all young soldiers on the war path may they, at least, bring "Peace with Honour" is the earnest hope of—STAFF OFFICER.

ONIONS FOR EXHIBITION.

OF all vegetables that are grown for exhibition purposes none receives or is deserving of more attention than Onions, and it is no simple matter to attain to perfection in their cultivation. Many are the points that must have attention before even a start can be made, while after this stage has been reached every possible opportunity must be seized to visit the plants in order to be sure that they are never in want of anything that is within the power of the grower to provide. To grow Onions for ordinary purposes is comparatively simple, and the culture is well understood by the majority of gardeners in the kingdom. The production of exhibition bulbs, however, that are of large size, besides being perfect in substance, form, and appearance, puzzles many persons when they see them on the exhibition table, and it is proposed in the subjoined brief notes to give the details of a system that has hitherto proved successful in the hope that it may prove of assistance to many readers of the *Journal of Horticulture*, while at the same time the writer trusts that other exhibitors whose method of culture differs from his own will give their ideas, as well for his guidance as for that of others.

One of the first things to claim the attention of Onion cultivators is the situation, which should be open and sunny, no time being lost ere the ground is prepared for another season. The Onion is a most avaricious plant, and the more it is fed the finer will be the bulbs produced. After the ground on which to grow them is selected, proceed by opening a trench some 4 feet wide and 9 inches in depth. After the removal of the top soil wheel into the

trench a good coating of farmyard manure, which must be dug in as deeply as possible. On this place another dressing of the same material; then remove the top soil from the next 4 feet of ground and place on top of the manure, trenching and manuring in this way until the whole of the ground has been gone over. About the first week in February the ground will be improved by a good sprinkling of soot, salt, and wood ashes, the whole being forked lightly in. Of course, in some soils trenching can be done to a depth of 3 feet, and manure worked in accordingly; but on land with a clay subsoil it is best broken up, manured, and left there.

The seeds should be sown, not later than the first week in February, in boxes properly drained and filled with compost from an old Cucumber or Melon bed. Have the surface of the soil made firm and even in the boxes. After sowing the seeds place the boxes in a cool vinery or on shelves in the greenhouse, and if the soil is fairly moist at the time of sowing (as it should be), and the boxes covered with slates or glass with paper to shade them, no water will be required until germination has taken place. Careful watch must be kept for the appearance of the seedlings, upon which covering should be removed, it being also essential that the plants be kept as near the glass as possible with an abundance of air.

As the young plants gain in size and strength a cold frame in a sunny position is the best place for them, admitting air by degrees until the lights can be altogether dispensed with. During the last week in April they should be transplanted to their final position in rows 16 inches apart, allowing a foot between each plant. If the ground is very dry at the time of planting, a good watering may be given, and in case of continued drought a light mulching of spent Mushroom bed manure, sifted leaf soil, or anything that will prevent the moisture evaporating from the soil too quickly ought to be applied.

When the plants are thoroughly established frequent small applications of some of the many excellent chemical manures advertised in the Journal may be given with advantage, but care and judgment must be exercised in their use, or more harm than good may very quickly be done. The amount of sunshine during June and July must be some guide as to feeding with liquid manure from the farmyard, and also in the use of chemicals, for if over-fed in dull weather the result will be a crop of thick-necked unsightly bulbs.

There are now large numbers of superb Onions especially suitable for exhibition purposes, and it is a difficult, if not an impossible task, to say which are really the best, but if I were confined to only two varieties I should have Ailsa Craig and Sutton's A1. Anyone who grows these thoroughly well will have bulbs fit to exhibit at any show of vegetables in the country.—C. FOSTER, *Aberpergwm Gardens, Glyn Neath.*

SOME WINTER WORKERS IN WOOD.

By the time December has arrived the change of temperature and other causes have killed off hosts of insects, and those that are to hibernate have taken up their winter quarters, where they sleep till spring. Possibly this repose may be interrupted by the effects of rain and wind where their shelter is only partial, also by the researches of some predatory beetles, birds and gardeners. For either above ground or below there are certain beetles, carnivorous in habit, that are more or less active during the colder months. As a rule, if we turn up beetles when digging at this season, and are not sure what the species is, the probability is that they are feeders upon larvæ or molluscs, and we may spare them. Indeed the Rev. J. G. Wood thought so highly of the services rendered by the ground beetles that he advised people to make about their gardens little shelters of tiles or slates raised on pebbles, under which they might hide when they were inclined.

But there are insects in the larval condition that feel comparatively little of the season's changes, because they live secluded from the air. These are the various larvæ, some of them specially hurtful to the trees of our orchards and shrubberies, which pass their life in the trunks, branches or roots, feeding upon the solid wood. Nothing is likely to harm them that may happen in winter, unless the frost be so intense as to split open the wood of some trees, which seldom happens. Sundry smaller species, however, are in more peril during the winter, their habit being to reside between the bark and wood or just within the latter, heavy rains may kill some, or birds detect them through cracks. A gardener who is fond of natural history was, he told me, puzzled to understand how caterpillars could manage to breathe while enclosed in wood; there is no doubt they obtain some air, and those leading a subterranean life also do, though they may not require much. The sap of a tree contains water, from which oxygen and other gases are separated in the process of growth, and a wood-eating

larva is able, not only to inspire by its stomata or breathing pores, but can expire too what may need to be removed.

It is singular that four of the wood-eaters that are conspicuous and well-known species should be named after quadrupeds—the goat and leopard moths, the stag and musk beetles. When a tree is badly infected we may detect the presence of goat caterpillars some distance off, but the smell is not exactly like that of the quadruped, though very unpleasant, and caused by a fluid that the insect emits, presumably to soften the woody fibre. On the whole, it is the most injurious of all the wood-boring caterpillars. The prolific female of *Zyleutes cossus* lays several hundred eggs, and the larval state continues for three or even four years. Amongst orchard trees they frequently select the Apple and Walnut; amongst others the Elm and Willow are specially attacked. It has been stated that this caterpillar is torpid during the winter, and specimens have been found encased in a sort of nest, chiefly, however, of large size, therefore nearly adult. From my observations I incline to the view that they frequently feed through a good part, if not all, of the colder months. Some have recommended operations against this insect in winter, such as probing the holes connected with its mines with strong wires, and injecting forcibly into these paraffin or similarly poisonous fluids, but their success is doubtful, and harm to the tree may result. But what may be done now anywhere is to select those trees notably infested, cut them down, and, having split them open, destroy the caterpillars.

I notice that Willows and other trees in the neighbourhood of some orchards, deeply burrowed by this insect, are now and then allowed to remain as centres of infection. The moth, again, is so large that it may often be detected at night about midsummer or soon after, and the female prevented from laying her eggs. A small beetle called *Scolytus destructor*, the cause of great destruction of trees in the Continental forests, and which lives in the inner bark, sometimes completes the ruin of those that have been previously attacked by the goat caterpillar. But this seldom visits fruit trees, and chiefly confines its operations to the Elm, a tree which has suffered severely from it, especially about London. The late Edward Newman, whose knowledge of natural history was very extensive, stated at first that the *Scolytus* only infested trees that had begun to decay, but subsequently he admitted that sound ones were also visited. Indeed, this has been proved by the complete cure of trees that were operated upon in summer, and the rough outer bark scraped off, the surface being then dressed with lime and cowdung. A more tedious method is that of enlarging by a bradawl the holes made when the parent beetle enters, and injecting with a syringe diluted Gishurst compound. This is recommended by Miss Ormerod. During the winter the species is in the pupa state, before which the grubs form a little chamber, just under the wood usually, so that they are not easily discovered.

Many gardeners are well acquainted with the leopard moth (*Zeuzera aesculi*) from the caterpillar's doings in fruit trees, especially the Pear, also on numerous ornamental trees, such as the Ash, Birch, Lime, or even the Holly; but it is by no means a frequent pest to the Horse Chestnut, though bearing its name. This caterpillar is presumed to live nearly two years—that is, through two winters; and I believe it feeds almost uninterruptedly. It is a curious fact that not only is the moth spotted—hence the English name—but the caterpillar, too; it is smaller, and far less muscular than the goat, nor does it often kill trees of any size, though it does occasionally destroy saplings. The moth at one time was esteemed such a rarity that specimens were sold at 10s. each, but a very little research would have produced plenty if made at the right period. But some check upon its increase is the eagerness with which it is hunted by the common sparrow and some bats.

There is, seemingly, a stimulus given to the fruit-bearing power of some trees by the presence of the leopard, but it is sooner or later succeeded by exhaustion. Injections of poisonous fluids have been tried against this foe, and the blowing of sulphur fumes or tobacco smoke into their holes. Another moth caterpillar, of much less bulk, the red-belted clearwing (*Sesia myopæformis*), feeds all the winter in the trunks or branches of Apples and Pears, doing little harm; the moth flies about in June, and is not short-sighted, but much on the alert. Then the Currant clearwing (*S. tipuliformis*) is well known as an injurious insect to that shrub. This caterpillar seems to live two years, and in winter lurks near the base of branches or twigs. The stag beetle, already mentioned, lives on the wood of Oak and Elm principally, and the Musk beetle on Willow wood. As yet I have not succeeded in obtaining the grub of the Rose beetle (*Cetonia aurata*), but from the presence of the imago about orchards and other circumstances I think it resides in the larger roots of fruit trees, probably doing some mischief.—ENTOMOLOGIST.



A SHOWER BOUQUET.

WE have more than once been desired, especially by colonial correspondents, to describe a shower bouquet. We have felt it practically impossible to do so intelligibly, and therefore we have had reduced from a photograph an example of one of these bouquets (fig. 84) which was made by those well-known experts in this work, Messrs. Perkins & Sons, Coventry, for H.R.H. the Duchess of York. As may be seen, it was composed largely of Orchids with pendent sprays of *Asparagus plumosus nanus*. The charm of these bouquets consists in their flowing elegance and grace. Many are too packed and formal, while the obtrusively stiff and wire-twined stems impart a bristliness that is entirely objectionable. A natural taste is essential to secure a perfect combination, but much may be learned by incessant practice and the close examination of the handiwork of such experts as the firm mentioned. Though Messrs. Perkins & Sons do not win the first prize for bouquets everywhere their record is a remarkable one, and probably unparalleled—495 first prizes in 564 competitions at the best shows in the kingdom.

ORCHIDS IN WINTER.

IT is a noteworthy fact in Orchid growing that all the year round the cultivator must have his wits about him—must be always on the watch, and can never think that the season's work is done. To a certain extent this is true of all departments, but most of these have their quiet seasons, when the work is practically done for one year, and the cultivator makes notes of successes achieved, considers how in the future to avoid failures, and takes a retrospective view of the season in general.

The immense number of species and their widely differing habits, times of resting, growing, and flowering, the make-shifts that have to be resorted to in order to cater for so many of these under one roof, the incidental peculiarities of this or that kind, and the means taken to accommodate them; all these are only too well known to any thoughtful cultivator who has spent a few years among these beautiful plants.

Of course at this season the majority of the species are at rest—that is, they are not in active growth—but then here again the same thing, they are as variable in their manner of resting as of growing, and to treat all alike at this season would be far worse than when all are growing. For instance, take a bundle of the dry looking and apparently lifeless stems of *Thunias*, hung up in some out of the way corner of a warm house; these are at rest, and so is this piece of *Cattleya Trianae*. Turn the latter out of its pot and keep it dry for a month or two, and what would the result be? But these, of course, are extreme cases, and it is not in this way that orchidists of only limited experience are puzzled, but in the various kinds of almost identical habit, members perhaps of the same genus, but with tastes or rather habits of resting quite different.

In such cases observation is the one thing of all most needful. Note each species or perhaps each plant's peculiarities; observe how much later *Dendrobium macrophyllum* is in making up its growth than *D. Devonianum*, also that *Cattleya Mossiae* and *C. labiata* are still rooting while *C. Gaskelliana* is quite dormant, and get into the habit of considering these things as the work of watering the plants is in progress, for if it is to be done with dispatch there is quite as much work for the head as the hands in the operation. To a beginner this sounds a rather formidable task, but a little practice soon enables anyone who takes a real interest in their work to overcome the seeming difficulty, while those who do not had far better leave it alone altogether.

Ridding the plants of insect pests is an important part of the winter work among Orchids, and one that requires more care than is usually bestowed on it. The work should be gone about in a systematic manner, beginning at one end of the plants in a house and carefully examining each, cleaning it thoroughly, and also the pot it is growing in before going on to the next. By this means there is no chance of a dirty plant being overlooked, as is too often

the case when the work is done by fits and starts on wet days and in odd times. There is no need to describe the manner of cleaning the plants, as this has been many times done in these pages; but a caution that seems necessary is to beware of damaging the leaves of these with the sponge by friction.

The foliage of *Cattleyas*, for instance, although very thick and leathery looking, is in reality easily damaged, and the worst of it is the injury is not often apparent at the time, but shows perhaps months after in brown unsightly spots where the outer skin or cuticle was rubbed off in sponging. The stages, walls, and roof glass ought to be well cleaned, as this produces a sweet atmosphere in the houses, and admits all the light possible during the dark winter days. This is especially needful in the cool house where *Odontoglossums*, *Masdevallias*, and other alpine species are accommodated, the heavy shading so necessary during the summer accounting partly for this. Thanks to the many fine winter-flowering kinds the houses are looking very gay, and if a com-

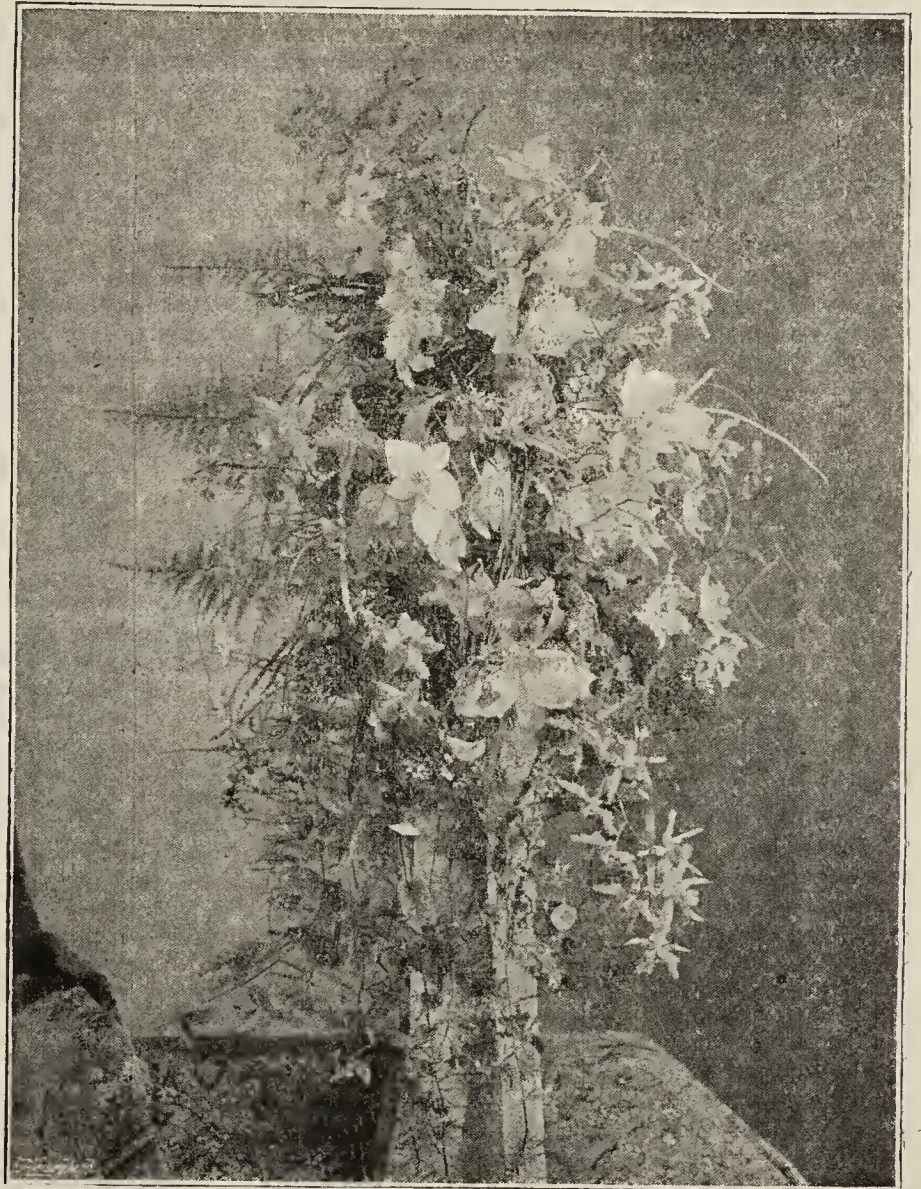


FIG. 84.—A BEAUTIFUL SHOWER BOUQUET.

partment is devoted to the purpose of a flowering house it will probably be full to repletion.

That grand late autumn and winter flowering kind, *Dendrobium phalaenopsis*, is a host in itself, and with the latest plants of *Cattleya labiata autumnalis* and the deciduous *Calanthes* make a fine winter picture. The old *Zygopetalum Mackayi* looks well in conjunction with the latter, while *Oncidium tigrinum* and *varicosum* are amongst the most beautiful of their class. Nothing could be more cheerful looking than the brilliant *Sophranitis grandiflora*, the amount of flowers produced by healthy plants being truly remarkable when compared with the size of the pseudo-bulbs.

Laelia anceps, in almost endless variety, gives an airy grace and lightness to any group to which it may be added, and contrasts well in its brilliant colouring with the more sombre tints of the *Cypripediums*, of which the good old *C. insigne* is at this time the best of all. But while the old form is so useful many of the newer varieties should also be grown where the convenience for doing so exists, as though not perhaps quite so floriferous they are valuable by reason of the diversity of colouration that they afford.—H. R. R.

OPEN AIR PEACH CULTURE.

THROUGH the courtesy of Mr. A. Young, Abberley Gardens, Stourport, we are enabled to give the text of the paper on Peach culture read by him before the Birmingham Gardeners' Mutual Improvement Association, and briefly referred to on page 517.

The subject on which I have chosen to address you to-night you may possibly think somewhat old-fashioned, but I hope it will not prove uninteresting. As a matter of fact the cultivation of Peaches against open walls was carried out successfully in the majority of gardens upwards of half a century ago, at least if we may so judge from the writings and utterances of those gardeners who were then living. We may by this take it that considerable attention must have been bestowed on the trees at that period, and which we need not doubt, as with little or no glass houses to attend to, gardeners had more time at their command to attend to the trees' wants.

With the march of time the advent of cheaper glass houses, and also changes of fashion which the spirit of the times evoked, open air Peach culture became neglected, and, except in a few isolated cases, Peaches came to be almost entirely cultivated under glass, or, if attempted in the open air, very little attention was bestowed on the trees, with the result that they fell into a decrepit state, and open air Peach trees came into ill repute.

Our seasons were blamed for this state of things, but I think we must look to other causes than an unfavourable climate, and which can be summed up in a few words, "lack of attention." Insects were allowed to gain a footing early in the season, or as soon as growth had started. The young foliage curls up, turns yellow, drops, and the tree is enfeebled. It is only when this stage is reached that many people think of applying a remedy. This is too late, the earlier shoots have been lost, consequently, even if the trees attempt to make a healthy growth it is too late to enable it to become ripened. In the end open air Peach culture is condemned as being unfitted for this country.

The reply of some people to this state of things is, "If Peach trees are so susceptible of insect attacks and other ills when cultivated against walls in the open air, why trouble about them when their culture can be carried on with much more ease by the aid of glass houses?" In answer to this I may say it is not all gardens wherein even now sufficient glass accommodation can be devoted to them, as in numbers of gardens the extent of glass devoted to the culture of Peaches is only one structure, and in many others none at all. Even where a good extent of glass accommodation is at command it is found of great advantage to devote a certain space for trees of outdoor growth.

The past season is good evidence of this, as a good supply of fruit was produced throughout the months of August and September, when indoor fruits in the majority of gardens were over. The quality and flavour of these fruits, especially those which ripened up from the latter part of August and September, were superb. That grand late Peach, Walburton Admirable, I never remember being excelled. The quality of these may be judged when I say that I received prices ranging from 10s., 12s., and 15s. per dozen for fruits sold in Covent Garden Market.

The suitability of Peaches, however, for open-air culture I do not gauge by the behaviour solely of the variety just noted, as there are several high-class, midseason, and earlier kinds which may be relied on to ripen annually if the trees are carefully tended. Stirling Castle, Grosse Mignonne, Dymond, Barrington, Crimson Galande, Dr. Hogg, Bellegarde, and Alexandra Noblesse are excellent for open-air culture, the merits of which I shall particularise as I proceed.

The earlier varieties, such as Alexander, Early Louise, Early Alfred, Amsden's June, and Hale's Early are also a most useful section of Peaches, and especially where glass accommodation is limited. The quality, however, is much below that of the midseason varieties. The mistake I find at the present time, where open-air Peach culture is being attempted, is relying exclusively on the earlier varieties. They are useful, I admit, and especially in those gardens where Peach culture is limited to the open air, as an early Peach in these cases is much appreciated, but as the quality and appearance are much below the midseason section, it will be seen how unwise it is to limit one's self to these earlier kinds only. A good early Peach, combining the qualities of a Royal George, has yet to be raised, but which, no doubt, will be forthcoming in time.

In districts where the climate is not so favourable an excellent aid for the furtherance of successful open-air culture will be found in having the assistance of a glass coping. In fact such is what I have to resort to, the wall being surmounted with a coping to the length of 100 yards. Not only for securing the trees when in bloom against frost, but throughout the whole of the season is the coping kept up, or until the fruit is all gathered and the wood

ripened. The glass was removed recently, and will not be replaced until the opening buds warn us that it is not safe to defer any longer for fear of injury from frost.

This I know is against the generally accepted views of the uses of a glass coping, this being to remove it directly the trees pass out of flower, or when danger of frost is past. Believers in this system generally prognosticate all kinds of imaginary evils whenever a glass coping is recommended to be kept up the whole of the growing season, but from a practice of the system ranging over several years, I find the trees are greatly benefited, and this in our securing satisfactory crops annually. The kind of coping affixed to our wall is that as supplied by Richardsons, Darlington, the width being 30 inches. The glass is Hartley's rolled plate, and is easily taken out by a handy man, and also replaced when the time comes for this to be done. It is not at all an expensive arrangement, and in our case has been paid for over and over again from the surplus fruit sold.

The best aspect is, in our Midland district at any rate, a full southern exposure, though further south Peaches may succeed on other aspects. To allow of free extension of the trees the wall must not be too cramped, or not less than 9 feet or 10 feet high. Our wall is 12 feet, and commands a good spread of branches, adding much to the longevity of the trees. Trees of which the branches have to be curtailed to keep them within the limits of the wall on account of its shallow depth, are never satisfactory, as the succeeding growth becomes too gross, gumming eventually takes place, and which, if the trees do not exactly succumb, they linger on, whole branches eventually dying away. Such trees rarely, if ever, produce satisfactory flowers, and by these being imperfect the fruit swells off unevenly, and the greater part also drops off.

(To be continued.)

HYACINTHS IN GLASSES.

As we approach the closing days of a fast fading year how necessary it is that our thoughts should be directed in pleasurable anticipations to the bright, fresh, floral beauties which shower their blessings on us in the early days of spring. The pure white Snow-drop, the yellow Aconite, and the golden Crocus are but the harbingers of a still more brilliant array of bulbous flowers, for when the rich hues of Daffodils, Tulips, and Hyacinths paint with surpassing brightness many garden scenes, the climax of brilliancy in spring gardening is undoubtedly reached, and it is by no means certain that the wealth of summer flowers can in point of brightness outrival it.

So dear are these showy spring flowers to all true lovers of gardening that limited indeed must be the means of those who do not make an attempt to prolong the season of their beauty by coaxing some to flower before their natural season. In thousands of cottage windows bulbs in pots may be seen flowering in the early spring months, and the millions that are annually grown in pots in extensive private gardens and nurseries, as well as by market growers proper, must represent a total of gigantic magnitude.

There is, however, one phase of bulb culture which seems to me to have been somewhat neglected. I refer to the growing of Hyacinths in glasses. True, there are homes innumerable in which a few bulbs are annually grown in this way, but I maintain that in the majority of private gardens the many advantages which this method of culture possesses are not sufficiently turned to account. These advantages are perhaps well worthy of considering in detail. The whole matter from beginning to end is so simple, entails so little trouble, and is moreover such a clean method of gardening, that the only reason I can assign for its tardy extension is the phlegmatic temperament characteristic of the average Briton.

The amateur gardener who grows only a very limited number, or the professional who requires them by the hundreds or thousands, can each appreciate the advantages already enumerated; but those of the latter class who have a wealth of flowers to maintain in dwelling rooms will find Hyacinths in glasses an inestimable boon. In dealing with them for such decorative purposes we have no ugly pots to hide; a group can be made here, another there, and others disposed singly in suitable positions in a few moments; no vases are required to place them in, and no trouble is given in mossing when they are changed. The glasses are presentable, I think I might say ornamental in themselves, and do not require hiding. There is also the great advantage of not having to provide a receptacle to catch the water, which passes through the soil when plants in pots are used.

Although it is not necessary to hide the glasses in some styles of arrangement, it is convenient to do so. To take a case in point let us consider the matter in this way. Here we have a small table standing by the window of a boudoir, on which it is essential to have constantly an attractive group of plants and flowers, a water-

tight tin has been made to fit this table, the sides are 5 or 6 inches in depth, and are painted green. In this a few Palms and other graceful plants are arranged to form a background, the remaining space being dotted with well-grown Ferns. Between the pots a little moss is packed to keep them in position. Hyacinths in glasses can then be dotted between the Ferns, and a bright and delightful arrangement quickly completed. These Palms and Ferns will last a considerable time in good condition, and whenever any particular Hyacinth becomes faded the glass can be lifted out and another substituted for it in less time than I can pen this sentence.

It has occurred to me that manufacturers of glasses might with advantage depart from the beaten track and give us more variety. In addition to the stereotype single glass, triangular stands made to hold three bulbs would be extremely useful for placing in various positions. These might be made of different heights, from 6 to a foot, or even 18 inches, as it is frequently desirable to have a few brightly coloured flower spikes raised conspicuously above surrounding objects. A necessary detail to observe in the manufacture of stands of this type would be to have a rather large heavy base to prevent them from being overturned at the slightest touch. Other stands might be made in a circular, oblong, or irregular form large enough to hold from six to a dozen bulbs. These might be quite objects of artistic beauty in themselves, and when surmounted by large showy spikes of scented Hyacinths would form a fitting embellishment for the drawing-room or boudoir of the noblest in the land.

Critical decorators may perhaps be inclined to urge that a mass of Hyacinths without an admixture of graceful foliage plants would be somewhat stiff in appearance. I grant that it would be so if no means were taken to dispose in various parts of each room plants of bold or elegant foliage, if of more sombre hues. This, however, is exactly what is done in houses where decorations are well carried out; tall plants are placed here and there, so that the fronds arch well above the heads of the average sized mortal. Under the spread of the Palms is just the position to select for placing a mass of Hyacinths, as the overhanging canopy of green will be found to give that touch of lightness and informality which an artistic eye requires.

Now for a few practical hints on the management of Hyacinths under this method of culture. These must be concise, but I think they will be sufficient, for in truth this is one of the simplest phases of gardening, but even in simple things it is easy to err. I discovered the force of this truism when quite a boy, for the first Hyacinths I attempted to grow in glasses were failures, caused solely by standing the glasses in a light position as soon as the bulbs were placed in them. The top growth for a time made more rapid progress than the roots, the result being puny flower spikes, not much more than an inch in length, and a determined disbelief on my part in this method of bulb growing. Fortunately, however, my opinion on the latter point has undergone a complete change.

Preparatory to placing the bulbs in glasses I find it is a good plan to set them upon damp sand for a few days. After that time has elapsed fill the requisite number of glasses with soft water and place a lump of charcoal in each. As the bulbs are placed in the cup at the top of the glass see that the base is just above the water. These glasses ought then to be placed in a dark, but not damp, cupboard or room, where they should remain till roots an inch in length have been formed. Light may then be gradually admitted by opening the door of the cupboard. After a couple of days of this treatment the whole batch should be transferred to light positions near the glass in windows, greenhouses, or frost-proof frames. From this stage the glasses may be kept filled to the rim with water. If this at any time becomes very dirty in appearance it may be turned out and fresh water substituted.

The present time is suitable for placing bulbs in glasses when it has not already been done, or, if necessary, any that have been started in pots may be taken out, and after having the soil washed from the roots, be transferred to glasses. Where supports are usually necessary for the strong-growing kinds, these should be fastened to the glasses as soon as the plants show signs of departing from the perpendicular by reason of their weight.

For amateurs, and indeed for every householder, this aquatic form of Hyacinth culture is a fascinating recreation, a study in science, and a simple art, and I predict that those who for the first time take up and pursue it with diligent intelligence are not likely soon to abandon so simple yet so refreshing a pleasure, for in the tender leaves and flower spikes which make slow yet daily progress we may find a fitting emblem of the gradual march of life, and with spirits refreshed with these diverting thoughts gather strength and courage to our battles on its sterner side.—H. DUNKIN, *Castle Gardens, Warwick.*



NATIONAL ROSE SOCIETY.

GENERAL MEETING.

THE nineteenth annual general meeting of the above Society was held, by permission of the Horticultural Club, at the rooms of the latter in the Hotel Windsor, Westminster, on the 5th instant, to receive the report of the Committee, pass accounts, elect Committee and officers for the ensuing year, and transact other general business. Among those present were E. Mawley, Rev. H. H. D'Ombraïn, H. Shackleton, M.D., W. J. Jefferies, Conway Jones, J. R. Mattock, G. Mount, B. R. Cant, H. P. Landon, Captain Christy, J. D. Pawle, T. W. Girdlestone, Rev. H. A. Berners, A. Prince, O. G. Orpen, Rev. F. R. Burnside, Rev. A. Foster-Melliar, G. Prince, Rev. J. Pemberton, Rev. G. E. Jeans, W. Taylor, J. H. Laing, R. H. Langton, C. E. Cant, W. Colin Romaine, R. C. Mount, J. T. Strange, W. D. Prior, W. Boyes, C. J. Parker, G. Moules, G. W. Cook, C. E. Shea, Rev. W. Wilks, T. B. Haywood, George Gordon, J. Bateman, W. H. Burch, G. Burch, and R. Harkness.

Mr. George Gordon was elected Chairman, and after the usual preliminaries had been disposed of, he called on Mr. E. Mawley, co-Hon. Secretary, to read the report of the Committee and balance-sheet for the year ending November 30th, 1895, the text of which is herewith appended.

The Committee have much pleasure in presenting their annual report to the members, and are glad to be able to state that the past year must be regarded as one of steady and satisfactory progress. The southern show, which was held at Gloucester on June 27th, was undoubtedly the largest Rose show that has ever been held in the provinces so early in the season. The success of this exhibition was no doubt in a great measure due to the very liberal policy adopted by the Committee of the Gloucestershire Rose Society, and the arrangements in connection with it were admirably carried out under the able direction of Rev. Thomas Holbrow, Hon. Secretary of that Society. The Crystal Palace or Metropolitan exhibition, owing to the dry and forcing weather which preceded it, was less extensive than usual, the first flowering of many Roses in the more forward districts being over before the date of the show. The exhibition at Derby was, on the contrary, the largest northern show, with the exception of that at Birmingham in 1890, that the Society has yet held. The attendance of visitors, however, was unfortunately not nearly as large as had been anticipated, on account of the South Derbyshire election having been fixed for the same day. The Committee desire to acknowledge the great assistance they have received during the year from the New Permanent Sub-Committee, known as the General Purposes Committee, and more especially in the revision of the rules for judging, in drawing up the lists of judges for the three shows, and in the preparation of the "Hints on Planting" recently issued to members.

It is with much regret that they have to record the loss to the Society through death of one of its Vice-Presidents, Mr. R. L. Knight, who has so frequently presided at the meetings of the Committee; of Mr. C. F. Hore, who had not only been a member of the Committee for many years, but who was also the most successful local Secretary the Society has ever had; also of Monsieur Camille Bernardin, Editor of the "Journal des Roses," and one of the Society's hon. foreign members. On the return of the President in the spring from a tour in the United States several leading American horticulturists and rosarians were at his suggestion elected honorary foreign members of the Society, as a recognition of the friendly feeling existing between the rosarians of both countries. Ever since the Society was established nineteen years ago there has been a gradual increase in the number of members. This is perhaps best shown by taking the last eighteen years, and dividing them into periods of three years each, when the average annual amount received in subscriptions is found to have been as follows:—1878–80, £215; 1881–3, £253; 1884–6, £283; 1887–9, £305; 1890–2, £346; 1893–5, £373.

FINANCIAL STATEMENT.—The Treasurer is again enabled to report favourably upon the Society's financial position. The total expenditure was £742 6s. 4d., while the receipts, including the balance from last year, amounted to £788 0s. 7d., thus leaving £45 14s. 3d. to be carried forward to 1896.

ARRANGEMENTS FOR 1896.—The Committee have again made arrangements for three exhibitions. The first, or Southern Show, will be held at Reading on Wednesday, June 24th, in conjunction with the Reading Horticultural Society; the Metropolitan Show at the Crystal Palace on Saturday, July the 4th; and the Northern Show at Ulverston, in connection with the North Lonsdale Rose Society, on Wednesday, July 15th. Three years having elapsed since the official catalogue of exhibition and garden Roses was issued, the Committee are of opinion that it will be advisable for a supplement to this catalogue to be prepared during the course of the ensuing year.

MEMBERS' PRIVILEGES.—Members subscribing £1 will, as usual, be entitled to two private view and four transferable tickets, the latter admitting at the same time as the general public, while subscribers of 10s. are entitled to one private view and two transferable tickets. Each of these tickets is available for any one of the Society's exhibitions. Members joining the Society for the first time in 1896 will also receive

the Society's official catalogue of exhibition and garden Roses, the "Hints on Planting," and the supplement to the catalogue as soon as issued. Members alone are allowed to compete at the Society's exhibitions. The Committee tender their best thanks to all those kind friends who have in various ways assisted to help forward the work of the Society, and especially to their local Secretaries and the donors of special prizes. Among the local Secretaries particular mention should be made of Mr. Conway Jones, who did such excellent work in connection with the Gloucester show, and who at the same time obtained for the Society a large number of new members.

RECEIPTS.

	£	s.	d.
Balance at Bankers, December 1st, 1894	72	11	9
Subscriptions	367	1	0
Affiliation Fees and for Medals from Affiliated Societies	82	5	0
From Gloucester	50	0	0
" Crystal Palace	105	0	0
" Derby	80	0	0
Special Prizes	11	3	0
Sale of Catalogues	2	4	4
Advertisements	12	10	6
Special Prize from Alex. Hill Gray, Esq., for Best Essay on Rose Hybridisation	5	5	0

£788 0 7

Balance at Bankers, December 1st, 1895, £45 14s. 3d.

EXPENDITURE.

	£	s.	d.
Printing, Stationery, and Advertising	66	4	9
Postage, Telegrams, and Sundry Expenses	41	18	9
Secretary's Travelling Expenses to Arrange Shows	3	3	0
Expenses Gloucester Show	5	18	0
" Crystal Palace Show	9	13	7
" Derby Show	6	11	0
Medals	22	12	9
" for Affiliated Societies	65	9	6
Prizes Gloucester Show	99	10	0
" Crystal Palace Show	260	10	0
" Derby Show	140	15	0
Assistant Secretary and Accountant	20	0	0
Balance at Bankers	45	14	3

£788 0 7

Examined and found correct (Signed)

J. D. PAWLEY
FRAS. TULLIE WOLLASTON } Auditors.

The CHAIRMAN, on rising to thank the Committee for the report and to move its adoption, remarked that although the financial statement was very satisfactory and the Society had a substantial balance in its favour, yet it should not lose sight of the fact that it had this year spent nearly £80 more than the total of income; therefore, in order to further the interests of the Society, each member should make strenuous efforts in inducing others to join, as it was desirable that no relaxation should take place on part of this Society in the useful work in which it is engaged. With this suggestion he proposed that the report and financial statement be adopted, Mr. C. E. SHEA being the seconder.

Mr. MAWLEY remarked that with regard to the expenditure of the Society it had been done deliberately, as there was no advantage in keeping a large balance in hand, and considering the Society included 530 members the working expenses were very small. It was also increasing, as in 1895 they had made sixty-six new members, the largest number in any year since its institution. He found that the members changed considerably from year to year, and he thought the Society would do well to cater more for amateurs, who perhaps only grow a few Roses and do not belong to the showing community, thus giving less in prize money and keeping the interest of non-exhibiting members in view. After a few other remarks the resolution was put to the meeting and carried without a protest.

Mr. G. W. COOK in thanking the officers said that it was due to the unremitting attention and practical assistance rendered by Treasurer, Secretaries, and Committee that the Society was in such a satisfactory condition. This resolution was seconded by Mr. Conway Jones, and forthwith put to the meeting. At this point the Chairman announced that the scrutineers had completed an inspection of the ballot, and reported that the whole of the officers had been again re-elected, news that was received with much satisfaction.

With regard to the intentions for 1897, the Rev. H. H. D'Ombraïn stated that it had been proposed that the Northern section show for the year named should be held at Norwich, and that of the Southern section at Portsmouth, and also the usual metropolitan show at the Crystal Palace. The Rev. H. H. D'Ombraïn stated that Norwich is well known as a centre of Rose growing, and he thought a good show would result, especially as that town was possessed of a strong society of its own. Portsmouth, he said, had been under consultation as there was no society there, and to make the venture a success it was necessary that a powerful working committee be formed for carrying out the arrangements of the show. In support of these proposals the Rev. A. Foster-Melliar said that Norwich was the only place in East Anglia where it would be possible to hold the show, and the fact of there being a powerful society there would be an incentive towards its success. After

a little further discussion the resolution was put to the meeting and carried unanimously.

When proposing a vote of thanks to the Chairman for presiding, the Rev. A. Foster-Melliar made a few amusing remarks respecting the unbroken harmony of the meeting, this bringing the proceedings to a close.

The annual dinner afterwards took place under the presidency of the last named gentleman.

THE GARDEN PEA AND ITS VARIETIES

[Read before a meeting of the Reading Gardeners' Association by Mr. A. J. DEAL.]

THE lecturer in his opening remarks congratulated the Society on including in its programme a paper on such a commonplace subject as "The Garden Pea and Its Varieties." Such subjects as "The Latest Find in Dendrobes," "Researches in Chinese Lore for the Ancient History of the Primula," or "The Flora of the Arctic Regions," he said charmed most societies, and resulted in the exclusion of topics relating to matters of more general interest and importance. He took it that, next to Potatoes, Peas were the leading vegetable of the present day, and the United Kingdom stands out pre-eminently as the Pea-raising, Pea-growing, and Pea-eating country. Our neighbours across the Channel doubtless excel in the manner of serving their Peas when cooked, but they make little, if any, use of the large-seeded, fine-flavoured kinds. Our American cousins—generally to the fore—are far behind in the matter of Peas.

As to what Peas were like when introduced into this country, it is most probable that there were several dissimilar types. Not until the reign of Henry VIII. in the early part of the sixteenth century do we learn of their cultivation in the gardens of this country, although it is recorded that 250 years previous to this time, when the English forces were besieging a castle in Lothian, their supply of provisions were exhausted, and their only resource was in the Peas and Beans of the surrounding fields. There is no doubt that in the seventeenth century the common white and grey round Peas were cultivated in all directions, careful growers selecting and improving their stocks as opportunity offered. Not until the latter part of the eighteenth century, however, does it appear to have occurred to anyone that the Pea could be improved by cross-fertilisation.

In the year 1787 it is said that Thomas Andrew Knight, the President of the Horticultural Society, operated on the blossoms of a degenerate Pea with the pollen from a grey Pea, and he was so pleased with the results that a few years later he introduced to the public Knight's Tall Green Marrow and Knight's Dwarf Green Marrow. A trade catalogue published in the year 1817 contains the names of twenty-three varieties, and at an interval of seventy-eight years, bringing us to the present year, one of the leading wholesale house's list give 123 sorts, whilst the numerous catalogues issued during the present year reveal the astonishing fact that there are now no less than 647 varieties, which, if not all distinct, have at least distinctive names.

Next to the first-recorded instance of cross-breeding already referred to, one of the earliest to take the matter in hand was Dr. McLean of Colchester, whose seedlings were much prized. Coming to more recent times, the late Mr. Laxton of Bedford made rapid strides in this direction, and his seedlings have a leading place at the present day. The "Grand Old Man" in connection with raising of new Peas, however, is Mr. Culverwell. It cannot be denied that this good old Yorkshire gardener is responsible for the origin of many of the best Peas of the present time. The number of diverse seedlings obtained from a single cross is an interesting matter. During the past season no fewer than twenty-six types were selected from the seedlings produced by a cross made in 1892 between Perfect Gem and Jubilee. This, then, explains in some measure how the numbers have increased during the past fifty years.

It is interesting to note that as early as the year 1845 the Horticultural Society was obliged to undertake a series of trials with the intention, as the report goes, "to reduce the discordant nomenclature of the seed shops to something like order, and to prevent the gardener buying the same kind under different names." This resulted in the reduction of 100 different names to about twenty. Further trials were made in 1860 and 1872 to the same end. Notwithstanding the attempts to restrict the number of names there are still about 650 at the present time.

Peas are divided, so far as the dry seed is concerned, into two general classes—round and wrinkled. These classes have many variations as regards size, and in the use of wrinkled kinds the irregular surface is considerably varied according to sort, in some instances being so peculiar as to be almost sufficient to distinguish one sort from another. The original Pea from which our cultivated kinds have sprung produced round seed, but the selection and improvement of the pod and quality and flavour of the peas resulted in the evolution of the wrinkled section, which now includes a far greater number of kinds than does the round-seeded class. Ne Plus Ultra is generally looked upon as the best flavoured Pea. It certainly occupies one of the foremost places, having deep green pods and peas, but one or two of the darker green podded sorts, such as Duke of Albany, Autocrat, and Sutton's Late Queen surpass it in this respect.

The lecturer then dealt with the peculiarities and variations of shape of pods of the various types of Peas, passing on to mention that the Pea most grown for the London market is doubtless Telegraph, one of the first of Culverwell's seedlings. Hundreds of acres are grown in Essex

every year, and special trains are put on to carry the produce daily to London. Mr. Deal then gave the varieties he considered best for those present to grow.

Forcing Peas.—It is easy enough to glut the kitchen when everyone else is enjoying plenty of Green Peas, but he is the better gardener who, when the majority are sowing their seed, is picking well-filled pods from forced crops. Until recent years American Wonder stood alone as the Pea for forcing, but since the introduction of Chelsea Gem and William Hurst, its use has not been so great. Even these two excellent sorts are now put in the shade by Sutton's Seedling Marrowfat, whilst this must give place to a new variety the firm is introducing, and named the Sutton Forcing.

For Open Ground.—First Early: Seedling Marrowfat, Bountiful, and Sutton's May Queen. Second Early: Perfect Gem, Duke of Albany, and Veitch's Maincrop. Maincrop Sorts: Perfection, Marrowfat, Magnum Bonum, and Reading Giant. Late Crop: Sutton's Late Queen. For cottagers and amateurs Dr. McLean is an excellent variety. It is fairly low priced, and the pods are of good size, produced in pairs, an abundant cropper, and of good flavour.

With regard to the future of the garden Pea, the lecturer's opinion was that before many years were passed it will be possible to produce pods which will compare with Duke of Albany, as does that variety with Yorkshire Hero, Veitch's Perfection, and similar sorts. The small-podded, early round-seeded kinds will not be grown except by the "old school," and tall Peas—that is, those exceeding about 4 feet—will share the same fate.

SHRUBBERIES.

FOR the welfare of shrubberies subsequent to proper planting is judicious management, and to which too little attention is often paid, owing to various causes. Newly planted trees, Conifers, and shrubs, if well mulched and securely staked, will not require further attention beyond protecting from frost those which are of a tender nature until the spring. Extraordinary winters such as 1894-5 work sad havoc in places with those plants that usually resist our ordinary winters, but as a rule it is necessary to protect some of the choicest shrubs, such as *Kalmias*, even in ordinary winters.

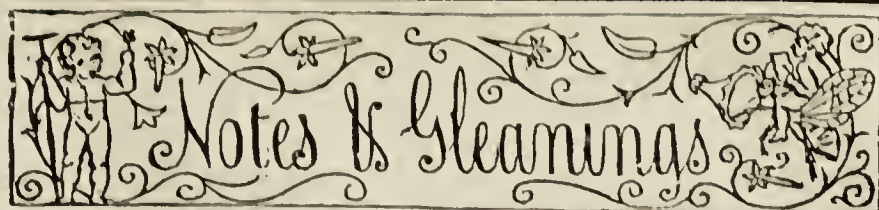
During March and April watering must be done to assist recently planted shrubs or trees through their most critical stage. In light soils a thorough watering twice, and in stiffer soils once a week will be sufficient, with a syringing at noon on bright days. Where a hose can be used, with a plentiful supply of water, nothing is more beneficial to the old and newly planted than a heavy syringing during the summer months, as often as can be administered, late in the afternoon; it imparts a healthful glossy appearance to the foliage, of *Rhododendrons* particularly. The syringing must be discontinued as they come into bloom, and recommenced when they have done blooming starts them into vigorous growth.

That which demands more immediate attention is putting everywhere in presentable order now that the leaves are down. These may be cleared off or dug in, as may be thought best. In shrubberies which are not very dense and the soil of a clayey character it will ameliorate the ground to dig them in. No universal rule as to when to dig, point, or fork, as the case may be, can be applied, as soils vary, aspects differ, and other circumstances which must be considered. In most places they are pointed over in the autumn, others defer the operation until February or March.

There is much to be said on either side. For example, a clayey soil will be improved by pointing early, so as to benefit by the action of the frost to pulverise it, as well as turning in the weeds, giving all a neat appearance over the winter months. Again, soils of a porous character, if the surface is weedy, are hoed and raked over, may be left until spring, then pointed or lightly forked over. When left until then there is not the risk of exposing the roots and fibres to the frost and cold drying winds. Another drawback to deferring the work until this time is the pressure of work in other departments, which demands attention, unless it is in a well-appointed establishment where a regular staff is employed in the pleasure grounds.

Advantage should be taken of frosty weather for wheeling soil as a top-dressing among shrubs whose roots and fibres appear on the surface, the benefit derived from a good dressing being perceptible the first season, particularly in the case of flowering shrubs. A dressing of 2 or 3 inches deep, applied biennially, would be sufficient. Pruning shrubs and clipping Box edgings are usually done about the end of February and beginning of March. Those grown for the beauty of their natural shape need scarcely if any pruning, excepting perhaps the removal of a superfluous leader. Irish Yews, on account of their loose habit, present a neater appearance when the branches are drawn together, each one tied separately. When neatly done and kept under control they assume a conical form. Tar cord is the best material for tying, being more lasting.

The shortening of irregular growths in Laurels will need to be carefully done, as also the thinning of weak and overcrowded branches, so as not to cause any unsightly gaps. Those grown for their fruit, as Siberian Crabs, require pruning on the same principle as other fruit trees, *i.e.*, with a view of producing fruitfulness, the same rule being applied to flowering shrubs as to the more tender deciduous flowering family. In fine, the aim of the operator should be neatness and symmetry of form in every occupant of the shrubbery, with the maximum amount of ornamental fruit and flowers.—P. W., *Nantwich*.



WEATHER IN LONDON.—Mild, and on the whole, pleasant weather continues in the metropolis. On Friday and Saturday last cold easterly winds prevailed, on Sunday the thermometer fell several degrees below freezing, but a change again took place on Monday morning, and at the time of going to press the weather is cold and very foggy.

— **WEATHER IN THE NORTH.**—Following the gale of the morning of the 5th, two extremely disagreeable days of wind, rain, and sleet were succeeded by a bright day on the 7th, with 5° frost, and nearly an inch of snow on the ground. On Sunday morning there were 11° frost; the day was bracing till afternoon, when a change took place. Monday was throughout showery, and the night squally. Tuesday morning was bright with coldish W. wind.—B. D., *S. Perthshire*.

— **GARDENERS' ROYAL BENEVOLENT INSTITUTION.**—We are requested to state that the Committee has gratefully received the sum of £257 3s. 5d., being a proportionate amount of the fund raised to perpetuate the memory of the late Mr. Wm. Thomson of Clovenfords, to be invested and known henceforth as the "Wm. Thomson Memorial Fund."

— **GARDENING APPOINTMENTS.**—Mr. G. R. Beale, for the past six years head gardener to J. S. Dugdale, Esq., Sezincot, Gloucester, has been appointed overseer to Mrs. Macpherson of the Blairgowrie estates and fruit farm, Perthshire. After more than thirty years' service at Kenyon Hall, near Manchester, Mr. W. Webster has been appointed to the gardens at Springkell, near Ecclefechan, N.B., the residence of J. E. Johnson Ferguson, Esq., M.P. Mr. H. Kilmister succeeds Mr. Webster at Kenyon Hall.

— **DRACÆNA LATIFOLIA.**—This fine metallic green-leaved plant received a F.C.C. at the Drill Hall on November 12th, having been shown by Mr. East, gardener to H. O. Hagan, Esq., Hampton Court. I saw several plants of it at River Home last week in fine form. The leaves are broad, long and drooping. They are of unusual stoutness or leathery-like for a *Dracæna*. For that reason plants will do well in rooms, indeed almost rival the well known *Aspidistra* for that purpose. Single ones stood in vases on small tables in a drawing room would be singularly pleasing, only needing occasional sponging and watering to keep them in health for several months. The colour is a metallic green with light margins. It is very distinct from ordinary *Dracænas*.—D.

— **READING AND DISTRICT GARDENERS' MUTUAL IMPROVEMENT ASSOCIATION.**—At the last fortnightly meeting of the above Association, Mr. Woolford presiding over the largest gathering of members present at any of the meetings this season, after the usual business had been disposed of and a few introductory remarks from the Chairman, Mr. E. J. Deal, of Messrs. Sutton & Sons, gave a highly interesting lecture on "The Garden Pea and Its Varieties." The lecture was made doubly interesting and instructive by the many excellent diagrams prepared by Mr. Deal setting forth the peculiarities and variations of the shape of pods of the various type of Peas. A very interesting discussion took place. Many questions were asked and ably answered by the lecturer. On the proposition of Mr. Lees, seconded by Mr. Neve, a hearty vote of thanks was passed to Mr. Deal, and the wish expressed that as the subject was of such great interest he would take the same on some future occasion.

— **ROYAL METEOROLOGICAL SOCIETY.**—At the ordinary meeting of the Society, to be held by kind permission of the Council of the Institution of Civil Engineers, at 25, Great George Street, Westminster, on Wednesday, the 18th inst., at 7.30 p.m., the following papers will be read:—"Notes on some of the Differences between Fogs, as related to the Weather Systems which accompany them," by Robert H. Scott, M.A., F.R.S. "Analysis of Greenwich Barometrical Observations from 1879 to 1890, with special reference to the Declination of the Sun and Moon," by Major H. E. Rawson, R.E., F.R.Met.Soc. "Meteorological Observations taken at Mejunga, Madagascar," by Stratton C. Knott, F.R.Met.Soc. During the meeting Mr. Scott will exhibit some specimens of the illustrations in the "International Cloud Atlas" now being prepared for publication.

— **LINCOLN'S INN FIELDS.**—Since passing into the control of the London County Council these gardens have proved most attractive and beneficial to the large poor populace of the neighbourhood. This open space is now being thoroughly drained, and the paths levelled and gravelled. At a later period the beds and borders will be taken in hand, and many of them entirely replanted, so as to render this historic ground as beautiful as its position will allow.

— **WOOLTON GARDENERS' MUTUAL IMPROVEMENT SOCIETY.**—A meeting of the above was held on Thursday evening, December 5th. There was a good attendance of members, who listened attentively to an excellent paper on "Winter Flowering Plants," by Mr. W. Disley, The Gardens, Allerton Priory. Mr. R. Todd, gardener to Holbrook Gaskell, Esq., Woolton Wood, exhibited a plant of *Oncidium ornithorhynchum* carrying thirty-four very fine spikes of flower, for which the Committee awarded a certificate of merit. The usual vote of thanks closed the proceedings.

— **CRATÆGUS APIIFOLIA.**—This is a small tree, with delicate, nearly circular, deeply cleft and divided leaves, of the Southern States, where it is mostly confined to the coast region, although west of the Mississippi River it ranges inland to central Arkansas. Plants raised from seed gathered near Little Rock, Arkansas, have, says the "Garden and Forest," produced plants which have proved fairly hardy in the Arnold arboretum, although they have not flowered there yet. The Parsley Haw, as *Cratægus apiifolia* is often called, is one of the most delicate and beautiful species of the whole genus, and in the arboretum this autumn it has been specially noticeable for the brilliant deep red colour assumed by some of the leaves, while others on the same branch remain unchanged in colour.

— **CHARGE FOR CARRIAGE OF SMALL PARCELS.**—A correspondent writes to a contemporary:—"I am very glad to see in your columns an announcement that the Great Eastern Railway intend to revise their rates and offer better facilities for the distribution of food and garden produce. My residence is within half a mile of a suburban railway station (five miles from the G.E.R. terminus), and yet for a few eggs or a couple of fowls from Norfolk it costs 8d. railway carriage, and then the package is handed over to a carrier who demands 6d. more. It is this system of fleecing the public that checks the direct sale of wholesome food and prevents the small farmer paying his rent much more than packing things square in a railway truck, as suggested in the new order of things."

— **THE PRICE OF APPLES.**—A short time ago I was passing through Birmingham, and I invariably make a practice of examining the principal fruit shop windows. At one very prominent shop I noticed fine "English Blenheims" ticketed 10 lbs. for 1s. At the entrance to the shop stood a barrel of "American Blenheims" ticketed 4d. per lb. The English fruit was larger but not so highly coloured. I bought a few of the Americans and compared them on my return home, and found they corresponded exactly with my Cobhams, except that they were a little more highly coloured—of course, by the extra sunshine in that country; but why John Bull should pay a difference of about 2½d. per lb. for sunshine or "moonshine" I could not exactly understand. At any rate, they appear to have hit on the best type of "Blenheims" to compete with us.—J. HAM, *Astwood Bank*.

— **THE AMERICAN APPLE CROP.**—This is one of the largest in recent years. According to the "American Agriculturist" the commercial crop totals up to about 66,256,000 barrels. The distribution of the crop, however, is peculiar, the great Apple growing districts east of the Alleghanies showing less than an average crop, New England being especially deficient, while in the Central West the crop is the largest ever grown. The season has been one of contradictions, new conditions constantly arising of sufficient importance to vitiate preconceived ideas. May frosts were followed by such weather as operated to minimise their importance. Drought growing serious in June and July was relieved in August. The usual June "drop" was a factor easily measured, but an unusual July and August "drop" presents a new factor whose importance it is difficult to determine. Dry weather, hot winds, and locally severe storms during September made great changes in the prospect for winter fruit. The "windfall" has been surprisingly large, and the ill effect of the hot weather is becoming further apparent in marked difficulty in securing fruit of perfect keeping quality. Especially is this true in Southern Illinois and in portions of Missouri, while in heavy laden orchards of Missouri and Eastern Kansas and Nebraska the extent of the loss from high winds could only be appreciated by personal inspection of orchards.

— **SOIL PROTECTION IN WINTER.**—One material is always at hand to use in protecting garden plants in winter—that is the soil. And it is one of the best materials, and for very many plants all that is needed. It can be drawn up around them, and over them if needed, and thus secure them against injury. The ground often freezes 2 feet deep in our northern climates, and thus must at the same time freeze the roots of many plants, but as they thaw slowly and gradually, on account of the surrounding soil, they remain uninjured. Use the soil for protection wherever it can be employed to advantage.

— **TURNIP SUTTON'S SCARLET PERFECTION.**—I am much pleased with this variety. It comes into use quickly, and was remarkable during the dry weather for withstanding attacks of the Turnip flea better than Early Milan or Early Snowball, which were sown by its side. Whether this partial immunity was owing to greater vital energy in the seed is open to question, but I think that was partly the reason of its success. Its colour should recommend it strongly to exhibitors of early vegetables in collections, as being of an attractive shade of red, it would add much to the general effect of the same.—W. H. DIVERS, *Belvoir Castle Gardens, Grantham*.

— **LEICESTER ILLUSTRATED.**—We have received a publication entitled "Illustrated Leicester: Its History and Commerce," and as the title promises, have found very much of interest therein. An admirably written article on the town, splendidly illustrated by process blocks, is of exceeding interest, and well worth reading. Further on we come to a photograph of Mr. John Harrison, the well-known head of Messrs. Harrison & Sons, the great seed merchants of Leicester, which is given with a well written historical sketch of the firm's career from its inception in the year 1764, the great grandfather of the present proprietor being the founder, until the present day. The various departments of the business are described in an interesting manner, as also are the seed grounds Aylestone and Westcotes, with the big warehouses situated in the Welford Road.

— **LIVERPOOL HORTICULTURAL ASSOCIATION.**—Despite the unfavourable weather there was a capital attendance at the meeting held on Saturday evening in the William Brown Street Museum. The chair was occupied by Mr. T. White, who briefly introduced the first subject of the evening—viz., "The Cultivation of the Asparagus," by Mr. Wm. Tunnington, Calderstone, Aigburth. At the outset he touched on the history and varieties, Connover's Colossal being considered much the best. All points in the culture of this highly esteemed vegetable were treated in a masterly manner, and the discussion that ensued on its conclusion was exceedingly interesting. The second paper was the guinea prize offered by the Association to young gardeners, the subject being the "Cultivation of Winter-flowering Plants." This was won by Mr. Wm. Disley, Allerton Priory Gardens, with a paper of much excellence. Votes of thanks to the essayists and the Chairman closed the meeting.—R. P. R.

— **SLEEPINESS IN PEARS.**—Has any explanation ever been afforded as to the common tendency in Pears for decay to set in from the inside or core? In other words, I would ask, What is sleepiness, and how is it produced? One of the worst features of this common defect in these fruits is that it is undiscernible until it has become excessive, hence fruits that externally seem to be in excellent condition are when cut found to be half decayed. It is rare to find this form of decay in Apples, though sometimes there are slight evidences of it found in abnormally large fruits after they have passed their best. But almost invariably Apples commence their decay from the outside, and if prematurely, then from external causes. Now the point to be determined is whether sleepiness in Pears is natural decay, or is it the product of some fungoid attack? I suggest this latter point seriously, because it is very much the fashion now to attribute every sort of vegetable complaint to the action of some fungus primarily. But if it be a fungus, how does it get access to the core of the fruit? Is it there deposited in sporadic form whilst the bloom is expanded, or from the eye are there passages which enable fungus spores to pass direct to the core, from whence the decay invariably appears to originate. Sleepiness may in some sense be less a decay than is the decay termed rot, which manifests itself in Apples when bruised. Perhaps it is a mere change of texture of flesh similar to what takes place in the Medlar when the flesh of that fruit is converted from hardness into a soft pulp, which is sometimes termed rotten, but is in reality in this case mellowness and ripeness. It would be interesting to have this sleepiness in Pears scientifically diagnosed; although there seems to be little reason to anticipate that anything can be done to check it, still it would be some gain to learn fully of what was the cause producing it.—A. D.

— THE COFFEE TREE.—The Coffee tree in a wild state will grow to a height of 30 feet, when cultivated it is pruned down to 5 feet for convenience in gathering the crop.

— WILD GARLIC.—Observing a note on this subject, taken from the "Midland Counties Herald," on page 508, I may say it is very common on heavy clay land in several parishes in Worcestershire where I have been. It is known as "Crow Onions" in at least one parish. It is pulled by women before the seed ripens, and I have seen cartloads collected. It is a difficult pest to deal with even then, because the bulb stalks and seed heads do not dry well to burn. I have heard that it is used to some extent in making Worcestershire sauce, but as to the truth I know not. There should be some use for "the herbs of the field," and a little of this strong specimen would go a long way in flavouring.—J. HAM, *Astwood Bank*.

— THE BIRMINGHAM GARDENERS' MUTUAL IMPROVEMENT ASSOCIATION.—At the fortnightly meeting of the above Society Mr. W. B. Latham presiding, Mr. W. Spinks, manager to Messrs. Hewitt and Co., The Nurseries, Solihull, read a paper on the "Propagation of Plants;" which was followed by a discussion among the members present. Reference was made to the danger of using cocoa-nut fibre refuse for propagating purposes from its liability to generate fungus matter. It was cited as somewhat remarkable that, though *Retinosporas* were readily increased by cuttings or slips, Lawson's Cypress was not easily amenable to the same process—at least, under similar conditions. Allusion was made to the propagation of *Bouvardias* by their roots as well as by cuttings, also of the peculiarities of some of the herbaceous *Pæonies* regarding root propagation.—W. G.

— THE WEATHER LAST MONTH.—November was mild, dull, and damp, with severe gales on 5th, 10th, 16th, and 23rd, and several heavy fogs, the last six days being without sunshine. The wind was in a southerly direction twenty-one days. Total rainfall, 3.02 inches, which fell on twenty-four days, the greatest daily fall being 0.40 inch on the 22nd and 29th. Barometer—highest reading, 30.280 at 9 P.M. on the 1st; lowest, 28.812 at 1 A.M. on the 12th. Thermometers—highest in the shade, 62° on the 16th; lowest, 29° on the 13th. Mean of daily maxima, 50.40°; mean of daily minima, 39.23°. Mean temperature of the month, 44.81°; lowest on the grass, 23° on the 18th; highest in the sun, 99° on the 13th; mean temperature of the earth at 3 feet, 46.80°. Total sunshine, 44 hours 55 minutes. We had thirteen sunless days. The total rainfall is now 6.20 inches below the average for the year.—W. H. DIVERS, *Belvoir Castle Gardens, Grantham*.

— NOVEMBER WEATHER AT HODSOCK PRIORY, WORKSOP, NOTTS.—Mean temperature of the month, 44.8°. Maximum on the 16th, 62.2°; minimum on the 19th, 23.8°. Maximum in the sun on the 6th, 95.9°; minimum on the grass on the 19th, 17.9°. Mean temperature of the air at 9 A.M., 44.0°. Mean temperature of the soil at 1 foot deep, 44.5°. Nights below 32°, in the shade five, on the grass fourteen. Total duration of sunshine in the month, thirty-four hours, or 13 per cent. of possible duration. There were eleven sunless days. Total rainfall in the month, 3.07 inches. Rain fell on twenty days. Average velocity of wind, 11.4 miles per hour. Velocity exceeded 400 miles on six days; fell short of 100 miles on six days. Approximate averages for November:—Mean temperature, 42.3°. Sunshine, fifty hours. Rainfall, 2.03 inches. A dull, mild, and rather wet month; the night temperatures were warmer than in October. There were some strong winds but not much damage was done.—J. MALLENDER.

— A MILD NOVEMBER.—The weather of last month was exceedingly mild in all parts of England, and especially so over our southern counties. In London the mean temperature was nearly 4° above the average, and although very slightly in excess of that registered last year or in 1888, it was actually higher than in any November of the past twenty-five years, with the exception of the phenomenal season of 1881. On an average of twenty years' observations the mean maximum temperature in London for November comes out a little above 49°. In 1881 there were no fewer than twenty-seven days with a temperature exceeding 50°. On eighteen of these days the thermometer exceeded 55°, while on five of them it rose to 60° or more, the highest reading of all being 64°. Last month there were twenty-three days with a maximum temperature exceeding 50°. On ten of these the thermometer rose to 45° or more, and on four of them to 60° or more. Last month there were only two nights on which the sheltered thermometer in London fell as low as the freezing point, but in 1879 there were as many as fifteen.—("Echo.")

— PRESENTATION TO MR. A. F. UPSTONE.—On leaving Norwich to take charge of the seed department of Messrs. J. Veitch & Sons, Chelsea, Mr. Upstone was presented with a marble clock and a purse of money by the East Anglian Horticultural Club, of which he was honorary secretary for five years.

— MICROMERIA RUPESTRIS.—During the warm days of the past week, says a transatlantic publication, the delicate little lilac and white flowers of *Micromeria rupestris* opened as cheerfully as they did in July. Among the low-growing sub-shrubs in the rock garden few are more valuable than this little Mint, with its long succession of flowers and its neat foliage, with the odour and taste of Pennyroyal. Its prostrate stems, which turn up at the extremities, make a rounded mass less than a foot high at the centre, and in old specimens spreading over a diameter of 2 feet. It is perfectly hardy, and altogether a cheerful and useful little plant.

— CIDER MAKING IN KENT.—Some Apple growers in Kent, burdened with a heavy crop of fruit, decided to convert their surplus produce into cider. Their efforts have been attended with considerable success, and some fine cider has been produced from Apples that would have been hardly saleable as fruit. A Gloucestershire cider maker was invited to make the experiment on behalf of these go-ahead growers, and teach them the latest methods. The success obtained is likely to be the means of establishing the cider industry in Kent, where, until recently, it was considered the home-grown Apples were unsuitable for cider making.

— KETTLE AND BOILER INCRUSTATION.—Fill these overnight with a 15 per cent. (a little more or less is of no moment) solution of sulphuric acid and water; this will to a certain extent disintegrate the deposit, and a good deal of it may be removed mechanically; after which place half a dozen clean oyster shells in the vessels and let them remain. The affinity of the shells for the calcareous and silicious salts in the water will cause it to deposit to an extraordinary extent; in my case, with New River water, in two years a shell weighing 1½ oz. received the deposit of 2½ ozs. in an ordinary domestic kettle. Since then I have kept them in the kitchen boiler, and find such deposit as was there has been scaled off, and I am practically free from these incrustations.—BLENNERHASSET ("Echo").

— IMPORTED FRUIT.—In the past ten years (1885 to 1894) the total amount of imported Apples has exceeded 33½ millions of bushels, valued at over 9½ millions sterling, or an average of about 5s. 6d. per bushel. In the same period the area under orchards in Great Britain has increased by 20,000 acres, the total for 1894 being returned at 214,187 acres. The area under small fruits is 65,487 acres. From France, Italy, Holland, Belgium, the Channel Islands and Canary Islands, nearly all the consignments of fruit come in light, strong boxes of convenient size, with scarcely any packing beyond paper shavings or a sheet or two of thin coloured paper. American Apples come in barrels without any packing material whatsoever, and the secret is the strict exclusion of damaged or over-ripe fruit, and very firm but careful packing.

— STRAWBERRIES IN KENT AND HAMPSHIRE.—As to special centres of cultivation for particular crops, perhaps the most remarkable is afforded by the Strawberry regions near Swanley in Kent, and Botley in Hampshire. At the latter place about 300 acres are almost exclusively devoted to this fruit. Enormous quantities of fruit are despatched from this part, as can be judged from the fact that in one week no less than 200 tons have been forwarded by train. From Swanley over 600 tons have been despatched in one month.

— NEPHROLEPIS EXALTATA PLUMOSA.—The Sword Ferns are among the most popular plants for home decoration, attractive, healthy and easily grown. They will do well under almost any condition, provided they are kept moderately warm and in a partial shade. The beautiful fronds of the old *Nephrolepis exaltata* are here divided into numerous feathery segments, which form large masses of greenery at the apex of the leaf. The lower pinnae are more or less furcate, while the upper ones are cut out into numerous fringes. Because of these heavy tops the foliage is more spreading than is that of the typical form, and the habit is more bushy. The peculiar thread-like runners or stolons, which form numerous young plants, hang down over the baskets in which the plants are generally grown, and add considerably to their ornamental value. A soil composed of fibrous peat and loam is the best, and the plants show off to the best advantage when grown in wire baskets suspended from the roof or ceiling.—("Garden and Forest.")

NOSTELL PRIORY.

SITUATED five miles from Wakefield, a beautifully designed and substantial bridge carries the Wakefield and Doncaster turnpike over the Nostell lake. From this point we obtain our first view of the Yorkshire seat of Lord St. Oswald. The Priory, partly hid by fine specimen lawn trees, stands a short distance back from the steep and densely wooded bank of the lake. This, the west front, is severely simple in detail and style of architecture, yet from its imposing size and picturesque setting it may easily lay claim to be one of "the stately homes of England."

The historical associations and reminiscences of Nostell may well add to the dignity and pride in its possession by its noble owner. On the authority of Hunter, a religious establishment stood here in Saxon times. This was followed by the Priory, owing its foundation to a grant by the second Norman Lord of the Castle of Pontefract—Robert de Laci. It was dedicated to St. Oswald, King of Northumbria, from which the title was taken by the first Lord St. Oswald. No description in detail has been preserved of what the Priory was in its best days, but Leland speaks of it as being "exceedingly great and fair;" and Mr. Easter showed me a considerable quantity of beautiful carved stonework relics, proving by the care and pains bestowed on them that it had been at least equal to many of the important religious houses of the same period.

The estate came into possession of the Winn family in the early part of the seventeenth century, and the present mansion was built about the year 1740, under the superintendence of Payne, the celebrated architect of the time, after a design brought from Italy by the second Sir Rowland Winn. The principal front of the mansion looks east, and has a façade of about 250 feet. The centre part is ornamented with pediments supported by Ionic columns, and displaying the arms of the family on a large scale with finely carved floreated ornamentation. A solid stone terrace rises from the front to the height of the second storey. This terrace on several occasions was the extemporised platform for the speakers to immense political demonstrations. It is calculated that 120,000 people on one occasion were congregated on the spacious lawn, leaving standing room for as many more. The view from the terrace is an exceedingly fine one, embracing a fertile and well cultivated tract of country, including the well wooded park of 250 acres, which has within its pale hill and dale, sweet bottom grass, and high delightful plains, breaks obscure and rough, fit feeding ground and shelter to a numerous herd of fallow deer, which feed unrestricted up to the front entrance to the mansion.

The most notable feature of the park, and the pride of Nostell, is the noble avenue of "Dutch Elms," extending away into the country a mile in length, the width of the avenue between the lines being about 100 yards; it is flanked on both sides by fine groups of trees, disposed to the best advantage for effect. It is supposed that the avenue was planted soon after the erection of the mansion, which shows the trees to be about 150 years of age. Twenty-five years ago these noble specimens had reached the zenith of their vigour, and at that time there was not a gap to be detected the whole length of the avenue, but the wind storms of the last few years have made extensive havoc; apparently the inevitable fate of this tree is to be snapped asunder, which suggests the thought that some more lasting species were not selected for the purpose, say, for example, Spanish Chestnut, which thrive and grow at an amazing rate in the grounds. Some few years ago Mr. Belton, the late respected steward, pointed out to the writer of these notes Spanish Chestnuts by the dozen planted by himself, which in one generation had already attained the status of respectable timber trees, and destined in the future to become handsome ornaments to the place. To the right of the avenue within the park, and a fitting ornament, the square tower of the family church is conspicuous.

A visit to the church proved it to contain more than usual that is beautiful and interesting. The pulpit is a fine example of wood carving, the panels representing subjects in the life of Christ. The east window, bearing the date 1534, supposed to be a relic of the demolished Priory, includes the figure of St. Oswald. The south window of the chancel is remarkable as a beautiful example of stained glass (amber tinted) of the period, bearing date 1535. A monument by Flaxman to the memory of Sir Rowland Winn, the founder of the family, and some beautiful statuary by Chantrey over the tomb of Mr. John Winn, do not by far exhaust the interest aroused in this well kept fane.

The mansion throughout is furnished in perfect taste with the style of architecture of the building. The collection of pictures is extensive and invaluable, those by the best Italian masters predominate; the carvings, tapestry, statuary, and other gems of art defy description in a notice supposed to be descriptive of the gardens. To this end the views from the windows cannot be overlooked, those from the west front especially appeal to the landscape gardener's artistic sense; the extensive pleasure grounds, the blending of wood and water of the lake, forty acres in extent, make up a picture which excels in beauty the finest work of art. The gardens and grounds at Nostell are on a scale commensurate with the style of the mansion, and the profuse hospitality dispensed by noble owners who in times gone by were in the habit of filling the numerous and commodious rooms to the fullest extent with guests of the highest social and political standing.

The kitchen garden is bounded and divided by substantial walls in some parts 20 feet high, giving abundant space and suitable aspects for healthy, well-furnished fruit trees. Pears bearing fine crops were Bergamotte Esperen, Glou Morceau, Bon Chrétien, Marie Louise, Louise Bonne, Catillac, Easter Beurré, and Beurré Diel, and some extra large Plum trees have by root-pruning been made amenable to the production

of heavy crops. Apricots and Peaches are also represented by healthy and fruitful trees. In the quarters were evidences of the large demand for vegetables of all kinds. A large flat of Onions afforded a capital object lesson in the advantage to be derived from Onions planted *versus* sown. Growing side by side the former system showed a crop double the weight of those produced by sowing where they grew.

We were next conducted to the glass department and introduced to a series of low span-roofed houses partly sunk in the ground. The first of these structures was filled with Orchids, chiefly Cattleyas and Lælias. A year or two ago, on a former visit, Mr. Easter was in an unhappy state of mind about these and other plants of the establishment, owing to the quality of the water causing a sickly unhealthy tone, but the first view on this occasion showed by the healthy appearance of the plants that the trouble had been overcome. A healthy stock of Cattleya labiata was noticeable, one splendid specimen showing upwards of a dozen flower sheaths. C. Mendelli, C. Boothiana, C. Mossiæ, C. Mossiæ alba, a number of Lælia anceps showing vigorous sheaths, and a large piece of Lælia purpurata were noticeable.

The next house was occupied by fresh-looking table plants of the leading varieties of Maidenheads, A. gracillimum, A. Bausei, A. capillum Pacotti, A. gracillimum roseum, and others. The first striking feature in a small plant stove was a remarkably fine collection of Phalænopsis suspended from the roof just below the ridge on the north side, including P. amabilis, P. Schilleriana, P. Stuartiana, P. gloriosa, P. Andreana, P. Saunderiana, P. violacea, and P. Saunderiana alba. These plants were in perfect health and colouring, carrying five, six, and seven leaves, the leaf growth of Schilleriana being 20 inches long. Two and a half dozen of Dendrobium Phalænopsis next claimed attention with charming shades of colour, from deep purple to nearly pure white. Amongst new varieties of Caladiums Duke of York and Duchess of York were conspicuous by their deep satiny crimson colouring. Table plants were well represented by highly coloured Crotons, Dracænas, and small Palms.

We found the large show house very gay with new varieties of Cannas, Pelargoniums, Lilioms, Statice, and the usual run of autumn-flowering plants, and passed on to the large stove, finding there an extremely floriferous Stephanotis, covering about 300 square feet of the roof. Allamanda Hendersoni and Passiflora princeps were also fine. The most noticeable occupants of the stages were fine Eucharis, Gardenias, highly coloured Crotons, luxuriant Palms, Asparagus, and the rarely seen Posaqueria multiflora. The old Pine stove in part has been adapted to the growth of winter blooming plants, a large stock of Calanthes of the different varieties making exceptionally strong pseudo-bulbs.

The vineries consist of early and late compartments, but are only part of a contemplated extension of another length for Muscats, and a conservatory of more modern type than the existing one. The space occupied by the present structure covers about 80 feet by 24 feet, and was built about ten years ago by Richardson of Darlington. Structurally, and from a cultivator's point of view, it is everything that can be desired. The Vines are trained in the form of a semicircular arch, which displays the noble bunches of fruit to great advantage. In the early division there was still hanging fine examples Madresfield Court, Muscat Hamburgh, Black Hamburgh, and Foster's Seedling. In the late division were fine bunches of Mrs. Pince and Gros Colman, both varieties indicating perfect colour and finish, with bunches averaging 4½ lbs. Frankenthal Hamburgh and Mrs. Pearson were very good; the latter is a special favourite for a white Grape for flavour, which is of more consequence at Nostell than size of bunch. The old Syrian, Trebbiano, and Gros Maroc are recognised by enormous bunches, but are condemned to be removed to make room for varieties of better quality.

On our way to the Peach house we passed through the frame ground and noticed useful collections of winter-blooming Carnations, Bouvardias, Solanums, Poinsettias, and Datura cornucopæ. The early Peach house is furnished with healthy trees with well ripened fruiting wood of Rivers' Early York and Stirling Castle Peaches, also Lord Napier and Elruge Nectarines. One division in this range is devoted to Figs, from which have been gathered large numbers of fruit of Brown Turkey and White Ischia. The midseason Peach house contained fully developed trees which had carried good crops of Royal George Nectarine, Peaches Pineapple, and Pitmaston Orange Nectarine. In the late Peach house fruit was being gathered from Princess of Wales of fine quality and beautiful colours, Noblesse, Walburton Admirable, and Sea Eagle Peaches, the latter especially fine and highly coloured.

Several hundred bush Chrysanthemums for general decoration were seen well grown and promising an abundance in return for labour. Beyond these, about a couple of hundred plants are grown for specimen blooms of the leading varieties. The growth was everything to be desired, and appearance of the flower buds indicated them to be well timed. Passing along the north side of the wall in the kitchen garden we came across several frames of Cyclamen persicum remarkable examples of cultural skill. Although seedling plants about fifteen months old, they were most of them upwards of 18 inches in diameter, with leaves in the perfection of health, and throwing up strongly their flower buds.

On our way to the orchard we crossed a walk fully 125 yards in length, having on each side a deep border planted with the usual varieties of bedding plants, backed with dwarf and standard Roses. Dividing the borders from the orchard the whole length was an espalier hedge of Gloire de Dijon Roses remarkable for their vigour and profuse floriferousness. The orchard is well furnished with young Apple trees bearing heavy crops of fine fruit. Ecklinville, Cox's Orange Pippin, Alfriston, Alexander, New Hawthornden, Blenheim, Ribston, King of the Pippins,

Cox's Pomona, Rymer, Nelson's Glory, Prince Albert, Claygate Pearmain, Cellini, and Kerry Pippin were striking examples of varieties suitable for the locality. In this department Mr. Easter, the gardener, has been carrying out a series of useful experiments by the application of sulphate of iron, wood ashes, and soot. Some duplicate varieties treated showed marked improvement over those left untreated, both in colour, clearness of skin, and size. At some future time we hope Mr. Easter will give the details and results of the experiments carried out by him, which will no doubt be interesting and useful.

We next visited the old-time flower garden and rosery combined, where flowers and plants remarkable for scent are as much appreciated, or more so, than those conspicuous only for their colour. This remark may also well apply all the way throughout the gardens. Giant Myosotis, Heliotrope, scented Pelargoniums, of which latter nearly every known variety finds a place. An extraordinary feature of this garden are the monster Weeping Ashes, one at each end, which can scarcely be surpassed in size and beauty of outline. A fine *Tilia lacinata* is also conspicuous, and a noble specimen 30 feet high of *Salisburia* (Maiden-hair Tree). On our way to the west front of the mansion we pass many magnificent Larches, Sycamores, Oaks, English Elms, and Limes, all

traditions. On our return by another route round the lower lake, another fine sheet of water, we noticed the undergrowth of the woods was planted with acre after acre of *Rhododendron ponticum*, but liberally interspersed with hybrids and named varieties. As the top growth of trees is not dense enough to exclude the sunlight the result is an abundant set of bloom buds to be followed by a gorgeous mass of colouring rarely met with.

Thus a pleasant afternoon of three and a half hours was spent and thoroughly enjoyed in the genial companionship of Mr. Easter, the courteous gardener, who we may fairly congratulate on the condition of every department under his care, alike creditable for health, cleanliness and good cultivation.—AZOTO.

ROYAL HORTICULTURAL SOCIETY.

DRILL HALL, DECEMBER 10TH.

THE last meeting for the year 1895 of this Society was held on the above date and, as might have been expected, was not a very large one so far as exhibits were concerned, though the attendance of members



FIG. 85.—A CORNER IN NOSTELL FLOWER GARDEN.

equally luxuriant, towering up 100 feet in height, and of equal dimensions in other respects.

Coming out on to the open lawn we are again struck with the dignified and reposeful simplicity of the treatment and planting of the front of the mansion, an extensive but somewhat undulating lawn planted not too thickly with specimen trees typical of what lawn trees should always be. A magnificent Turkey Oak, its wide-spreading branches kissing the ground all round; two splendid Yews, their bottom branches trailing gracefully along the grass for yards, and Cedars of Lebanon standing out distinct in form and colouring from the softer green of the turf, all without a shadow of stiffness, in fact, are part and parcel of a perfect picture. The view from the lawn embraces the beautiful bridge of many arches over the lake and the dense woods beyond lighted up with the reflection of the wide expanse of the upper lake, whilst immediately before us we look across the water to the woods where is ensconced the secluded menagerie gardens and tea house, of which the accompanying picture (fig. 85) gives a pretty view.

To reach this beautiful nook in the woods we have to skirt the margin of the lake for a considerable distance, and then through a woodland walk teeming with interest—every few yards coming suddenly on some rare specimen tree or shrub—a sure indication of the care and pride bestowed on the place. Much credit is due for this to the Dowager Lady St. Oswald, whose pride and interest during her reign here were continually prompting her to improve and develop its natural beauties and to make it a home in the true sense of the word worthy of the family and its

was exceptionally large. Orchids were admirably staged, and for the time of the year were very numerous, several awards being made by the Committee. Before the Floral Committee exhibits were very limited, though, as a rule, the quality was commendably high. Fruits and vegetables were also well staged, though in limited quantities. As is customary at the last meeting of the year votes of thanks to the respective chairmen of the committees were heartily accorded.

FRUIT COMMITTEE.—Present: P. Crowley, Esq. (in the chair), with Rev. W. Wilks, Dr. Hogg, and Messrs. T. J. Saltmarsh, P. C. M. Veitch, H. J. Pearson, G. W. Cummins, J. Cheal, A. H. Pearson, A. Dean, C. Herrin, J. Willard, C. Ross, W. Bates, W. Pope, G. H. Sage, G. Wythes, J. Hudson, F. Q. Lane, H. Balderson, G. Reynolds, J. Smith, G. Norman, J. A. Laing, and J. Wright.

As will be observed the attendance was large, as is usual at the last meeting of the year; also as is usual at this season the exhibits were the reverse of numerous. The collections in the body of the hall were first inspected, the members returning to the table for the examination of individual dishes, the passing of a resolution of an historic character, and generally terminating the proceedings of the year.

Mr. J. Miller, Ruxley Lodge, Esher, sent a collection of Apples and Pears, but several were regarded by the Committee as incorrectly named (vote of thanks).

Mr. W. Pope sent from Highclere Gardens a magnificent collection of Onions, comprising thirty dishes in as many so-called varieties. No

doubt many were quite distinct, and all bore the unmistakeable stamp of high cultivation. It was the finest collection of Onions ever seen in the hall grown and exhibited by a private gardener. A silver Knightian medal was unanimously recommended.

Messrs. H. Cannell & Sons, Swanley, arranged an extensive assortment of vegetables, including examples of most of the hardy kinds naturally in season—an imposing display, for which a silver Banksian medal was voted with unanimity.

Messrs. Dobbie & Co., Rothesay and Orpington, exhibited beautiful specimens of *Dobbie's Selected Curled Kale*; leaves compact, firm, splendidly curled, every one of them fresh and fit for cooking. An award of merit was granted, and the variety recommended to be grown at Chiswick with the view of testing it for a certificate.

Amongst individual dishes were seedling Apples from Mr. W. Empson, Ampthill, one being intermediate in appearance between Court Pendu Plat and Fearn's Pippin, while the other had a close resemblance to Pearson's Plate, and was much the better Apple; but neither was regarded as sufficiently distinct for a special award.

Messrs. Laxton Brothers, Bedford, sent fruits of Laxton's Bedford Scarlet Apple, very large, well coloured, but angular, like the Catshead, and no award was made. Messrs. Jarman & Co., Chard, Somerset, sent Apples of Crimson King; large, crimson, symmetrical, and handsome fruits. Messrs. Jarman also sent trees showing the wonderful growth of the variety. The fruit was said to keep till March, but those before the Committee had passed their best condition. This, however, may be owing to the season, many fruits ripening prematurely, and firm samples may, perhaps, be forthcoming much later at some future time.

Mr. Charles Ross sent a dish of yellow wax-like Apples named Opal; very attractive, but the quality not sufficiently high to secure an award of merit that was proposed.

Messrs. Curtis, Sandford & Co. sent fruits of the new Tomato recently alluded to and illustrated in our columns, and a vote of thanks was awarded. Messrs. B. S. Williams & Sons sent fruits of Warden Park Favourite Tomato, a well coloured corrugated variety resembling others in cultivation. Mr. J. Easter, The Gardens, Nostell Priory, sent three dishes of Apples, and said he proposed sending more but was dissuaded on the ground that he would be laughed at. The Committee never laugh at such creditable products, not grown under the best climatal conditions, and a vote of thanks was promptly recorded.

Prior to the close of the proceedings Dr. Hogg rose for referring to the fact of the meeting being the last that Mr. Barron would attend as Secretary of the Committee. He remembered Mr. Barron first coming to Chiswick nearly forty years ago, and of his appointment as Secretary to the Committee a few years later. During the whole period his association with Mr. Barron had been most amicable, and there had been no interruption in their friendship. In consideration of the able and acceptable manner in which Mr. Barron had discharged his secretarial duties throughout the Doctor proposed the following resolution:—

“This Committee desires to record its high sense of the valuable services which Mr. Barron has rendered to it during his long occupation of the position of Secretary, from which he is now retiring, and to congratulate him on the distinction of having been placed by the Council on the roll of Honorary Fellows of the Royal Horticultural Society. The Committee will also heartily welcome him to a seat at this table, and expresses an earnest hope that he may long enjoy health and happiness, and find many opportunities for continuing to render distinguished service to horticulture and to the Society.”

Mr. J. Smith, as one of Mr. Barron's oldest associates, seconded the proposal in appreciative terms, and it was passed with acclamation.

Mr. Barron thanked his veteran friend and all the members for their kindness to him. He had been Secretary exactly thirty years that day—a term of pleasant associations; and while he regretted leaving the scene of his labours, he appreciated the honour bestowed on him by the Council, and the position he would occupy as a member of the Committee. His last words as Secretary were repeated thanks to all.

A cordial vote of thanks to the Chairman, proposed by Mr. Wythes, seconded by Mr. Balderson, and carried unanimously, brought the proceedings to a close.

FLORAL COMMITTEE.—Present: W. Marshall, Esq. (in the chair); and the Rev. H. H. D'Ombrian, with Messrs. J. Fraser, J. Laing, H. B. May, H. Herbst, R. Dean, R. Owen, G. Stevens, J. Jennings, G. Gordon, W. Bain, H. Cannell, J. D. Pawle, H. Selfe Leonard, G. Nicholson, Chas. Jefferies, C. E. Shea, J. W. Barr, J. Walker, J. T. Bennett Poë, H. Briscoe Ironside, and C. Blick.

Mr. J. Lyne, gardener to H. J. Tiarks, Esq., Chislehurst, sent a group of decorative Chrysanthemums, composed chiefly of the excellent late variety Jeanette Sheeham, a sport from Princess Blanche, and very useful for late decorative purposes (silver Banksian medal). Messrs. H. Cannell & Sons, Swanley, were represented by a small collection of seedling Primulas, Cannas in variety, and blooms of yellow Chrysanthemum Ashanti.

Chrysanthemum blooms of new varieties came from Mr. Robert Owen, Maidenhead, amongst which many specialities were included, such as Surprise, Autumn Leaves, Philadelphia, Beau Ideal, Golden Gem, Boule d'Or, Bellem, Mrs. Ivery, Mrs. Smith Ryland, Mrs. C. E. Shea, J. W. Richardson, Rider Haggard, Superbum, Mrs. E. Newbold,

R. Foulkes Jones, and others (silver Banksian medal). Mr. C. Herrin, Dropmore, showed plants of *Oxalis Ortgiesi* in flower.

H. Briscoe Ironside, Esq., Burgess Hill, showed flowers of a fine late yellow Chrysanthemum Stresa, which were much admired. Mr. Bain, gardener to Sir Trevor Lawrence, Dorking, sent some magnificent Anthuriums and plants of the pretty little *Primula floribunda* (silver Banksian medal). Mr. W. Barnes, gardener to G. H. Claughton, Esq., Priory Hall, Dudley, sent flowers of a Chrysanthemum sport from G. C. Schwabe.

ORCHID COMMITTEE.—Present: H. J. Veitch, Esq. (in the chair); and Dr. M. T. Masters, with Messrs. Jas. O'Brien, De B. Crawshay, H. M. Pollett, T. W. Bond, H. Ballantine, H. J. Chapman, W. H. White, J. Jaques, E. Hill, J. Douglas, W. Cobb, S. Courtauld, E. Ashworth, and T. B. Haywood.

Cut blooms of Orchids were exhibited by Mr. Johnson, gardener to Thos. Statter, Esq., Stand Hall, Manchester, and comprised *Cypripediums* in variety, and also *Lælia elegans nobilis* and *L. Tresederiana superba*. Beautiful sprays of *Calanthes* were shown by Mr. Downes, gardener to J. T. Bennett Poë, Esq., Holmwood, Cheshunt, who also staged a variety of *Lælia autumnalis*, the Holmwood form of *Lycaste Skinneri*, and a deeply coloured variety of *Vanda coerulea* (silver Banksian medal). A small group of *Cypripediums* was arranged by T. W. Swinburne, Esq., Cheltenham; cut blooms of *Cypripediums* also being shown by Mr. H. Ballantine, gardener to Baron Schroeder, The Dell, Egham. Many of the flowers were of great beauty, and several rare forms were noticeable (silver Banksian medal).

Messrs. J. Veitch & Sons, Royal Exotic Nursery, Chelsea, showed a small but choice collection of Orchids, in which *Lælio-Cattleya Pallas*, *L.-C. Lady Rothschild*, *Cymbidium Traceyanum*, *Dendrobium subclausum*, *Calanthe Harrisii*, with *Cypripediums Sallieri*, *insigne Sanderæ*, *orphanum*, and *Niobe* were noticeable (silver Flora medal). Messrs. B. S. Williams & Sons, Upper Holloway, sent plants of *Cypripediums Sallieri*, *Pitcherianum Williams var.*, *Leeanum superbum*, *Harrisianum superbum*, *insigne Maulei*, and others were seen in fine form. The Orchids, interspersed with foliage plants, sent by Messrs. Hugh Low and Co., Clapton, consisted mainly of *Cypripediums*, though *Cymbidiums* and *Odontoglossums* were also included.

Mr. A. Harp, gardener to G. Shoreland Ball, Esq., Earlscliffe, Bowden, Cheshire, staged *Cypripediums insigne Ballianum* and *insigne Sanderæ*, besides *Cattleya labiata alba*, all as cut blooms. Mr. G. Cragg, gardener to W. C. Walker, Esq., Winchmore Hill, sent a spike of *Lælia rubescens*, *Oncidium Gravesianum*, and *Cypripedium Charlesworthi*. Mr. H. Osborne, gardener to H. Tate, Esq., Allerton Beeches, Liverpool, staged a singularly beautiful form of *Cypripedium insigne* named Tate's variety, and in which the lower sepal is of the same colour and markings as the upper sepal. An award of merit was accorded to De Barri Crawshay, Esq., Sevenoaks, for *Oncidium tigrinum*.

Mr. W. H. White, Orchid grower to Sir Trevor Lawrence, Bart., Dorking, staged several Orchids, including *Lælia rubescens*, *Masdevallia pachyura*, *Dendrobium Coelogyne*, *Bulbophyllum grandiflorum*, *Mormodes Lawrenceanum*, *Angræcum pertusum*, and *Dendrobium Treacherianum*, to which a first-class certificate was awarded. The same exhibitor also received an award of merit for *Masdevallia macanna*. An award of merit was attached to *Cypripedium Ashtoni*, staged by Messrs. W. L. Lewis & Co., Southgate.

Brightly beautiful was the exhibit of Messrs. F. Sander & Co., St. Albans, the amount of flowering plants used proving exceptionally interesting. Amongst the most noticeable forms in the groups were *Cypripediums Donatianum*, *Alcides*, *Calypso*, *Oakwood var.*, *nitens*, *Sander's var.*, *Leeanum James Hamilton*, and *Lathamianum*, *Sander's var.*; *Phaio-Calanthe Arnoldiæ*, *Calanthes Bella*, *Victoria Regina*, *William Murray*, and *Bryan*; *Lælia anceps alba*, *Odontoglossums aspersum*, *Schröderianum*, *crispum*, and *Wilckeanum*, and *Sophronites grandiflora* (silver Banksian medal).

CERTIFICATES AND AWARDS OF MERIT.

Calanthe Harrisii (J. Veitch & Sons).—A garden hybrid of much beauty. The colour is almost pure white, the rose tint being scarcely perceptible (award of merit).

Chrysanthemum Stresa (H. Briscoe Ironside).—This is a fine decorative Chrysanthemum of elegant branching habit. The colour is true canary yellow, and the flowers recommend the variety as a useful one for late decorative purposes (award of merit).

Cypripedium Ashtoni (W. H. Lewis & Co.).—A hybrid between *C. ciliare superbum* and *C. selligerum majus*. This is very fine. The colour of the dorsal sepal and petals is very deep claret, heavily spotted with brown on the petals, and striped with the same colour on the upper sepal. The pouch is of an amber hue (award of merit).

Dendrobium Treacherianum (W. H. White).—The plant of this Dendrobe was splendidly grown, and carried a large number of flowers. The prevailing colour is rosy purple deepening on the lip (first-class certificate).

Lælio-Cattleya Lady Rothschild (J. Veitch & Co.).—A bigeneric hybrid resulting from a cross between *Cattleya Warscewiczii* and *L. Perrini*. The sepals and petals are of a delicate lilac shade, the handsome lip having a broad maroon purple margin round a creamy white blotch (award of merit).

Masdevallia maeura (W. H. White).—This is exceedingly beautiful and scarce. The colour is orange-yellow heavily spotted with brown. The tails are long and greenish-yellow in colour (award of merit).

Oncidium tigrinum (De Barri Crawshay).—This is too well known to need any description here (award of merit).



NATIONAL CHRYSANTHEMUM SOCIETY.

A MEETING of the General Committee was held on Monday last at Anderton's Hotel, Fleet Street, Mr. B. Wynne occupying the chair. Most of the business was of a purely formal character, and after several matters of routine had been disposed of the Secretary announced that the prize money awarded at the recent December show amounted to £51 4s. 6d., which was somewhat more than that awarded at the same show in 1894. The medals given for miscellaneous exhibits on the recommendation of the Arbitration Committee were confirmed. A resolution was then submitted from the Jubilee Sub-Committee to the following effect, that in future in all classes in which Japanese Chrysanthemums are required to be shown on boards, the boards for twelve cut blooms be 28 inches by 21, 3½ inches in front and 7 inches in height at the back, the holes to be 7 inches apart from centre to centre.

The annual general meeting will be held on Monday, February 24th, and the following are the dates fixed for the 1896 shows—viz., September 9th, 10th, and 11th; October 6th, 7th, and 8th; Nov. 3rd, 4th, 5th, and 6th; and December 1st, 2nd, and 3rd. New members were elected bringing the total up to 153 for the year, and the following societies admitted in affiliation—St. Botolph (Colchester) Amateur Chrysanthemum Society, Newton Abbot, and the East of Fife Chrysanthemum Society.

N.C.S. RULES AND AWARDS.

I ENCLOSE a letter which I think should have been more properly addressed to the Journal. You are at liberty to make any use of it you wish. I feel sure it would afford plenty of amusement to the readers of your paper, especially to those who are personally acquainted with the writer of it, as it is somewhat a surprise for the present Secretary of the N.C.S. to ask for advice or suggestions, even ironically. Amusingly enough, although you will note he says that I lost the silver medal in question by one vote, I am still assured that I gained the award by votes.—H. BRISCOE-IRONSIDE.

"Some time ago I carried a resolution in a meeting of the Committee that the Floral Committee be instructed to revise their rules of procedure with a view to the introduction of some amendments, and as this meeting will take place on Wednesday next, I shall be glad to have any suggestions from you, as I see by a communication from you in to-day's *Journal of Horticulture* you think them open to some amendments. Let me have them by Monday morning if you can.

"I may state that it was proposed a small silver medal be awarded to your exhibits on the occasion to which you refer, and it was lost by one vote. I presume the proposer and seconder did not think it expedient to propose a vote of thanks in the face of the opposition to the medal; at least, none was proposed. I very much regret I have no brass farthing to send you, but you are welcome to a brand new copper one if you think that will be a proper estimate of the value of your collection, which failed (to my regret) to secure a small silver medal.—R. DEAN, *Secretary*."

[As the letter referred to is founded on remarks which appear on page 532 last week, we print it on its merits, and not as in any sense implying that we regard it as a reflection on the writer. The matter does not affect us in the least, and our only comment is that the Secretary of the N.C.S. ought to know whether the medal was awarded or not.]

THE N.C.S. EXPENSES.

SINCE the matter of "dinners" has cropped up through the "polite" reply of the Secretary, I would like to take advantage of the occurrence to ask what has often been commented on by many exhibitors at the N.C.S.'s exhibitions. I am a frequent competitor at these exhibitions, and yet I cannot find any exhibitor who has been asked to partake of a sip or bite at the expense of the Society. It is the "principle" that I object to, for if we turn to the last year's balance-sheet we find the following items of expenditure:—"Judges, Floral Committee and staff for luncheons, £23 4s.," in addition to the Judges' fees of £16 16s.; "expenses of annual dinners, £17." Now this cannot be for gratuitous assistance, for these are charged for under the following heading, viz., "Sundry expenses, including labour and assistance at shows, £36 13s. 11d.; donation to Royal Aquarium employees, £2 2s.; clerical assistance, £51." And then we have items of—"Stamps, telegrams, &c., £36 2s. 4d.; printing, £65 18s. 6d.; stationery, £20 8s. 11d.; commission, £1 13s. 6d. Apparently some persons are well looked after by the Society, but it is not—AN EXHIBITOR.

SELECT NEW CHRYSANTHEMUMS.

JAPANESE VARIETIES.—The number of meritorious additions to this section is greatly in excess of any previous year. A decided improvement, too, is manifest in the type of the most approved varieties.

Instead of favouring the coarse, irregular petalled varieties there is a tendency amongst raisers to obtain florets of medium width and of a semi-drooping character, thus adding grace to the blooms without being in any way interfered with by the extremely large size of the blooms.

MADAME CARNOT.—Foremost amongst Japanese Chrysanthemums stands this variety, raised and sent out by Calvat in the early part of 1894; and I briefly referred to it when dealing with the same subject last year. Another season's trial has proved the confidence placed in this Chrysanthemum as being not misplaced. Fully developed blooms measure 9 inches in diameter and 6 inches in depth. In spite of this large size it cannot be said that there is even a semblance of coarseness in the flowers. The florets are narrow, drooping, and pleasing in the way in which they intermingle with each other. Not only is it the finest white flowered Chrysanthemum in existence, but it is doubtful if it is not the finest of any colour.

EDITH TABOR.—This comes next in point of merit. There is a grace and richness of character about the florets and their colour that cannot be overlooked. It may be simply described as a yellow Puritan, as it combines much of the character of that variety in the form of petal and bloom. The petals are long, broad, and quite drooping in character, curling upwards at the tip. The colour is most pleasing—lemon yellow heavily suffused with gold. This fine variety was raised by Mr. Notcutt, Ipswich, from a 2s. 6d. packet of seed purchased from Mr. H. J. Jones, and sown in March, 1894. In height it grows from 5 to 6 feet, and produces blooms quite easily.

PHŒBUS.—Although yellow flowered varieties are numerous this season this is one that cannot be overlooked, as it is doubtful if there is a better in existence at the present time. The blooms are strongly built, having long, broad, flatly recurving florets. The colour is distinctly pleasing, being a clear yellow. All growers should add this to their collection, as well-developed blooms measure 8 inches in diameter and 6 deep.

PALLANZA I referred to in the *Journal of Horticulture* (page 437) as an improved Sunflower. The growth is similar, but bloom production is easier, while the colour is a shade richer in its yellow.

REINE D'ANGLETERRE.—A huge flower with long flat reflexing florets of a rosy mauve hue with silver reverse. This is just the colour for brightening up the back row in a stand. All intending exhibitors should make a note of this.

MUTUAL FRIEND.—Although white flowered varieties are numerous in the Japanese section, this stands out so prominently that it cannot be omitted. Well-developed blooms are extremely large, with broad flat florets. Some catalogues describe it as being white, tinted lilac. I have seen none of the latter colour in it as yet.

MRS. H. WEEKS.—One of the finest white flowered sorts that has been seen for a long time. The broad drooping florets incurve at the tips, making a massive globular bloom. It is one of the best of new varieties, and should be added to every collection of note.

DOROTHY SEWARD.—After the Charles Shrimpton style of flower, though the florets of this are somewhat narrower. The colour is pleasing—chestnut, shaded crimson. It is an exceptionally well-built bloom; fully 8½ inches in diameter. In height it grows from 4 to 5 feet.

MRS. JOHN SHRIMPTON.—A massive bloom, with flat florets. The colour—old gold, shaded with crimson and bronze—is decidedly pleasing.

JOHN SEWARD.—Like the two foregoing this is a seedling raised by Mr. Seward. The long narrow petals are twisted and curled at the tips. In colour it is pure yellow, and like those named is a decided acquisition.

MISS RITA SCHRÖETER.—Although this seedling was raised some two years since, it has not justified itself until this season. Now it may fairly rank amongst the best. It is best described as a glorified Belle Paule. The tinged white florets are edged deeply with purple, rendering it most attractive. The drooping character, too, of the thick fleshy petals adds considerably to its beauty.

MONS. CHENON DE LECHE.—One of Calvat's present-year introductions, this variety has been but sparsely seen this season. Sufficient, however, is known of it to warrant its taking a high position amongst leading Japanese varieties. The long reflexing florets curl inwardly at the sides and a little at the tip of each. The colour is somewhat difficult to describe. The base of the florets is buff, the tips yellow, the centre of the bloom flushed with rose, which, however, passes off with age to buff. A full handsome bloom.

LE MOUCHERETTE.—In colour this is deep orange yellow, with a bronze base. The florets are irregularly curled, and occasionally split at the point.

AUSTRALIAN GOLD.—This belongs to the Mutual Friend type of bloom. In colour it is old gold.

TRIOMPHE DE ST. LAURENT.—The rich yellow florets are loosely incurved at first, later they attain a drooping character. The centre is quite full.

H. JACOTOT FILS.—So much better has this been exhibited this season that it should now rank as one of the best of incurving varieties, the centre being especially well built up, with broad incurving florets. The colour chestnut bronze, with a rich crimson shaded surface, the reverse gold.

AMIRAL AVELLAN.—When this French-raised variety becomes better known it will occupy a high position amongst the yellows. If anything, perhaps the florets are a trifle short to counteract the massiveness of bloom. The colour is golden yellow.

DIRECTEUR TISSERAND.—Figured in the *Journal of Horticulture* last year. This has not been seen generally in good condition this season, but it possesses much merit, and growers would do well to add it to their lists for growth during the coming year. The florets are somewhat narrow, slightly below medium; they informally interlace each other prettily, and have a semi-drooping appearance. The colour is unique, rich golden ochre yellow, with the centre curiously diffused with crimson.

MDLLE. M. A. DE GALBERT.—Another of M. Calvat's raising. It is quite unique in the formation and disposal of its florets, which curl inwardly at the tip as they unfold, gradually straightening themselves out; creamy white.

LADY BYRON.—An English raised seedling, a cross between Puritan and Mrs. A. Hardy, retaining in a slight degree the hirsute accompaniment of the latter. The florets are broad, incurving slightly; pearly white.

WESTERN KING.—This is one of Nathan Smith's 1894 seedlings. Extra fine, loosely incurved florets; pure white. Bids fair to outrival the well-known Niveus.

M. P. PURNELL.—The long, flat florets, which curl at the tips, are wine red on the surface, with a bronzy reverse.

PERLE D'OR.—Reflexed florets when fully developed. One of the richest of yellow-flowered varieties.

MRS. C. J. MILLS.—A full deep bloom with irregularly curling white florets.

THOMAS DAVISON.—This is best described as an improved Mrs. F. Jameson, with an addition of red in its colouring.

DUCHESS OF FIFE.—One of Mr. Jones' seedlings. It is a deeply built bloom, having irregularly incurved florets, dull or ivory white in colour. The habit of growth is desirable.

MAGGIE SHEA.—This should take the place of Boule d'Or, from which it is most likely a seedling. The broad florets do not droop quite so much, while the yellow is more intensified.

MR. THOMAS HALLYER.—The result of Italian saved seed. This has amaranth richly suffused with plum colour flowers, with silvery reverse.

MISS ELSIE TEICHMAN.—Possessing perhaps the broadest florets of all, fully three-quarters of an inch in width; semi-drooping, curling at the tips. The colour of this variety is a peculiar shade of pale primrose, passing to creamy, glossy white.

QUEEN OF BUFFS.—The flat florets are golden bronze; edged purple.

P. MARIETON.—Of the many varieties this is one of the best; bronze chestnut, gold edged, large and promising.

MRS. T. H. DREWITT.—When opening the florets are white, flushed with pink or pale purple, which gradually passes away to white. Late formed buds retain more of this colour. One of the best of narrow petalled varieties.

BEAUTY OF TEIGNMOUTH.—This and Pride of Madford seem to be a little confused; growing side by side I have failed to detect any difference in the two. The broad, flat florets are an intense purple maroon. The point of some of the lower petals is slightly splashed white. The reverse while unfolding is white, striped purple; most striking.

ABBE MENDENHALL.—An American raised variety of dwarf habit, capital blooms being produced on plants only 3 feet high. The long, narrow petals incurve slightly at the point. The centre is deep yellow, but with age change to primrose.

MRS. C. E. SHEA.—From late-struck plants this is giving capital blooms on single stems, and promises yet to bear out all that was said of it last year.

MONS. CH. MOLIN.—This has been freely exhibited during the past season, and will be much sought after for next year's growth. Early formed buds develop bronzy yellow blooms; later buds give a pleasing mixture of crimson and gold. The flat florets build up a handsome bloom.

DEUIL DE JULES FERRY.—This is of a rich plum colour, with silvery reverse. Fully developed flowers do not show much of the latter. It is a deeply built bloom.

MRS. J. G. BEER.—From late formed buds this gives pleasing purple lilac blooms. The narrow petals incurve loosely at the tip.

AUSTRALIA.—An improved Duke of York is the best description I can give of this.

MRS. C. BLICK.—This produces large, extra deep, and solid blooms, pure white in colour.

NOCES D'OR.—Clear yellow; large and full.

BARONNE DE BUFFIERES.—This has loosely incurving narrow florets; a pretty peach blossom colour.

SOUVENIR DE TOULON.—The incurving florets are puce on the surface, the reverse silvery pink.

MONS. G. BIRON.—The flowers of this have a crimson surface and a gold reverse.

EMILY SILSBURY.—This is a seedling from Anna Hartshorn and Condor. The florets are flat, the end of each pointed and twisted slightly. A full and promising pure white-flowered variety.

MEPHISTO.—This is a mixture of red and straw colour; the petals interlace and twist amongst each other, a full bloom possessing much merit.

MADAME AD. MOULIN.—This is one of the best of white flowered varieties, although the number is now large. The long, semi-drooping petals curl at the points. The centre is cream at first, fading to white with age.

LADY ESTHER SMITH.—An incurving Japanese, in which the massive petals are irregularly pointed. The colour, pure white, is pleasing, and as an October variety should be in demand.

BOULE D'OR (Calvat's).—This new flower under an old name has all the points necessary to make it popular. The petals are medium in width, and perfectly, if loosely, incurved. The colour is pleasing, the reverse being a nankeen yellow. The surface is gold at the base with a golden suffusion.

THEODORE BOCK.—An American raised variety, growing about 6 feet high under ordinary management. It is a much improved Anna Hartshorn. The massive blooms are nearly 8 inches in diameter, the florets incurving loosely—white, with just a tinge of lilac or blush in the later formed blooms.

ZEALANDIA.—As its name implies, this was raised in New Zealand; is a Japanese incurved, the florets broad, silvery pink in colour, making a massive flower.

WILLIAM BOLIA.—This belongs to the reflexed type of Japanese, rich rose amaranth in colour, with a silvery reverse.

PRESIDENT ARMAND is of dwarf habit, with broad reflexed florets, rich crimson red, with a golden reverse; a really fine variety.

TENDRESSE.—This is another new variety, bearing an old name. In this case the petals are broad, and are of the same colour as the older flower—rosy lilac.

PRESIDENT CARNOT.—Long, fawn yellow florets, incurving slightly in the centre. Quite dwarf in habit, and extra large.

SOUVENIR DE JAMBON.—This belongs to the incurved Japanese type, long, broad, curling petals. The colour is golden yellow, blotched heavily with crimson. Large and promising.—E. MOLYNEUX.

MR. W. H. LEES.

I WAS pleased to see the excellent engraving of Mr. Lees in the *Journal* (page 533), and to read your kindly and just notice of this able gardener. Having assisted in awarding nine out of the twelve prizes won this season, I claim to have seen this exhibitor under varying circumstances. So much superior were his blooms to any other in the same classes in which he competed that in not one instance was it necessary to "point" them. Fine as was his exhibit in London at the N.C.S.'s show, I really think the forty-eight Japanese staged in Edinburgh were superior as a whole. In the latter exhibit but one bloom (Madame M. Giroud) in the whole stand could be termed moderate. From an educational point of view the stand was welcomed by the Scottish growers quite as heartily as was Mr. Lees himself. He, I am certain, fully reciprocates the heartiness displayed.

Having perhaps known Mr. Lees longer as an exhibitor and previously as a grower than most persons, I may claim to be able to speak with some authority as to his *modus operandi*. Knowing him previous to his being made foreman at Heckfield, I have watched his progress with some interest. I remember incurring a rebuke from the late Mr. Wildsmith for instructing the then youth (in years) in the disbudding of a few Chrysanthemum plants. Although Mr. Lees is favoured in having a liberal employer, and one who appreciates good results, there are plenty of other gardeners who have even better facilities, but, unfortunately, they are not always put to the test. Mr. Lees as an exhibitor has only done what other men under similar circumstances may achieve. It is the strict attention to all minor details that aids a cultivator to win prizes, and a thorough mastery of the subject, too, as a guide to determine the time to act.—E. MOLYNEUX.

APROPOS of your article in this week's issue on our champion "Mum" grower and exhibitor, Mr. W. H. Lees, it may prove interesting and instructive to a number of your readers to have before them an audit of the Japanese blooms he showed so magnificently, and with which he carried all before him in the five classes in which he competed so successfully.

There were twenty-four in the trophy class and forty-eight for the Holmes' Memorial cup at the Royal Aquarium, twenty-four at Hull, forty-eight at Edinburgh, and thirty-six at the Palace, all being for distinct varieties except the last, in which twenty-four only were demanded.

M. Panckoucke, Madame Carnot, C. Shrimpton, Vivian Morel, Charles Davis, Mdle. Thérèse Rey, and Mutual Friend were shown six times.

Mr. W. H. Lees, Miss Dorothy Shea, Mrs. C. Harman Payne, E. Molyneux, Mons. C. Molin, Miss Rita Schroeter, Mdle. M. A. de Galbert, and Sunflower five times.

Madame Ad. Moulin, Phoebus, Colonel W. B. Smith, International, Reine d'Angleterre, four times.

Thomas Wilkins, Van den Heede, H. L. Sunderbruck, Louise. Mephisto, M. Georges Biron, G. C. Schwabe, Deuil de Jules Ferry, Henri Jacotot fils, G. W. Childs, and Beauty of Castlewood three times.

Eva Knowles, Madame Marius Ricoud, Madame Ad. Chatin, M. A. Giroud, Richard Dean, Rose Wynne, Souvenir de Petite Amie, J. Shrimpton, Mrs. Falconer Jameson, President Borel, Mrs. C. Wheeler, Etoile de Lyon, and Duchess of Wellington twice; and the following once each:—W. G. Newitt, W. Seward, W. Tricker, Madame Octavie Mirbeau, Beauté de Toulousain, Lady E. Saunders, Colonel Chase, Abbé Mendenhall, Mrs. W. J. Godfrey, M. Gruyer, Niveus, Madame C. Molin, Primrose League, Wilfrid Marshall, Viscountess Hambleton, Puritan, Hairy Wonder, Guirlande, and Pallanza. In all, 180 blooms in sixty-three varieties.—MUMMER.

DATES OF CHRYSANTHEMUM SHOWS.

To those specially interested in Chrysanthemum exhibitions, whether as exhibitors, judges, or officials, it is pleasing to read the early announcement of the dates of the leading shows for 1896 thus early. For instance, the N.P.S. hold their meeting November 3rd, 4th, 5th, and 6th; Kingston has chosen the week following; and the Hull Society prefers Wednesday, the 11th, for their opening day. Birmingham, always one of the first to announce the date, has chosen the 11th also. When societies like these make known thus early their selection of dates for the next exhibition, smaller societies in the same neighbourhood have ample opportunity to select dates, avoiding those of the principal meetings, that are likely to affect both when they clash. Exhibitors, too, at this early stage are thankful for such information. Societies with a good balance in hand can have no reason for withholding the date of their shows.—E.

JUDGING AT SHEFFIELD.

REPLYING to the judging innovation by your esteemed correspondent Mr. Drake, in your issue of November 21st (page 481), I fear your correspondent did not make himself thoroughly conversant with the rule which he so aptly quotes. If he had done so he would have seen that it stated that all persons must leave the hall except those "officially engaged by the Secretary." I may say that the judge referred to did not approach the exhibits which were staged by him, and I feel sure that he is too well known in the floral world, and is of such integrity, that his honour could not for one moment be impugned. I enclose copy of the rule for your perusal.—WM. HOUSLEY, *Secretary*.

[When correspondents allege or imply that the regulations of a Society have been infringed, they should send a complete copy of those regulations. In this case there has been no infringement, but the official retention of an exhibitor to judge at Chrysanthemum shows is not customary, though we do not for a moment suppose that in this case the presence of a judge in one section of the show influenced in the slightest degree the awards in another.]

JUDGING AT CHRYSANTHEMUM SHOWS.

I FEAR the argument brought forward by Mr. Little (page 534) that judges ought to allow points for circumstances such as the inferiority of one situation over another will hardly meet with the approval of judges or cultivators generally. If this somewhat novel suggestion were carried out every exhibitor who put forward this plea would have to go to a show armed with an affidavit setting forth his difficulties, and approximating his losses through such and such a tree overshadowing his plants in July and another tree affecting other portions of his collection in September!

Experienced adjudicators judge the blooms as placed before them, taking each one on its merits; but when two blooms are equal in merit, as blooms, then the variety most difficult to obtain is because of that regarded as the more creditable production. Surely, this practice is beyond argument. What can be said against it, I wonder? I cannot agree with Mr. Smale that the deciding of the value of Madame Carnot over W. H. Lincoln, or *vice versa*, is exclusively a question of taste. True, some judges might prefer pure white, others orange yellow; but there are other qualities. Size in Japanese blooms, when combined with grace of petal, coupled with fullness and colour, devoid of the slightest suspicion of coarseness, are points of excellence, surely. In a perfect bloom of Madame Carnot you have all these attributes. Can this be said of a fully developed bloom of W. H. Lincoln? The size cannot be found, neither can the graceful semi-drooping florets of Madame Carnot. In W. H. Lincoln the florets are erect, or nearly so; and who will say such characteristics compare with this new white-flowered variety? —SADOC.

SPORTING—ROBERT PETFIELD AND GEORGE HAIGH.

I ENCLOSE you two blooms, a sport from the new incurved Robert Petfield. It sported here in the autumn of 1894. I was enabled to save a few plants, and they have all come true, as it is identical in all respects, except colour, to its parent. It will make a grand exhibition variety. Some little time since I forwarded a bloom to Mr. Owen of Maidenhead, who informs me it is identical with the sport obtained by him, and which received a first-class certificate from the N.C.S. under the name of George Haigh.—W. ETHERINGTON.

[Mr. Molyneux sends us the following note bearing upon this subject—"Sporting of Chrysanthemums.—With all the increasing knowledge of the Chrysanthemum, we do not appear to be any the wiser with regard to the origin of 'sports.' Many of the finest varieties in the incurved section are the direct result of sports. Several instances of what I may term double sporting are on record—viz., of one variety sporting in two places the same season, and in widely separated localities. This year a notable instance is recorded, although it was during the year 1894 that the sport was actually produced. I allude to the case of R. Petfield sporting in two places, and the same sport resulting—George Haigh being in the hands of Mr. R. Owen, and the second, so to speak, occurring with Mr. Etherington at Swanscombe in Kent. Both are identical in colour and form, and the variety will probably become a favourite amongst exhibitors. To those not conversant with the sportive nature of Chrysanthemums it may be interesting to know that Prince Alfred sported in two places the same year, Lord Wolseley being the result. Lady Carey has this year, for the first time in my knowledge, given a bronze coloured bloom that should prove deserving of attention by cultivators of the once very fashionable incurved section,

but now fast becoming objects of admiration only to "specialists," who regard this section as being the strongest test of cultural skill that can possibly be applied."]

SOCIÉTÉ NATIONALE DES CHRYSANTHÉMISTES.

UNDER the above title it has been resolved by some of the members of the jury and exhibitors at the recent Lyons Chrysanthemum show, to start a French National Chrysanthemum Society—a long-felt want, and one which ought to receive a large measure of support in that country. The plan of operations comprises the appointment of a Committee to examine and classify the varieties, the holding of shows and conferences in various parts of France, the publication of the Committee's reports, the adjudication of novelties, and the determination of Chrysanthemum nomenclature. The annual subscription will be 5 francs, and the officers will be elected and the rules agreed on at a general meeting to be shortly held. It is to be hoped that with the founding of such a society all future complaints concerning the many difficulties of continental Chrysanthemum nomenclature will be rendered unnecessary.—P.

HIGHGATE AND DISTRICT CHRYSANTHEMUM SOCIETY.

THE eleventh annual dinner of the above Society took place on the 4th inst., Mr. Charles Catling presiding. There were over 100 members and friends present, including Messrs. P. Hart, R. Gaskell, A. S. Harvey, W. Hayes, S. T. Homewood, G. Russell, T. Bevan, W. Beckett, J. McKerchar (Treasurer), and W. E. Boyce (Secretary). After the usual loyal toasts were duly honoured, the Chairman, in proposing "The Society," said that the recent show was declared by competent judges to be the finest ever held in Highgate. There were, he said, no fewer than 1450 cut blooms, an increase of 250 over last year's total, and the quality showed that the culture of the Chrysanthemum was still improving. Mr. Percival Hart stated that at the commencement of the year there was a balance in hand of 6s. 5d. only, but now he learned with pleasure it was much more. The speeches were interspersed with an excellent selection of vocal music by members and friends of the Winchester Musical Society, with Mr. Frank J. Lunnion as the accompanist.

CHRYSANTHEMUM MAJOR BONAFFON.

"P." is generally so accurate that little criticism falls to his share in the horticultural press. He says (page 535), "In the incurved section a broad floret, nicely rounded at the tips, ought to be one of the chief points." If this were absolutely the desideratum of an incurved bloom, how is it, I would ask, that Princess of Wales and her sports take such a high position in the section as models of what an incurved bloom should be? I fancy some of "the fathers of the Chrysanthemum" would not have blooms containing the "multitude" of narrow pointed florets alluded to, as they would, by their practical knowledge, prevent the occurrence of such a defect. According to my experience varieties of American or other raising do not change from incurved to Japanese, but they do the opposite. I can cite many sent out as Japanese that now help to swell the ranks of the incurved list, but not one in the opposite way. Take for instance C. H. Curtis; for the first season this was looked on as a Japanese, and so was J. Agate. Both now occupy a high position in the incurved lists. C. B. Whitnall is another example of how a certain method of culture changes the appearance of the flower. Another instance in Lord Rosebery occurs to me just now as to the desirability of practical knowledge in culture before condemning any variety.—A. B.

CHRYSANTHEMUMS FOR DECORATION.

THE appearance of the later Japanese Chrysanthemums has, to some extent, revolutionised the floral decoration of apartments. For some years it was impossible to cultivate and employ the larger flowered varieties advantageously, and while these were left very much in the hands of specialists there was slowly gathered together a distinct class, easy to cultivate, dwarf in habit, and very floriferous, to which the distinctive appellation "decorative" was given. With the ever-growing demand for cut flowers these decorative varieties have been of incalculable value; that their day is past would be an assertion most hazardous to enunciate, but that they will in the future have to contend with the largest flowered varieties seems to be assured.

It requires no extensive knowledge of the newer varieties that are being poured into the country to be certain that a decorating flower of the highest order is being placed within the reach of gardeners. That the latter will not be slow to recognise the usefulness and the great beauty of form and colouring of these is very certain. There has no doubt now and again appeared a herald of the coming army—such, for instance, as La Triomphante, Avalanche, and W. H. Lincoln; but at present it is possible to select much finer varieties than any of these and quite as easy to grow, the latter a point it may be noted that the vast majority of gardeners have to consider when estimating the value of any new introduction. White and yellow-flowered varieties constitute a large bulk of the novelties, and it has to be remembered that it is almost solely in white and yellow that it is possible to present a number of sorts without running the certain risk of overdoing them. In coloured varieties one does not recognise the beauty of form to the same extent as in white flowers. We can, for example, group together and be charmed with such diverse forms as L'Idée, Madame Ad. Chatin, Madame Carnot, Madame C. Moulin, Beauty of Exmouth, Mdlle. Thérèse Rey, Miss A. Hartshorn, Niveus, Souvenir de Petite Amie; and in the

same way, though with the beauty of form somewhat modified by deeper or softer tones of colour, yellow flowers can also be grouped most effectively. Names that occur are Mrs. Libbie Allen, Mons. C. Capitante, Duchess of Wellington, Mons. Panckoucke, and H. L. Sunderbruck. All these and more can be grown advantageously, but we should hesitate to cultivate at one and the same time for decorative purposes two varieties of the colour of William Seward, William Tricker, or Charles Davis.

So far practical matters have perhaps been somewhat slightly treated. Now, however, it may be pointed out that several of these novelties of late years are better fitted for pot plants than sorts that have been for long accepted as the best. Some of these are—Vivian Morel, Ch. Davis, Mrs. E. S. Trafford, W. Tricker, Madame Ad. Chatin, Commandant Blusset, Lord Brooke, W. K. Woodcock and Col. W. B. Smith. Baron Hirsch, in the incurved section, I like for a pot plant. These are a few examples of dwarf growing sorts that will produce in 7 and 8-inch pots nine to twelve large blooms, and with handsome foliage to the soil. As cut flowers these and many more are particularly fine.

In exhibitions prizes are being given for vases filled with long stalked blooms. These to some extent show what can be done with the flowers, but they at the same time furnish examples of what to avoid. In every instance I have seen the blooms were too closely crowded, and the capabilities of the flowers for decoration were quite lost to view. Perhaps the method of setting up the blooms in order to obtain the best effect is to cut them with stems 18 inches to 2 feet in length, and to employ as receptacles plain jars about 8 inches high and 3 inches in diameter. In these seven to twelve blooms can be arranged most effectively. The outer flowers droop sufficiently to allow plenty of space for each one to be fully seen. They require no other setting than their own foliage. In large and tall trumpet-shaped vases it is better to employ a few blooms to give effect to the whole, but in this case along with the Chrysanthemums bold and graceful foliage, such as Bamboo, Pampas Grass, Cyperus longus, C. alternifolius, or Asparagus, should be freely employed.

Branches of Euonymus europæus covered with fruit makes a most effective addition. To Mr. Jones of Lewisham I am indebted for the latter idea. This year, with an abundant crop of fruit, I am making a very free use of this combination. Single blooms set up in small silver beakers lend themselves well for the adornment of dining-tables. I use nothing else when these are employed unless it may be a few sprays of Smilax laid on the cloth, and among any pieces of plate there may be arranged as accessories. I do not much like cutting fresh blooms for these occasions, but as a rule it is unnecessary to do so, because old flowers that have been used in vases do perfectly well after any decayed petals have been picked out.—B.

POETRY AND TRUTH.

My old friend "A. D.," who might be felicitously described as the clever writer and cultivator who looks at most subjects through a Potato medium, can hardly be accepted as an infallible judge as to the character and tendency of poetry. Had he taken more poetry as sauce for his Potatoes he would speedily have discovered with Campbell that—

"Poetry is the eloquence of Truth,"

or with Keats—

"A dramless shower
Of light is poesy, 'tis the supreme of power,
'Tis might half slumbering on its own right arm."

Or in the quaint words of Fuller:—"Poetry is music in words and music is poetry in sound, both excellent sauce," and, let me add, soundest sense robed in beauty. Bailey takes a yet higher flight in the following lines, as distinguished for their truth as for their beauty and eloquence:—

"Poetry is in itself a thing of God.
He made His prophets poets, and the more
We feel of poesy do we become
Like God in love and power."

The world we live in, the gardens we make and adorn with beauty, and fill with richer plenty—the mysteries of life—we are vainly striving to unravel. The history and economy of the universe are brimful—running over—with poetry to those who have eyes to see or ears to hear its sweet harmonies. Hence we have poetry in form, colour, structure, affinity, co-operation, everywhere—in design, sculpture, architecture, painting, picture making, whether on canvas or on our landscapes with living plants and flowers. But poems—or poetry—to live must be true; and if I might venture on one more definition of poetry it should be that it is the beginning of the blooming period of truth.

"A. D.," on the other hand, starts his criticism of some of my utterances with this sentence, "Still the poetical may sometimes be other than the exact truth," and proceeds to quote two examples from my lecture before the Horticultural Club—viz., that of plants distilling our water and our beer, and of spirits being the products of our growing embryos. Both my statements are literally true, nevertheless. A deeper, wider dash of poetry would enable "A. D." to see further into and more correctly interpret the wonderful economy of Nature. Arrest the energy of evaporation or perspiration from plant surface, stop their signalling symbols for water from the clouds, and how much longer would our rivers run or the earth be watered?

As to the growing embryos, your readers would note that I did not say that spirits and beer were made from the sprouts. It is, however, literally and solidly true to affirm that these drinks are the products of the embryos, as but for these the conversion of the starch into sugar,

and of the latter into beer and spirits, could not have taken place. For the sake of the young men and women who are crowding into the ranks of horticulture I have endeavoured to remove the impression that any poetry worthy of the name can be false in fact or sentiment. Every garden of taste, properly formed, furnished, cultivated, becomes an inspiration of poetry, a school of art for its fortunate possessor and his family.

Thus, every reader may be able to say in degree with Coleridge, "Poetry has been to me its own exceeding great reward. It has soothed my afflictions; it has multiplied and refined my enjoyments; it has endeared solitude, and it has given me the habit of wishing to discover the good and the beautiful in all that meets and surrounds me."—D. T. FISH.

"Ah, wad some power the giftie gie us,
To see oursels as ithers see us."—R. Burns.

It is John Ruskin who tells us that the main difference between one man and another, or even between one domestic animal and another, is simply that the man or the animal feels more deeply, or that he can express his intuitions more clearly than his fellows. When "A. D." wrote his carping paragraph at page 530, he might have been better employed, for it is no figure of speech for Mr. D. T. Fish to assert the truth that water is ever being aerated and purified by plants everywhere—in sea, or river, or in pool. If man had kept his waste products out of the Thames, it would not have been muddy, as it is to-day. Even with all the filth shot into it, it is the plants that eventually cleanse, and purify, and utilise the Thames mud, Mr. "A. D.," as a little thought would have proved to you. What is sewage or drainage? Is it not merely the carrying of offensive matter from one place, and the depositing of it into another place—a little more remote it may be from our front doors and windows; but is it not still a waste product, that must be dealt with by the plant all the same?

The gospel that Nature preaches to us day by day is this purification of old refuse. Nature is the geni, who still goes about our streets shouting out, "New lamps for old, new lamps for old." "Give me your refuse under fair conditions," says Nature, "and in return you shall have wine and oil, and corn and fruits, and fairest of flowers!"

We must place our town refuse on the land under the best conditions. The so-called "sewage farm" method may have failed because too much waste material was dumped down on a too limited area, but the principle is true all the same. Do what you like, say what you like, write what you like; but the fact remains that green leaves are better than bad drains, or good ones either.

The green leaf is after all the only chemist that deals finally with all that is deleterious to our health and to our lives. No, "A. D.," it is no mere "figure of speech," it is a truth eternal as the hills, a gospel as old as creation, and much older than human history, and probably older than animal life on this globe.

When "A. D." asks if "it is quite correct to say that drinks of the malt and distilled order are the produce of growing embryos, seeing that in the process of malting the embryos are carefully removed and swept aside as malt dust; whilst it is the starch in the grain, stored by Nature as food for the infant germ, that has in the process of germination been converted into sugar, and this sugar through the artificial (?) agency of fermentation been again (?) converted into alcohol."

I have quoted and underlined some words of this long-winded sentence, as its logic is very complicated and involved. Of course it is quite correct for Mr. Fish to say that malt liquors are the products of growing embryos. When the embryo plant of Barley begins to grow it develops diastase, which is a material of potent action on starch, changing it into sugar for the food of the baby Barley plants. The process is purely natural. So is fermentation a natural process. The growth of microscopic plants of a fungoid nature (= bacteria), though of course both germination and fermentation as natural processes may be, and in malting really are, artificially induced. The paragraph "A. D." wrote so flippantly is all bombast; it is like a blown bladder, and bursts with a mere prick of the pen.

But shallow as are the few arguments employed, what can one say of the concluding words of the paragraph? We are therein told, "The conception found in the sentence is beautiful, but like so much that is beautiful it is not quite true." Here is a woefully false argument, so false that one wonders if "A. D." ever consulted an elementary primer on logic in his school-day curriculum. Beautiful, but not true, is a fallacy. Nothing really beautiful can possibly be untrue. "Perfect beauty is simply perfect fitness for a perfect use," or as our old English adage has it, "All is fine that is fit." Some day "A. D." may learn that it is only poetry that is eternally true, and that our so-called science is merely a moveable index—a shifting and unknown quantity. The poetry of Homer is as true to-day as when first written; all real poetry has the characteristic of eternal truth.

But we cannot say as much for our human science, which is ever a shifting quicksand to the unwary. It is high time for "A. D." to cease his cynical sneers at the "imaginative," the "poetical," and the "beautiful;" and he may rest perfectly assured of the fact that water is ever and always being aerated and purified by green leaves, that all grain drinks, such as malt liquors, are the product of germination—i.e., of growing embryos, which are swept away as malt dust, certainly after their work is done, but they did the work all the same. Lastly, and above all, "A. D." may rest assured that poetry is the most beautiful of language, because it is true, and not merely because it speaks "of pretty things in a pretty way." It only remains for me to add that I think "A. D." really owes an apology to Mr. D. T. Fish for his crude and

ill-considered remarks in the paragraph (page 530) I have referred to on a most interesting paper, which I read in "our Journal" with much pleasure, and profit as well.—F. W. BURBIDGE.

I HAVE read with deep interest in the *Journal of Horticulture*, November 28th, page 501, a lecture delivered at the Horticultural Club. The address to which I allude was unique in its impressiveness; it was the very poetry of science and of nature. For this and other reasons it should be embodied in permanent form. Nothing can be more commanding than this conception, that the loftiest and most beneficent forms of Nature's energy are utterly imperishable; never dying, but ever passing into other and more marvellous aspects of life. The sun, as in a laboratory, works in each individual blade, making it fit for consumption and the preservation of existence. The grass is absorbed and assimilated by the lower animal; the latter becomes part of man; his physical energy passes again into those plants which once more contribute to the formation of animal life; and such being the result of observation and experience, what may we not hope for in the permanence of that mystic, yet world-dominating essence, which is called the human mind?

How wonderful a revelation does the microscope discover of the infinite significance of the lowliest lives of earth! Insects so unutterably insignificant that they would be invisible without its assistance, are found to possess all the more important physical functions of the greatest animals that exist. After long study of the life of the common earth-worm, the late Charles Darwin announced to the world that it was the most valuable existing cultivator and fertiliser of the soil. I need not speak of that miracle, the potentiality of the generative seed, which can only become active through the agencies of death; "for a seed is not quickened except it die." How far beyond the range of mortal discovery is the hidden secret of that infinite art, whereby a tiny seed committed to the earth grows upwards through the ages into a mighty tree, under whose shadow the spirits of the centuries repose!

What wealth, on the other hand, of providential arrangement for our happiness is unfolded to the lover of Nature in the flowers! They not only minister to our instinct for beauty, conserve the purity and freshness of the atmosphere we breathe, but they give us our ideals of the purest art; they are also, as modern science and discovery are eloquent to demonstrate, the repositories of the strongest existing antidotes for the reduction of suffering and pain.

The existence of the butterfly, the most flower-like of insects, which is nourished on the leaf upon which it is born, is wonderful in its transitory stages. The caterpillar, after its long, motionless winter sleep in the mummy-like structure, is raised at the touch of the bright sun of summer into radiant winged beauty, suddenly flashing like an animated atom of the rainbow. No physical transfiguration more momentous than this is discoverable in the regions of insect life.

There is one light in this vast universe which knows no decay, ever abiding amid the mysteries of pain, and that is the presence everywhere realisable by the reverential nature, of infinite design.—DAVID R. WILLIAMSON.

DIANTHUS GLACIALIS.

THIS is a charming little alpine gem, which is admirably adapted for any moderately elevated nook in a rockery, or crevices between slabs of stone. It forms a neat compact little tuft of leaves, and produces its comparatively large rose-tinted flowers freely when the situation suits it. Some of these small alpine plants are rather fastidious and difficult to manage under cultivation, but this is not the case with *Dianthus glacialis* if care is taken to protect it from enemies and to provide a position free from stagnant moisture. The latter is essential, and more of such plants suffer from neglect in this matter than in any other respect. The habit of the plant and the formation of the flowers is shown in the woodcut, fig. 86.

A CALL AT CHILWELL.

THE well-known nurseries of Messrs. Pearson & Sons, Chilwell, are highly worthy a visit, as everything both in the houses and outside is done well, and is under the personal supervision of the members of the firm. In the houses at the time of my call were many noticeable plants; Crotons of several varieties, in sizes suitable for table or house decoration, were well grown and splendidly coloured—indeed, it has never been my lot to see a finer coloured collection. *Asparagus plumosus* is grown in great quantities for plants and also for cutting. The supply for the latter purpose is grown against the shaded back wall of a house, the plants put out in a narrow border, and the quantity of sprays cut from this house must be enormous. In a long span-roofed vinery where the supply of eyes is obtained to supply the demand for pot Vines a great number of Maidenhair Ferns are grown. A house is filled with *Maréchal Niel* Roses grafted this year grown in 7 or 8-inch pots, one or two rods to a plant of short-jointed well-ripened wood, giving promise of abundance of bloom. In one lofty span-roofed house the roof is covered with *Stephanotis*, which during the season affords cut blooms by the bushel; underneath are grown a number of robust plants of *Eucharis amazonica* for cutting purposes, besides Palms for furnishing. Messrs. Pearson make a specialty of *Andisia crenulata*, selling largely to the trade, and seeing the plants

as they now are, covered with their bright red berries, makes one wonder why they are not more grown for house decoration, for which they are so well adapted. Pot Vines are grown largely, and, as might be expected from a firm so long noted for them, are in the best of condition. A house of Zonal Pelargoniums in the leading varieties of varied colours looked particularly gay in the dull December days. There are many large houses devoted to the culture of various things; one large structure, which is used for the Chrysanthemum show (just over at my visit) is utilised as an orchard house, a very fine selection of good trees in pots for that purpose being now plunged outside.

For several years the culture of hardy fruit trees has been largely practised, with most gratifying results to the purchaser in his getting well-grown, clean trees. Nearly every tree is a model, be it bush, pyramid, horizontal trained, or cordon; a few are grown in the gridiron style, though Mr. Alfred Pearson likes other forms better. Among the Apples he informs me Potts' Seedling is a remarkably good town tree, flourishing in the smoke when other varieties are choked. Peter the Great is spoken well of here as an early and prolific bearer. Newton Wonder, sent out by this firm, is considered one of the best late-keeping sorts. Each year in one of their houses there is a show of fruit grown



FIG. 86.—DIANTHUS GLACIALIS.

in their nurseries; I noticed many very fine specimens of large and highly coloured fruit, more resembling fruit grown in the south of England than in this locality.

Prevention is better than cure is evidently the motto here, all the trees have been specially attended to, to keep down insect pests. They have been sprayed five times this year with extract of quassia chips and softsoap, and all winter prunings are burnt to destroy any pests that may be lurking in them. Among Apple trees 11,000 are grown as horizontal trained, varying in age up to seven years, every tier laid in with mathematical precision, Mr. A. Pearson priding himself, and justly so, in this especial branch. The Paradise stock used was selected from many varieties grown here for test purposes by the father of the present members of the firm. All that has been said of the Apple trees applies with equal force to the Pears, Plums, Peaches, and other fruits; every tree that is sent out is thoroughly examined, if any defect is noticed it is kept back, the foreman equally as well as the firm taking a pride in maintaining a good reputation. Every tree is frequently transplanted, the result being a mass of fibrous feeding roots, in taking up the roots are covered by mats to prevent drying. Messrs. Pearson were the first, I believe, to train Plum trees horizontally, they have a large stock of them, principally Victoria and The Czar; as they are now getting known there is an increased demand for them.

Gooseberries, Currants, and Raspberries are grown in quantities. Amongst the Gooseberries Whinham's Industry, Crown Bob, and Berry's Early Kent are considered the best, Raby Castle and Knight's Red holding the same place amongst the Currants. Raspberry Superlative is very highly thought of both for size of fruit and cropping qualities.

Of *Yucca filamentosa variegata*, the finest stock in England, is seen here in one bed, about 1500 plants of various sizes make a fine show; surely if it was better known it would be more largely grown for decorative purposes either on the lawn or inside. The hoe is kept well in use through the spring and summer months, as weeds are not believed in at Chilwell.—T. H. CRASP, *Osberton*.



FRUIT FORCING.

Peaches and Nectarines.—*Earliest House.*—To have ripe fruit in May of the standard forcing varieties, such as Hale's Early, Stirling Castle, Dymond, Royal George, and Grosse Mignonne Peaches, Early Rivers, Lord Napier, Elruge (some growers prefer Stanwick Elruge) and Dryden Nectarines, there must not be any further delay in putting on the roof lights and closing the house. The very early Peaches, such as Alexander, Waterloo, and Early Louise, with Advance Nectarine started at the same time, will afford ripe fruit a month earlier under a similarity of forcing conditions; indeed, they may be grown so as to produce fruit in about thirteen weeks from starting, the buds being then well advanced in swelling, as early forced trees usually are, by what is known as "hard forcing." Ripe Peaches in late March and during April bring long prices, and though there are some successes, of which there is every possible emblazonment, there are many failures, which are very seldom recorded, and much disappointment and loss is the consequence. Growing a few trees either planted-out or in pots, and achieving satisfactory results in certain cases is no criterion of their value for general culture; at the same time it must be conceded that both at table and in the market such very early fruits are highly prized.

Trees started at an early date in previous years swell their buds promptly without much excitement from artificial heat, but those forced for the first time are slower in starting into flower. These must not be hurried, and with the buds swelling and advancing for flowering the atmosphere must not be kept nearly so close, as it is important that the blossoms advance steadily and have time to develop flowers perfect in all their parts. When the atmosphere is kept close and too moist the blossoms are drawn and weak if the temperature is too high; if low, little progress is made, and the fructifying organs are stunted and effete. Admit a little air constantly at the upper part of the house, and above 50° it should be increased correspondingly with the temperature, but not allowing it to decline below 50° in the daytime, sufficient artificial heat being employed for that purpose, and with sun heat an advance may be allowed to 65°, closing for the day before the temperature has receded below 55°. A temperature of 40° to 45° is ample at night, and in mild weather 50°.

When the flowers are advanced so that the anthers are showing, cease syringing, but afford a moderate amount of air moisture by damping the borders, paths, and walls in the morning and early afternoon. Avoid a close stagnant atmosphere at any time, but especially at night with a high temperature. Examine the inside border, making sure that there is no deficiency of moisture. If necessary, afford a thorough supply of water or liquid manure. The surface soil is often deceptive, being kept moist by syringing, therefore supply enough to moisten the soil through to the drainage, for surface-sprinkling does very little good.

Trees often have very weakly blossoms and fail to set in consequence of water being given to the tops instead of to the roots. If there be a superabundance of flower buds remove those on the under side of the trellis by drawing the hand (gloved) the reverse way of the growth. This will materially assist the swelling of the remaining buds. If there are any trace of aphides fumigate the house on two or three consecutive evenings before the flowers are much advanced in colour, always before the petals unfold; and the atmosphere must be dry, or the moisture will be condensed on the cooler surfaces of the flowers, and they will be discoloured or injured.

Second Early Forced House.—If the trees are very early varieties, as Alexander, Waterloo, and Early Louise Peaches, with Early Rivers Nectarine, fruit may be had in late April or early in May by starting at the new year, but if the trees are such as Hale's Early, Early Alfred, Dr. Hogg, Rivers' Early York, A Bec, Stirling Castle, Dymond, Royal George, Grosse Mignonne, Crimson Galande, Noblesse, or Alexandra Peaches; Lord Napier, Goldoni, Stanwick Elruge, Elruge, Humboldt, Dryden, or Pineapple Nectarines, the fruit will not ripen until May is well advanced and during June. This must be taken into consideration by growers. In either case, and the trees not having been forced before, the house should be closed at once, fire heat only being used to exclude frost, the trees being sprinkled occasionally, or on fine days in the morning and afternoon, allowing time for them to become fairly dry before night. Keeping the trees constantly dripping with water, especially at night, enfeebles the blossoms, and is provocative of wood bud rather than blossom bud development. Do not allow the temperature to exceed 50° in the daytime without full ventilation. Trees previously forced will not need the preparatory treatment, but start readily at the accustomed time. Supply water or liquid manure to inside borders, and protect outside with a few inches thickness of leaves and litter on top to keep them from blowing about.

Succession Houses.—Where the roof lights are moveable it is much the better plan to remove them, and expose the trees to the elements for the winter. This is inimical to many insects, and the trees are insured rest and thorough moistening of the border. Trees with thoroughly ripe

wood are never injured by the severest weather. Even the latest and unheated houses are best treated in the manner described, often having the effect of causing trees to retain their buds, which cast them under fixed roofs, and the blossoms are generally finer than on trees that are kept constantly evaporating from the young wood through the time they are at rest under fixed roofs, or where they are subjected to alternating rests and excitements where plants are grown in the house. The fogs and damps of winter, with the drenching rains and snow, suit Peaches in well drained soil, the trees being invigorated and the soil enriched. If the houses have fixed roof lights, ventilate to the fullest extent in all but very severe weather. Proceed with the pruning, bringing matters in respect of cleaning the house and trees to as speedy a conclusion as possible.

Pines.—*Plants to Ripen Fruit in May and June.*—This is a very important time to have Pine Apples ripe, as fresh fruit is not over-plentiful, and they are a great ornament at dessert, far superior to imported fruit in appearance, and are juicier and more richly flavoured, besides having a more pleasant aroma. Where a supply is required at that time, and plants are not showing fruit, it will be desirable to select from those started last March, which have completed the growth, and are now in a state of rest, such as show a stout base, the best indication of starting into fruit when subjected to a higher temperature, both at the roots and in the atmosphere. The plants are best placed in a structure to themselves. Where this cannot be afforded they must have a light position in the fruiting house. This is only suitable for such as are likely to throw up fruit at once.

Such as are not in that condition should be kept cool and rather dry for a month or six weeks, after which they will generally throw up fruit when subjected to a brisk temperature at the roots and atmosphere. It is not desirable to start more plants now than can be helped, as the fruit will come up more readily a month hence, and be much stronger. Necessity often causes expedients to be had recourse to in small places that are not needed in larger. Cultivators with few plants have difficulty in maintaining an unbroken supply of fruit. Their tens or twenties are not as good for successional purposes as the hundreds of the larger growers; but judgment and the acquiring of considerably more skill often enables the grower with limited means to maintain a better supply throughout the year.

Plums.—These are seldom forced. They, however, are amenable to the same treatment as Cherries, forcing quite as easily, but come in much later under the same conditions. Sometimes they are grown in the same house with Cherries, but that is a bad practice, as the trees require syringing after the Cherries are ripe, and that is not good for these. The trees require a rather strong loamy soil, and not too much root space, otherwise they grow too freely. Marly soils suit Plums. Strong clayey loam may have about a sixth of old mortar rubbish added to it, and a similar amount of road scrapings. If the soil be light, a fourth of clayey marl improves it wonderfully for Plums. A 2 feet depth of border is ample, having a foot of drainage, secured by a layer of old mortar rubbish. The house must be light, well ventilated, and heated so as not to need heating the pipes to a high temperature. Trees three or four years trained to walls are the most suitable for planting in houses. Such, lifted carefully and planted without loss of time, may be started about the new year, and they will usually afford a fair amount of fruit the first season. If not moved with abundance of fibrous roots that is hardly to be expected.

Early Favourite, Denniston's Superb, De Montfort, Early Transparent Gage, Jefferson, Green Gage, and Kirke's are excellent varieties. Czar and Oullins Golden grow rather strongly, but the first bears well, and gives fruit suitable either for eating or cooking, and the last is very handsome and richly flavoured. Transparent Gage comes later, and, like the preceding, does not bear as most growers desire. Coe's Golden Drop bears well, and comes in with the latest of the varieties named, being an excellent companion for Kirke's. Plums will not bear hard forcing, not even after the stoning is completed, for instead of developing plenty of flesh the fruits turn soft, and are very indifferent in quality. The fan system of training is the best, for Plums are liable to lose the branches; besides, they bear better on two-year-old wood than on the close spur system.

In pruning all last year's growth will need shortening, superfluous shoots may be removed, avoiding having the growths too thickly placed. Planted-out trees should have the branches about 1 foot from the glass. Cordons do well at about 18 inches apart, and they are very tractable when lifted occasionally. Trees in pots are even more easily managed, as they can be stood outdoors after the fruits are gathered from them, and they seem to enjoy the full exposure to sun and air during the late summer and autumn. Dishes of Plums grown under glass are always welcome at dessert.

Cucumbers.—The weather has been, except for wind, in favour of winter fruiters, light being generally good, and the plants have well developed foliage where the glass has been kept clean both inside and out. Use warm, sweet soil, and not very wet, for earthing over the roots as they show at the sides of the ridges or hillocks. A few sweetened horse droppings spread on the surface, and a little superphosphate and soot sprinkled on them, will attract the roots and afford nourishment to them when watered. This is preferable to liquid manure, unless the plants are growing in limited borders, boxes, or pots, then copious supplies will be necessary. Always apply it weak and tepid, and not too often. Sufficient moisture will be secured by damping available surfaces in the morning and in the afternoon of fine days, but avoid excessive moisture, and do not supply water to the roots till the soil is becoming dry, then afford a thorough supply.

Look over the plants at least once a week for stopping, removing bad leaves, thinning as required; but pinching and thinning will not be much needed, yet neither must be neglected, as crowding is one of the greatest evils in the growth of winter Cucumbers. Overcropping is a still greater malpractice, and allowing the fruits to needlessly hang after they attain a size fit for cutting serves only to weaken the plants and prevent other and younger fruits from swelling; but when large enough, the fruits keep several days if the heels are inserted in saucers of water in a cool place, but safe from frost. Ill-shaped and superfluous fruit should be removed as they appear, and tendrils and staminate flowers answer no useful purpose, therefore remove them; but sometimes it is necessary to fertilise the pistillate flowers to make sure of the fruit swelling, and though this may give a "knobby" fruit, it is better than none at all. Fertilisation, however, is seldom necessary for healthy plants raised from fresh seeds.

THE KITCHEN GARDEN.

Celery.—If there are any rows not yet moulded up this work ought to be no longer deferred. Celery is not keeping well, especially where weakened by severe attacks of the leaf-mining maggots, and if the leaves and the top portion of stalks are damaged by frosts this will further militate against long keeping. Even those rows moulded up moderately high ought to have more soil banked up against them, only the top half of the leaves showing through the soil. Finish off smoothly and sharply so as to throw off as much water as possible, and see that the water that collects in the trenches has a good outlet, as it is the sodden earth that freezes the most. Boards nailed together in the shape of the letter V and inverted over the rows is the best additional protection against very severe frosts, straw or litter so soon becoming saturated with water, in which state it does more harm than good. It sometimes happens that Celery is in the greatest demand at a time when the ground is frozen, and in order to be certain of a good supply a quantity should be carefully lifted with a portion of soil about the roots, and replanted closely in a frame, pit, or deep boxes, packing good moist soil about the roots only. A single raffia tie would keep the stalks well up together, and there ought to be no soil used other than about the roots. Further, protect with mats and litter, while the boxes may be placed in a cool dark cellar.

Endive.—Frosts have not as yet injured the later or comparatively small plants, and any left in the open may be lifted and replanted in frames in the places occupied by any that have been cut. Keep them cool and constantly moist at the roots, and they will then continue to grow. Fire heat may be used with a view to excluding frosts, but is apt to hasten premature bolting. Blanching will be accomplished perfectly if a few dozen fully grown plants are transferred to the Mushroom house at intervals of a week or so. It will not keep long after it is blanched.

Lettuce.—Good Lettuce can be had very early with the aid of gentle bottom heat and frames. The best for forcing are the Early Paris Market and Golden Queen Cabbage varieties, and if there are no small plants available sow seed now thinly in pans and place in heat to germinate. The seedlings, if either crowded or kept far from the glass, soon become drawn and weakly, and the pans holding them ought, therefore, to be raised well up to the glass till such times as they are large enough to prick out where they are to grow.

Kidney Beans.—Where these are wanted early, and there are facilities for forcing extensively, a start may well be made at once. Sion House and Ne Plus Ultra are among the best for this early sowing, and the seed may either be sown in 3-inch pots, and the plants from these be duly shifted into 9-inch pots, or the seed may be sown direct into the latter. In this case use rich loamy soil, and sow about nine seeds in each pot, covering with 2 inches of soil. Set the pots direct on hot-water pipes in a forcing house, and germination will then be rapid. New seeds are best for this work, as they invariably give the strongest plants.

Potatoes for Forcing.—Sets that it is intended to force either in pots or frames ought now to be showing their sprouts, and if placed in shallow boxes in Peach house or vinery being forced the heat and moisture will forward them considerably; but they must not be kept out of the soil long enough to damage the young roots or the sprouts.

Tomatoes.—Those who must have ripe Tomatoes early, and have not strong, clean old plants just beginning to push out numerous side shoots, nor any stout young plants in small pots, ought to sow seeds now. The Ham Green type, notably Frogmore Selected and Al, are most suitable for early crops, these setting freely in February. Sow new seeds thinly in pans, and give them the benefit of a brisk heat, covering with a square of glass to hasten germination. When the seedlings are up, thin out if in the least crowded, and place on shelves near to the glass and still in heat. When well into rough leaf, pot off singly, using good light soil, previously warmed, and 2½-inch pots. Sink a single plant deeply down the side of each pot, and return to warm quarters, watering very carefully for a time. When well rooted they may either be planted out in narrow ridges of soil or placed direct into fruiting pots.

Parsley.—At present Parsley is most abundant in the open, but is so sappy that an ordinarily severe frost will spoil, if it does not kill, many of the plants. Nothing lifts or moves more readily than Parsley, and if there is not enough already stored under glass no time should be lost in transplanting as much or more than may be required. Aim to save the thick tap roots, gather the oldest or the roughest of the leaves, and then pack rather thickly in deep pots or boxes. Placed in a warm greenhouse or in a Peach house or vinery being forced, fresh leaves will soon develop, these affording a good succession to those preserved on the

plant. Should the winter continue mild there will be no need to gather from the inside plants, but the latter may yet do good service next spring.

PLANT HOUSES.

Palms.—Every opportunity should be seized to thoroughly clean these plants. The days are certainly short, but work is not so pressing in other departments, as will be the case after the turn of the new year. Where these plants are infested with small scale, and few collections are free, cleaning is a slow and even tedious process. If neglected, especially during the season of growth, they soon become covered with this small pest, which is difficult to eradicate. The best and only means of stamping it out is to use a solution of softsoap and by the aid of old tooth-brushes, when they can be removed without injury to the foliage. Once the plants are clean, or fairly so, they may be stamped out by frequently fumigating with nicotine. Where Seafortias and other cool kinds have to be accommodated with those requiring heat a sharp look out must be kept for thrips. They quickly establish themselves on Seafortias, and if not destroyed soon do injury. For purposes of decoration, where rough treatment is naturally accorded the plants, Seafortias are scarcely worth growing. They certainly grow more rapidly than Kentias, and are useful until those plants can be obtained large enough. The first position for decoration is generally given to K. Belmoreana, but for many positions and purposes K. Fosteriana is decidedly the best Palm.

Dracenas.—Tops that have been re-rooted and established in small pots should not be kept in that condition, because the days are short and growth almost at a standstill. Few plants become checked or go back quicker than these when confined in small pots. Even young stock in smaller pots are better placed into those of a larger size. The soil should be well warmed previous to potting, and to carry out the operation they should not be removed from the house in which they are growing. A small shift only should be given and the pots liberally drained. Very careful watering is always necessary with Dracenas. The plants should be kept in a temperature of 65°, and those given a small shift now and well looked after will grow slowly through the winter, and will be in excellent condition for potting again in February. With increased heat, light, and moisture, growth will then be rapid.

Gardenias.—The flower buds often become deformed by overfeeding with liquids, too low a temperature, and confinement in the same pots over too long a period. To produce the best results and finest flowers the plants should have a winter temperature of 65°, and be perfectly free from insects from the time the flower buds commence to swell. Strong insecticides often prove injurious. The roots should be kept in an active condition, which is readily accomplished by growing young plants, giving them liberal root room, and then feeding on the surface with light sprinklings of chemical manure. The roots come to the surface and resemble large quantities of small white active worms. The plants may be syringed two or three times a week with clear soot water, as this stimulates them and keeps their foliage bright and of the darkest hue. The plants should never become dry, on the other hand, they should not be over-watered. Too frequently the soil is found in a wet, sticky, and sour condition, and the wonder is that the plants unfold their blooms. If Gardenias that have flower buds set and swelling can be placed where they will enjoy slight bottom heat all the better. Where this cannot be derived from hot-water pipes, it may be supplied by a small hotbed made with litter and leaves.

Crotons.—Those needed for decoration must not be induced to grow—the development of one or two young leaves that will not colour will certainly destroy the appearance of the plants. The night temperature should not fall below 60°, and a little air ought to be given daily when the weather is favourable. This hardens the plants, prevents fresh growth, and they are less liable to suffer when removed for decoration. We have seen them flag when placed on the dining-room table, which is the fault of keeping them too warm, close, and moist. Young stock that it may be necessary to push on early in the year, and now in thumb pots, must not be overcramped at the roots, so it is much better to give them a small shift at once. Their roots will move into the new soil and take possession of it, ready for a good start early in the year. Clean all these plants thoroughly, it can be done now with less injury than when the plants have soft tender foliage. Watch for thrips, and eradicate them directly they make their appearance, or the foliage will soon be injured.



HANDLING BEES.

BEGINNERS often have a dread of manipulating bees, but if a few simple instructions are carried out it is a much easier matter than at first appears to be the case, and there is now no excuse for anyone who is interested in the subject from becoming efficient at the business. At this season, when all is quiet in the apiary, and many persons are anticipating the pleasures of bee-keeping, but are in doubt about many things in connection with the pursuit, note should be made of their requirements, and on any matter in which they cannot quite see their way clear, obtain advice through the pages of the *Journal of Horticulture*, which has always been the pioneer in practical bee-keeping. In the summer, too, visitors

may learn much at agricultural and horticultural shows where the bee tent is erected, and object lessons given, showing the best methods of bee management by men of experience.

Whilst assisting as expert with the bee tent in various places I have seen how eagerly the on-lookers have watched every movement of the operator, as without veil and with rolled-up sleeves the bees have been driven from the old-fashioned straw skep, the queen picked out, as she ran with thousands of her attendants into the empty hive, and handed round for inspection, scooping the bees up by the handful without being stung, afterwards transferring them to the modern moveable frame hive. All this tends to give confidence to would-be bee-keepers; still, they often think there is some charm required in carrying out the operation, and conclude the operator has some secret solution to put on the hands and face to prevent the bees stinging, and it is often a difficult matter to convince them otherwise. Gloves, except at the first with the most timid operators, should never be worn, as one can work much better without them, and they irritate the bees; but it is better to use a veil at all times, as it gives the operator much greater confidence.

The best time to handle bees is during calm warm weather, and should be avoided when it is cold and stormy, or when there is a high wind. During the warm days of summer, when honey is coming in freely, bees may be handled with impunity provided the operator is gentle in his movements. A smoker should be kept conveniently to hand; the Bingham is recommended for the purpose. It is not advisable to blow any smoke in at the entrance of the hive, but to commence by removing the coverings, and turn the quilt gently back, and if the bees are at all inclined to be troublesome, a puff or two of smoke will drive them down between the combs. If allowed a little time they will commence to fill their honey sacs from the stores, and will then not be inclined to sting. Fear will always cause them to do this; a sharp rap or two on the hive will have the same effect. When bees swarm naturally they rarely sting the operator.

Bee-keepers must be prepared to be stung sometimes, as when one has several colonies to examine in a short time, and the weather is not favourable for the operation, the bees will resent the intrusion and stinging be the result. But the majority of people soon become inoculated, and in a short time stings will have no ill effect on them. Some people are very nervous of bees, and will strike right and left directly a bee approaches them, which will cause them to sting at once. It is wise to have some liquid ammonia always at hand, and if applied at once, after removing the sting, is an excellent remedy.—AN ENGLISH BEE-KEEPER.



* All correspondence should be directed either to "THE EDITOR" or to "THE PUBLISHER." Letters addressed to Dr. Hogg or members of the staff often remain unopened unavoidably. We request that no one will write privately to any of our correspondents, as doing so subjects them to unjustifiable trouble and expense.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Bee subjects, and should never send more than two or three questions at once. All articles intended for insertion should be written on one side of the paper only. We cannot reply to questions through the post, and we do not undertake to return rejected communications.

Corrosive Sublimate (H. T. H.).—The reply given to "H. K." contains the information you desire.

Beet (S. D.).—Beet is essentially a salad vegetable, and it would not be prudent to include it in a class from which "Tomatoes and salads are excluded."

Successional Peas and Broccoli (R.).—If you sow William the First and Veitch's Perfection Pea side by side on the same day you will have a natural successional supply of pods. The same remarks apply to the sowing of the Cauliflower and autumn Broccoli.

Oranges for Culture in Pots (Subscriber).—Blood and Oval or Egg are the most accommodating as regards flowers and fruit. St. Michael's, Botelha, Dulcissima, Exquisite, Sustain, and Silver or Plata—all varieties of St. Michael's—are excellent for producing flowers or fruit for table. Tangierine and the St. Michael's Tangierine produce delicious little Oranges, with delightful aroma.

Peaches and Nectarines for Forcing (Subscriber).—Peaches: Hale's Early, Dymond, Royal George, and Grosse Mignonne or Noblesse, as you may want a dark or light-coloured variety. Nectarines: Early Rivers, Lord Napier, Stanwick Elruge, and Humboldt or Dryden, as you wish a dark or yellow-coloured sort.

Brown Turkey Fig Trees in Pots (E.).—The trees do well in a cool house, and produce one crop of fruit, provided they obtain abundance of light and are well attended to in other respects. The pots must be plunged over the rims to protect the roots from frost, or be covered with dry material, such as hay or straw, in severe weather.

Pronunciation of Botanical Names (E. B.).—There is no dictionary after the style of Nuttall's devoted to botanical terms, but the latest edition of "Johnson's Gardener's Dictionary" (which may be had from these offices, post free, for ten shillings) would be of material assistance to you. It contains much valuable practical matter relative to horticulture, and gives simple directions in the pronunciation of names.

Polyantha Roses not Flowering (A. E.).—The plants are probably in too rich soil, and the wood does not become sufficiently ripened. If in pots keep them outdoors in the summer, and get the wood thoroughly ripened, then we think they will flower freely. Seedlings are often a long time before they come into flower. Lifting annually, or keeping cramped at the roots, tends to the earlier production of flowers. We should give them more time, as they will probably reward you for waiting; but very often they are disappointing.

Propagating Dracaenas (Reader).—The tops are rooted by making a cross cut half through the stems close under the good leaves, then starting an inch or so below and cutting upwards, taking out the wedge, so to say, and a notch is thus left. If moss is thickly tied round and kept moist in a warm house roots will be emitted and take possession of it; or split pots containing light material may be placed round the heads, supporting them in position, also the plant by securing both to stakes. Imperfect leaves should be removed up to the part that is notched.

South American Orchids (W. G.).—The blocks should be hung so that the plants face the light. At this time of year there is only too little sun for all classes of Orchids. There may be times during the heat of summer when it would be advisable to reverse them for a time, but this is not usually practised, the plants being screened from bright sunshine by the blinds on the roof. The amount of watering and syringing required depends upon the season, the weather, and the species. Most of the Orchids you name are more suitable for pot or basket culture than for growing upon blocks, the amount of water needed during the growing season entailing a great amount of labour if grown this way. If your plants are established upon the wood perhaps you could by reducing the size of the pieces introduce them into pots or baskets, filling up with a suitable compost. The book you name would undoubtedly be a great help to you, the author being an experienced grower.

Chrysanthemums (Blandford).—You ask, "Why do some Chrysanthemums show the eye?" We do not suppose it is for the purpose of letting us see the green in it, as that would be no compliment. Some varieties do not produce the floral appendages, mis-called petals, so freely as do others, or, in other words, the centres do not fill up so well. Those which are naturally prone to produce a number of disc florets, and thus "show the eye," must be disbudded to one bloom on a stem and three to five on a plant, and the best cultural attention given throughout for the production of grand full blooms. Thousands of examples of Edwin Molyneux are grown every year, the disc of which cannot be seen without searching among the long coloured ligulate florets, of the absence of which you complain. Boule d'Or is much less frequently seen in superior condition, as it is not, as many growers say, so "easy to do." The best blooms of both are the result of the best management, including the timely "taking" or setting of the buds. Try again, and see what you can do.

Insects Infesting Roots of Primula obconica (H. K.).—The insects are the larvæ or grubs of the grooved or Vine weevil (*Otiorhynchus sulcatus*) which may have been introduced in the potting soil, but of this—the grubs feeding on dead or decaying organic matter—we have no evidence, as we have not found them in soil apart from living plants during fifty years. Possibly the horse droppings and bone dust mixed with the turfy loam, collectively a mass of organic matter, may induce the female parent to deposit her eggs in such soil, but this is hardly likely, as the organic material would afford most food when the grubs require least, and little when they need most, therefore it is, so far as we have experience, certain that the eggs are deposited in the soil by the plant on which the larvæ from them are to subsist on. You do not ask for (but we presume you desire) a remedy. Well, we have tried many substances and found two very effectual. (1) Gas liquor diluted with five times its bulk of water, watering the plants with it when the soil is moderately moist—that is, when the soil is in need of water, but not so dry as to require more than one supply to make the soil thoroughly moist through to the drainage. (2) Corrosive sublimate one-eighth oz. to 3½ gallons of water, the poison being dissolved in a quart of hot water, then placed in a wooden vessel with the remainder of the water, and, stirring well, let stand over-night, stirring two or three times so as to insure a thorough solution, and with this water the plants infested. It will not injure the plants—at least, we have used it for Ferns, Cyclamens, and Primulas, and on Tomatoes and Cucumbers, without prejudice to anything but growths of fungi, and insects or their larvæ. Corrosive sublimate is a terrible poison.

The Currant Bud Mite (*W. H. T.*).—We have never seen a more virulent attack of the bud or gall mite (*Phytoptis ribis*) than in the shoots you send. Every bud is swollen and spoiled. If you were to dissect and examine them under a microscope, you would see the mites as busy as a flock of sheep in a pasture. If all the bushes are similarly infested, we are sorry to say it is not in the power of man to restore them to their original condition by the application of anything whatever, because nothing can reach the mites inside the buds. The bushes must either be dug up and burned, or cut down and the tops burned, following in the latter case with a very heavy dressing of lime. We once cut some down, the branches in this case springing from beneath the soil, and spread a thickness of half an inch of lime or more on the stumps and soil. We scarcely expected to see any further growth from the stumps; they, however, pushed freely, and in two years produced abundance of fruit, and not a swollen bud was subsequently seen on the bushes. Had they been on clean stems a foot or so above the soil the results might have been different, and we know that some cultivators have not found the cutting down and liming to banish the enemy. When attacks are comparatively slight, some cultivators syringe their bushes when dormant with a mixture of sulphur and lime, to render them distasteful to the mites, and then watch for and pick off every swollen bud in the spring, burning the buds removed, and in this way decimate the pest. Burn at once all seriously infested branches, also the buds from those less infested, in case there are sufficient unattacked buds for affording some fruit. Do not propagate from the bushes, but obtain young trees from an undoubtedly clean stock, and plant as far distant from the infested bushes as possible. Swollen buds and the destructive mite have more than once been illustrated in the *Journal of Horticulture*.

Chemical Manures for Cucumbers and Tomatoes (*Cross*).—We have carefully gone through your analysis of compounds, also of the Cucumber and Tomato, relative to the ingredients, but fail to understand the meaning and points on which you wish for information. It is "news" to us to see you finding ammonia in saltpetre and no soluble phosphate in dissolved bones. We were under the impression that genuine bone superphosphate contained from 11 to 19 per cent. of monocalcium phosphate (phosphates soluble in water), from 8 to 15 per cent. of tricalcium phosphate, and from 0.8 to 1.9 per cent. of nitrogen. Also, that nitrate of potash (saltpetre) contains, when pure, 53.41 per cent. of nitric acid (equal to 13.8 per cent. of nitrogen), and 46.59 per cent. of potash. We think these percentages are not far wrong, and cannot accept your statement of there being no soluble phosphate in dissolved bones, or that of there being ammonia in nitrate of potash. As for the questions, we do not see what you would gain by adding mineral superphosphate, except a questionable saving of expense in case of your substituting it for dissolved bones. The dissolved guanos are vitriolised—that is, dissolved—therefore, high-class superphosphate, containing little or no organic matter. There is no reason why you should not use sulphate of ammonia with muriate of potash, unless your soil contains more than 10 per cent. of lime, then nitrate of soda is better, as nitric acid does not volatilise like ammonia from the sulphate, in such case, into the atmosphere. We did not advise it for Tomatoes on account of the sulphur, which certainly favours the fungoid enemies of the plant. You appear unaware that sulphocyanates have a counteracting effect on such tendency. The analysis of parts of the Tomato is too incomplete for us to form an opinion, and we do not advise a large amount of potash for the Tomato, because an excess has a tendency to favour fungoid pests, and no doubt your soil naturally contains potash. We adhere to the formula as one of the best for the Tomato as regards health of plant and profitability of crop, but there may be better in some respects and worse in others; yet we are satisfied with that given, and if you want more potash it is easily added at your own risk. By all means try an alternative mixture, and in due time we shall be glad if you will favour us with the results of your experience.

Names of Fruits.—*Notice.*—We have pleasure in naming good typical fruits (when the names are discoverable) for the convenience of regular subscribers, who are the growers of such fruit, and not collectors of specimens from non-subscribers. This latter procedure is wholly irregular, and we trust that none of our readers will allow themselves to be made the mediums in infringing our rules. Special attention is directed to the following decision, the object of which is to discourage the growth of inferior and promote the culture of superior varieties. *In consequence of the large number of worthless Apples and Pears sent to this office to be named, it has been decided to name only specimens and varieties of approved merit, and to reject the inferior, which are not worth sending or growing.* The names and addresses of senders of fruit or flowers to be named must in all cases be enclosed with the specimens, whether letters referring to the fruit are sent by post or not. The names are not necessarily required for publication, initials sufficing for that. Only six specimens can be named at once, and any beyond that number cannot be preserved. *They should be sent on the first indication of change towards ripening. Dessert Pears cannot be named in a hard green state.* (*H. E.*).—1, An unnamed local Apple of good appearance; 2, fruit imperfect, resembles Beauty of Hants; 3, not known, merit doubtful; 4, Golden Reinette; 5, Aromatic Russet; 6, Reinette Grise. (*G. H. T.*).—1, A local, same as sent by "H. E."; 2, Tower of Glamis; 3, Cox's Orange Pippin; 4, Fearn's Pippin; 5, local. (*W. C.*).—Easter Beurré. (*M. P.*).—The large Apple is Mère de Ménage, and the smaller ones probably Maltster. (*R. P. J.*).—1, Mère de Ménage; 2, Cox's Orange Pippin; 3, Fearn's Pippin; 4, Lord Derby. (*S. D. B.*).—1, Lane's Prince Albert; 2, Potts' Seedling; 3, Blenheim Orange. (*A. A.*).—A local seedling of no merit.

COVENT GARDEN MARKET.—DECEMBER 11TH.

FRUIT.

No alteration in the character of the trade.

	s.	d.	s.	d.		s.	d.	s.	d.
Apples, per bushel	2	0	to	3	6	Lemons, case	11	0	to 14 0
„ Nova Scotia, per						Pears, Californian, per case	13	0	14 0
barrel.. ..	13	0		17	0	Plums, per half sieve ..	0	0	0 0
Grapes, per lb.	0	6		1	6	St. Michael Pines, each ..	2	0	6 0

VEGETABLES.

	s.	d.		s.	d.		s.	d.		s.	d.
Beans, per lb.	0	4	to	0	6	Mustard and Cress, punnet	0	2	to	0	0
Beet, Red, dozen	1	0		0	0	Onions, bushel	3	6		4	0
Carrots, bunch	0	3		0	4	Parsley, dozen bunches ..	2	0		3	0
Cauliflowers, dozen ..	2	0		3	0	Parsnips, dozen	1	0		0	0
Celery, bundle	1	0		0	0	Potatoes, per cwt.	2	0		4	0
Coleworts, dozen bunches	2	0		4	0	Salsafy, bundle	1	6		1	6
Cucumbers, dozen	4	0		9	0	Seakale, per basket	1	6		1	9
Endive, dozen	1	3		1	6	Scorzonera, bundle	1	0		0	0
Herbs, bunch	0	3		0	0	Shallots, per lb.	0	3		0	0
Leeks, bunch	0	2		0	0	Spinach, bushel	2	0		2	3
Lettuce, dozen	1	3		0	0	Sprouts, half siv.	2	6		0	0
Mushrooms, punnet ..	1	0		1	6	Tomatoes, per lb.	0	3		0	6
						Turuips, bunch	0	3		0	0

AVERAGE WHOLESALE PRICES.—OUT FLOWERS.—Orchid Blooms in variety.

	s.	d.	s.	d.		s.	d.	s.	d.
Acacia or Mimosa (French)					Pelargoniums, 12 bunches	4	0	to	9 0
per bunch	1	0	to	2 0	Primula (double), dozen				
Arum Lilies, 12 blooms ..	2	0		6 0	sprays	0	6		1 0
Asparagus Fern, per bunch	2	0		4 0	Roses (indoor), dozen ..	1	0		2 0
Bouvardias, bunch	0	6		1 0	„ Tea, white, dozen ..	1	6		2 6
Carnations, 12 blooms ..	1	0		3 0	„ Yellow, dozen (Niels)	3	0		6 0
Chrysanthemum, doz. bims.	1	0		4 0	„ Red, dozen blooms ..	1	0		1 6
„ doz. bunches	3	0		6 0	„ Safrano (English),				
Eucharis, dozen	4	0		6 0	dozen	1	6		3 0
Gardenias, dozen	2	0		4 0	„ Safrano (French), per				
Geranium, scarlet, doz.					dozen	1	3		2 0
bunches	4	0		6 0	„ Pink (French), per				
Hyacinth (Roman) dozen					dozen	3	0		4 0
sprays	0	6		1 0	Smilax, per bunch	2	0		3 6
Lilac (French) per bunch	4	0		5 0	Stephanotis, dozen sprays	4	0		6 0
Lilium lancifolium, twelve					Tuberose, 12 blooms ..	0	4		0 6
blooms	2	0		4 0	Violets Parme (French),				
„ longiflorum, 12 blooms	4	0		8 0	per bunch	2	6		3 6
Lily of the Valley, dozen					„ Czar (French), per				
sprays	1	0		2 6	bunch	2	0		3 0
Maidenhair Fern, doz. bchs.	4	0		6 0	„ Victoria (French),				
Marguerites, 12 bunches ..	2	6		4 0	12 bunches	1	6		2 0
Orchids, various, dozen					„ English, 12 bunches	1	6		2 6
blooms	1	6		12 0					

PLANTS IN POTS.

	s.	d.	s.	d.		s.	d.	s.	d.		
Arbor Vitæ (golden) dozen	6	0	to	12	0	Ferns (small) per hundred	4	0	to	6	0
Aspidistra, dozen	18	0		36	0	Ficus elastica, each	1	0		7	0
Aspidistra, specimen plant	5	0		10	6	Foliage plants, var. each	2	0		10	0
Chrysanthemums, per doz	6	0		18	0	Lycopodiums, dozen	3	0		4	0
Dracæna, various, dozen ..	12	0		30	0	Marguerite Daisy, dozen ..	6	0		9	0
Dracæna viridis, dozen ..	9	0		18	0	Myrtles, dozen	6	0		9	0
Ericas, various, per dozen	9	0		24	0	Narciss (French) doz. behs.	2	6		4	0
Euonymus, var., dozen ..	6	0		18	0	Palms, in var., each	1	0		15	0
Evergreens, in var., dozen	6	0		24	0	„ (specimens)	2	0		33	0
Ferns in variety, dozen ..	4	0		18	0	Solanums, per dozen	8	0		12	0



JUDICIOUS CHANGE.

By temporary pasture for clay land a mixture of certain Grasses and Clovers is indicated. We have had excellent results from such seeds under really good cultivation; we have extended the scope of our work in this direction by having special fields of Lucerne, Rye Grass, and Sainfoin sown separately on land well cleaned, well tilled, well manured. None of these crops affords a better indication of poverty or richness of soil than the Rye Grass, and no crop answers better for liberal treatment. But then the same must be said of the others; both of them repay one for high cultivation, both in bulk and duration of crop, Lucerne having the special value of resisting drought and affording crop after crop of its succulent, nutritious growth, while pastures are burnt up by drought.

For the "seeds" we cannot do better than offer the evidence of Mr. Primrose McConnell of the successful laying down of Essex clays to temporary pasture by himself and other Scotch farmers, whom the depression has brought south to so-called profitless Essex farms as to a veritable land of Goshen. Hear him in reference to his practice at Ongar:—"As a point of great importance in the system of reducing labour, there comes

the reduction of the laboured area by the putting away in temporary pasture. The making of permanent pastures is a subject that has been greatly exercising the agricultural mind for some years past; but I do not hesitate to state my personal experience that on ordinary soils this is a great mistake, though, of course, there are many exceptional cases where the land ought to be in grass and never ploughed up again. But putting into grass for a few years is quite a different matter, and has everything to recommend it. It is, in fact, adopting a six, seven, or eight years' rotation, three, four, or five of which are in 'seeds.' By this means the total amount of actually ploughed land is permanently reduced, as for every lea field broken up there is one laid down; at the same time the 'vegetable soul' of the soil is renovated by the formation of a young turf, while the weeds disappear more or less."

He goes on to call attention to the good crops derived from new broken-up land, and to the superior benefit accruing from any manure put on such land. Then, as to cleaning, of the three Grasses which foul clay land, Couch Grass (*Triticum repens*), and Black Bent (*Alopecurus agrestis*) die out of themselves when clay land is put into pasture. The third one, which is Water Grass (*Agrostis vulgaris*), also dies under persistent manuring, and he well adds that "instead of the laborious and expensive cleaning of land by a bare fallow or by roots, we simply plough properly, manure heavily, grow good crops, lay the land down to grass, and there is no further trouble."

The mixture of seeds used by Mr. McConnell for the Essex clays is an outcome of close observation, of repeated trials, of judicious changes year by year till the selection found to answer best and "settled down to" is per acre.

	LBS.
Perennial Rye Grass	13
Italian Rye Grass	5
Cocksfoot... ..	5
Timothy	3
Meadow Foftail... ..	2
Broad Red Clover	3
Broad Perennial Clover	3
White Clover	2
Alsike Clover... ..	2
Trefoil or Lucerne	2
	40

The average cost is about £1 per acre, the results being big crops alike profitable for home consumption or sale. This thick seeding is done advisedly in opposition to the general idea which favours thinner seeding, because it has been found a thin plant is unsatisfactory. With the dense clothing of the surface from such thick seeding the sward continues steadily improving, and is so good when its turn comes for breaking up that it is often done with regret. The improvement is accounted for by the fact of the land being put into good heart to begin with.

At the very basis of this putting into good heart is the dressing of gas lime applied to pasture when it is broken up, at the rate of from 4 to 6 tons per acre. It is claimed for it that it destroys grubs, partly kills the turf, renders the soil friable, and stimulates its natural fertility. Frequently its effects in the last two points are remarkable, the improvement in the mechanical texture of the soil being very great, and the manurial effect equal to that of nitrate of soda. We have no doubt that the caustic properties of such lime do tell beneficially on the stubborn clay, dividing its particles and setting free much of its plant food.

WORK ON THE HOME FARM.

Well timed was Mr. W. R. Raillem's note on spoiled butter from the use of green-topped Carrots, because this is precisely the time of year when such troubles arise from mistaken or careless feeding. The key note to the successful management of dairy cows in winter is cleanliness in the buildings, the litter, the cows' coats, the air they breathe, the food and water they consume, in the hands and dress of the milkmen, and in the milk pails.

Given all this, with proper shelter and the exclusion of the milk of

stale cows from that which is separated for the daily household butter, and there should be no failure—no just cause of complaint. Never forget that the full colour and full rich flavour of summer butter is impossible now, but it may be worth while to impart just a trace of summer beauty by the use of a little liquid annatto. This requires much care so as not to overdo it, and should only be done at all as a concession to that prejudice which is wont to regard the pale colour of winter butter as a fault—an indication of poor quality.

Give close daily attention to the thorough cleaning of the cow stalls. We like a wide shallow gutter at the foot of the stalls with a sufficient fall to the outlet to be cleansed easily by water once or twice daily; the latter is really necessary when the cows are kept tied in the stalls during stormy weather, such as we had last week. See that the cows' coats are kept quite clean now by the curry comb, by brushing and, when necessary, by washing. Nothing short of disgraceful is the filthy condition of the coats of many a herd of cows now; clotted with filth, much of which is moist, how can the cows be either healthy or comfortable? We hold that a cow house and the cows in it should be as tidy and well cared for as our best stables and horses.

One more word about the gutter. We have recently had all the gratings in the gutter of a very long cow hovel taken out and the drains they covered stopped, as the gratings were practically useless, being constantly choked by straw and filth. The gutter was widened, made to fall from the middle of the hovel to each end of it and to empty through a hole in the wall, over which there are vertical iron bars inside to exclude rats, and which can easily be kept open.

OUR LETTER BOX.

Mossy Park Land Cut for Hay (Lime and Leaf Mould).—Moss is usually an indication of a close and moist surface, but we have found quite as much moss on dry soil as on heavy, the difference being in the variety or varieties of moss. Leaf mould being of a humus nature will encourage the growth of mosses. We have, however, used it extensively both for lawns and park land without prejudice to the grass, and as that grows so does the moss decline, provided the soil contains sufficient lime for the complete transformation of the leaf mould. This is not always the case, therefore the leaf mould or humus formed by it accumulates and the moss flourishes correspondingly. By applying lime the leaf mould is rapidly decomposed and its constituents made available as food for the grasses and herbage plants. More, the mosses are actually poisoned by the nitrate of lime; therefore ground to which it is applied has a browned appearance for some time from the destroyed moss, but after a time the chemical changes are effected in favour of the grasses and they flourish in consequence. The amount of lime to be used depends on the quantity of moss. In bad cases, 8 tons per acre, 1 cwt. per rod is not too much to use, which should be in the slacked condition, but if slacked on the ground it will burn the grass and kill it more or less where the heaps lie. This means either slacking the lime off the ground or using air-slacked, both of which add to the expense. In treating mossy land we have used lime very successfully with compost, 1 ton to six cartloads, mixing the freshly burned lime with the heap. For leaf mould about one part in ten is sufficient, the lime being slacked wholly or partially and mixed with the leaf heap, this being done a few weeks before the compost is put on the land and the heaps turned at least once. The effect of the lime is to reduce the leaves (nearly decayed) one-third, and twenty to thirty or even forty cartloads being used per acre the requisite amount of lime is supplied as needed.

METEOROLOGICAL OBSERVATIONS.

CAMDEN SQUARE, LONDON.

Lat. 51° 32' 40" N.; Long. 0° 8' 0" W.; Altitude 111 feet.

DATE.		9 A.M.				IN THE DAY.				Rain.	
1895. December.		Barometer at 32° and Sea Level.	Hygrometer.		Direc- tion of Wind.	Temp. of soil at 1 foot.	Shade Tem- perature.		Radiation Temperature		
			Dry.	Wet.			Max.	Min.	In Sun.		On Grass.
		Inchs.	deg.	deg.		deg.	deg.	deg.	deg.	Inchs.	
Sunday	.. 1	30.046	37.3	37.3	S.	45.7	43.9	35.0	46.0	29.9	—
Monday	.. 2	30.186	36.6	36.2	W.	43.6	50.0	33.3	54.1	29.1	—
Tuesday	.. 3	30.008	49.7	47.3	S.W.	43.6	51.2	36.9	57.1	34.1	—
Wednesday	4	30.102	42.4	40.9	W.	43.1	54.0	38.1	61.7	33.0	0.032
Thursday	.. 5	29.632	53.8	49.4	W.	41.0	56.4	42.6	62.9	39.9	0.028
Friday	.. 6	29.425	47.2	45.6	W.	45.2	48.9	46.1	78.7	44.2	0.038
Saturday	.. 7	29.602	35.1	33.0	W.	43.7	40.8	33.8	62.8	29.4	—
		29.857	43.2	41.4		44.1	49.2	38.0	60.5	34.2	0.098

REMARKS.

- 1st.—Misty early; sun visible through haze or slight fog all day.
- 2nd.—Sunny, but atmosphere thick; cloudy towards sunset.
- 3rd.—Cloudy morning, with spots of rain; solar halo at noon, and generally sunny after; clear night.
- 4th.—Sunny till noon; cloudy after, and dull and rainy from 3 P.M.; gale at night.
- 5th.—Westerly gale all day; spots of rain early; fine day and evening.
- 6th.—Showery between 7 A.M. and 11 A.M., with a little hail; almost unbroken sunshine after, and clear night.
- 7th.—A slight shower at 3.30 A.M.; sunny almost all day, but a sprinkle of snow about 3 P.M.

An ordinary December week, but noteworthy for wind in the middle of it, and for warm sunshine on the last two days.—G. J. SYMONS.



WILLIAMS' EARLIEST OF ALL KIDNEY BEAN.

B. S. WILLIAMS & SON'S STERLING NOVELTIES FOR 1896

Our own introduction—now offered for the first time.

BEAN, DWARF FRENCH, WILLIAMS' EARLIEST OF ALL (Novelty, 1896).

This new variety is the earliest French Bean in cultivation. It can be forced a good deal earlier than any other variety. It is a splendid variety for pot culture as well as for outdoor work. It grows from 18 to 24 inches high, is a strong vigorous grower with a good constitution, the pods are long, broad, and fleshy, and of a green colour. They are very tender when cooked, and of excellent flavour. Specially recommended for very early forcing or for general crop. Per Packet ($\frac{1}{2}$ pint), 1/6.

TOMATO, "WARRIOR" (Novelty, 1896).

This magnificent variety is a very free setter and good cropper, producing its fruits in great clusters. The fruit is large, round, and without ribs. The flesh is of a crimson colour, firm, with flavour of the finest quality. As the fruit is exceedingly symmetrical in shape, it will prove very valuable as an exhibition variety. It can be specially recommended either for indoor or outdoor culture. Per Packet, 1/6.

Illustrated Seed Catalogue for 1896 is Now Ready, and will be forwarded Gratis and Post Free to all applicants.

B. S. WILLIAMS & SON,
Seedsman and Nurserymen to H.M. the Queen,
Victoria and Paradise Nurseries,
UPPER HOLLOWAY, LONDON, N.



Journal of Horticulture.

THURSDAY, DECEMBER 19, 1895.

MINOR PRODUCTS.

DRIED VEGETABLES AND FRUITS.

A WIDELY published letter from the Financial Secretary to the War Office relative to the supply of the Ashanti expedition with vegetables "made in Germany," will no doubt bring the question of "minor products" to the fore once again as a subject for general discussion bearing on the utilisation of the produce of the soil. The letter referred to was elicited by a correspondent directing attention to a statement that Potatoes, Carrots and Turnips, had been imported in large quantities from Germany for the expedition mentioned. It is not surprising that such a rumour had a disquieting effect on the minds of home cultivators, who, whatever their shortcomings in other respects, can at least grow such vegetables, and do grow them, as well as they can be produced in Germany or anywhere else. But while we have no doubt whatever about that, another fact, not without importance, has to be admitted. Though we grow them we do not prepare them for long storage and use on sea or land as they may be required. For this purpose they have to be obtained from Germany, and as England is the greatest maritime nation in the world we are presumably the best customers of the skilful and thrifty producers whose competition with us in the markets of the world will not unlikely have to be reckoned with in the future even more than it has been in the past.

In his reply to his interrogator, Mr. Victor Milward, M.P., the Financial Secretary stated that "No fresh vegetables are being sent out, but we have purchased dried vegetables of various kinds. These are of a particular character, recommended by the military authorities, and can only be procured in Germany." That is a definite and authoritative statement, to which was added, "Of course had it been possible to procure them in this country we should not have gone elsewhere for them." We do not know to what extent dried vegetables are purchased from Germany by English merchants for export purposes, but we should not be surprised if it is very considerable; and, whatever it may be, we are now told they have to be so purchased, as it is "not possible to procure them in this country."

No. 2464.—VOL. XCIII., OLD SERIES.

BEST LATE APPLE

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"NEWTON WONDER,"

as the best late Apple in cultivation; fruit keeps till June; large, well-coloured, perfect form, splendid cooking quality; tree a vigorous grower, free from canker, and very productive.

PRICE—Same as Ordinary Varieties.

AWARDED FIRST CLASS CERTIFICATE, R.H.S., DEC., 1887.
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SAWBRIDGEWORTH, HERTS.
STATION—HARLOW, G.E.R.

LILLIES FOR THE GARDEN.

Lilium Lancifolium, White .. 3/6 doz.
" " Red or Pink 3/- "

J. D. HAMON, Bulb Importer, Jamaica Row, Birmingham

It may be expected that, for marine consumption alone, the demand for this wholesome and ever necessary food must be very great. It is true that roots can be stored in a natural state for several weeks, but green vegetables cannot, and even the roots, of necessity, take up enormously more space because of the 90 per cent. water they contain than they do when that amount is dissipated, while the substantial elements and essential food constituents remain, the water being easily restored in the preparation for cooking. It is not, however, for their use on ships, or for occasional "expeditions" alone, that dessicated vegetables must be in demand, but for use in dry tropical countries, where the green vegetables so common with us are, under wholly different conditions, regarded more in the nature of luxuries.

For instance, there are districts in Africa where wealth abounds, but vegetables do not flourish, and where the populations are certain to increase year by year. Not long ago a gentleman, on his return from the Diamond Fields, told us that the arrival of a bullock-waggon of Cow Cabbages set the people in a ferment, and the hard, and more or less dry heads were "fought for" at 5s. each; that he had felt himself lucky to get a "decent" Cabbage for 7s. 6d., and many times had been glad to give 10s. for one. Still more recently a lady, who had returned from Johannesburg, assured us that she had seen Cauliflowers sold at all prices, between 10s. and 30s. each. In the face of such facts it is reasonable to presume there must be good openings in the world for vegetables in a dried state, and yet we are told, when our Government needs a supply fit for the troops, this supply cannot be obtained in England, but must be purchased from Germany.

We do not apprehend that there are greater difficulties in drying vegetables in England than on the Continent, where the process is artificial. It is a question of machinery and methods, of knowledge and enterprise. When herbs are properly dried they retain their essential distinctive properties, and so do vegetables. Some few years ago samples of various kinds were submitted to the Fruit and Vegetable Committee of the Royal Horticultural Society; Potatoes and Carrots reduced to chips, Cabbages, Cauliflowers, Kidney Beans, and others to smaller fragments, but when soaked the requisite time, though they may not have taken up the whole volume of water of which they had been deprived, they took up sufficient, and when cooked were quite tender, of good quality, colour, and flavour. We forget whether they were made in Germany or not, though we think some were dried at Chiswick when fruit-drying experiments were in progress there. Be that as it may, it appears somewhat anomalous that in a great and good vegetable-growing country like ours the Government should have to send abroad for supplies of the nature indicated.

Whether the requisite attention will ever be given in this country or not to the drying of vegetables and fruit that will be equal in commercial value to imported samples, we do not know; but we have a rather strong impression that we shall not be formidable rivals to the Continentals if we are content to dry our ordinary unsaleable rubbish, while they studiously choose the best of those varieties which are the best adapted to the purpose in view. This aspect of the case has not been fully considered in this country. We hear little about drying Apples or Plums except in "glut" years, and then the papers are filled with charges of imbecility against the possessors of scrubby Apples and trashy Plums too bad for sale, because they do not dry them, and so compete with French Prunes and American Apple rings in our markets. It is much easier to give advice than to carry it out successfully. Numbers of our softer varieties of Apples will never pay for drying, and as for our soft-fleshed Plums—ill-fed fruit from ill-fed exhausted trees—there could be little left when dried but stones and skins of the lowest commercial value, if any value at all. It is with dried fruits as with fresh, the best samples are remunerative, the inferior relatively valueless.

A good deal has to be learned in England before fruit drying will be a profitable industry. In the Chiswick trials we have yet

to be convinced that out of all the varieties tried there was more than one variety of Plum and one variety of Apple which in the dried form would have done more than meet the expenses involved in the process and preparation for market. If the contrary can be proved we shall be glad to have the evidence, or evidence of the practice of fruit drying having proved remunerative anywhere in this country except in the case of special samples and varieties. In vegetable drying we suspect we have produced as good examples for the purpose as can be found elsewhere, and yet if the Government want supplies for the army they have to obtain them from Germany. We cannot congratulate ourselves as a nation on this, and will not be so churlish as to withhold credit from the better educated and more enterprising Germans.

FLOWERS FOR CHRISTMAS.

WHERE convenience exists and cultivators look ahead early enough in the year there need be no scarcity of flowers during Christmas and the new year. These notes may not be in time to correct mistakes that may have been made in not keeping those festive seasons sufficiently in view, yet probably they will stir up some persons to greater energy in the future, or at the least prove helpful to beginners.

Abundance of flowers can be produced without resorting to the hard uphill work of forcing, and even those that need this treatment in order to bring them into bloom before their natural time may be trained to do so without injurious results. If when the days are lengthening and sun heat increasing, the plants are assisted instead of being carelessly returned to cool quarters they naturally complete their growth many weeks earlier, ripen and harden their wood, form their flower buds, and commence to develop them. All cannot be accomplished in a solitary season, but much can be done.

The enormous strides that have been made, both in the culture of Chrysanthemums and the numerous excellent varieties, have largely postponed forcing operations for a period of two months. I shall not enter into particulars of varieties, as so much depends on the taste of those for whom the flowers are grown, but what a grand bush Vivian Morel makes, and can be had in full beauty throughout December. W. H. Lincoln is a splendid late yellow, and J. S. Dibben cannot well be despised for yielding globular-shaped flowers late in the season. Last season we had blooms of Lady Lawrence in February, but although a beautiful flower, it is too uncertain for general cultivation. The Chrysanthemum, then, must be ranked first and amongst the most useful of Christmas and new year's flowers. The attention needed for late flowers is mainly in pinching the plants a little later and then protecting them outside as long as possible before housing. During hot weather, such as we had in October, the plants are better removed if possible where the full force of the sun will not strike on them, but in the majority of seasons no such care is needed. The protection of tiffany will ward off several degrees of frost when arranged on a rough framework of wood. This season sharp frost compelled us to house earlier than usual, but the plants were again stood outside, and the rough and ready method resorted to of laying them down and protecting them with mats.

The Violet is one of the most popular flowers, and in many localities easily produced. I have grown many varieties, but for continuous flowering none equals Marie Louise. All through the severe weather of last winter we were never without blooms. Hot-beds are not needed for the production of Violets in the winter, and heat from artificial sources proves ruinous to the plants. My method is a simple one. Young plants are raised annually, care being taken to keep them clean and grow them into strong plants on a north border. Early in September they are lifted with large balls of soil, and placed at once into frames. One frame of five or six lights has a position that is somewhat sheltered from the sun during the winter for late spring flowers. The remainder, twenty lights, are practically stood on the surface of Vine borders, on which 1½-inch boards have been arranged to form the frame. The space between the plants is filled in with fertile soil, whilst if dry weather follows watering and syringing may be necessary. The lights are placed on closely together, and the plants shaded for a few days. Afterwards abundance of air is given, and the plants exposed, except during rain or frost. Flowering commences at once, and continues for some time. No frost is ever allowed to reach the plants. The back of the border is filled in with litter; two mats thick is placed over the frames, then an oiled covering of

canvas to keep the mats dry if possible. The whole length is then covered with litter, thickness varying according to the severity of the weather. This treatment yields beautiful flowers throughout the winter and abundance during the sunny days towards its close.

Zonal Pelargoniums may be classed as the next most useful class of plants, and yield abundance of bloom with a minimum of labour. Young plants are good and flower freely, but we have found after many years' experience that two-year-old plants are better. For winter scarlet and pink shades are most useful, the old John Gibbons, with its scarlet flowers, large truss, and individual pips being one of my favourites. The semi-doubles, on the whole, are perhaps the most useful. To grow them really well they should be outside all the summer, and thoroughly ripened. Housing in any light cool airy structure at the end of September or early October is essential. The object must be to house the plants before the approach of autumn rains, or they are liable to start a soft growth, and thus flower unsatisfactorily. Too much heat must not be given at first, nor should the plants be over-fed. From the time flowering commences firm sturdy growth must be aimed at. The useful Ivy-leaf varieties must also be included, for the shades of colour are most delicate, and on the dinner-table or in small glasses they are unsurpassed.

Calanthes are indispensable in any establishment where choice cut flowers are in request. Unfortunately, if the plants are retarded for late flowering too long, there is a tendency to degenerate instead of gaining strength. The pseudo-bulbs must be well matured to produce the finest spikes, and in spite of any drawbacks in their culture, a good houseful should be grown where blooms are needed in quantity. Few flowers make a lighter or more imposing dinner-table decoration. When used in conjunction with what is erroneously called Smilax (*Myrsiphyllum asparagoides*) and other suitable greenery the effect is charming.

The useful *Cypripedium insigne*, although not showy, is quaint in appearance, lasting, and deserves to be largely grown. Its flowers can be used to advantage in any position, and few plants, apart from its use in a cut state, are more useful for the embellishment of conservatories. With these two exceptions Orchids are passed over for the present, though we by no means ignore their claims for special attention.

Epacris are not nearly so much grown as they deserve to be. They need careful potting and watering, and then will go on increasing in size and usefulness annually. With a fair number of varieties they commence flowering in October, and continue until the end of March. Some persons consider they are stiff, but many stiffer plants are grown and employed for decoration. The small-flowering shoots can be used in vases, and alone are effective; while those with long slender stems 2 feet or more in length are charming in large vases. Very chaste dinner-table decorations can be carried out by Epacris sprays and suitable greenery. Plants well grown and flowered are most conspicuous rising out of tastefully arranged groups, such as are often required at the period of the year we are writing about. The general treatment conducive to the best results we cannot now stop to consider.

Cyclamens are indeed useful, but under the mixed systems of culture prevailing in too many gardens they are more difficult to do well than other plants. Nevertheless they can be grown sufficiently well by sowing seed annually to yield abundance of flowers for cutting. Few plants yield a better return even if they have to be purchased than a few dozens of well grown Cyclamens. In small glasses, used with a little of their own foliage, they are charming. When needed for table decoration a good number of one shade should be obtained, when they can be used with much greater advantage.

The ever-useful and highly appreciated Mignonette must find a place. Although it has nothing to recommend it from a gorgeous point of view, a vase or two filled with well-grown spikes are always pleasing, and never seem to cause disappointment. Its sweet perfume will ever be sufficient to insure it a place by the side of the choicest of flowers. Seeds should be sown in May and June in 5-inch pots, and the young plants thinned out to about half a dozen, which are allowed to grow 6 inches high. The points should then be taken out, the plants placed in 7-inch pots, and the shoots pegged down. The result is, if grown in a cool temperature, plants a foot high for the winter, with bold flower spikes. When housed the plants must have a cool place on a shelf close to the glass, and if possible a little moisture-holding material should be placed on the shelf. On no account must the plants be allowed to seed. If the spikes are not used it is better to remove them, for the plants will soon start again into growth, and produce three or four spikes where the one has been removed. — WM. BARDNEY.

(To be continued.)

SUPERNUMERARY VINES.

WHAT are known as supernumeraries, or Vines to be fruited for a few years only and then destroyed, are usually planted among those intended to be permanent. In some instances, and more especially where there are no inside borders, this may be the only available position for them, but in other cases it is not. Supposing the permanent Vines are to be from 42 inches to 4 feet apart, working in others midway between them is a doubtful policy. Sufficient room may be found for the rods for the first two years, but what about the battle of the roots going on below? Which get the best of it, the permanent Vines or the supernumeraries? Sometimes one, sometimes the other. If it is the intention of those responsible to arrange their permanent Vines not more than 3 feet apart, then I maintain there ought to be no supernumeraries planted between them. The latter must greatly interfere with the progress of the former both above and below the surface of border, and they cannot be cleanly rooted out, many strong woody roots remaining to decay and to breed fungus in the soil. Gardeners, as a rule, are too much disposed to pamper their permanent Vines, fattening these up while the supernumeraries are "paying the rent," whereas it would be more to the purpose to work them moderately hard from the time they are stout enough to produce bunches. When will that be? ought not to be a question long requiring an answer.

Under ordinarily fair conditions young Vines should be equal to producing two or three bunches after having had one clear season's growth. This is what I intend doing in the case of forty Vines planted out of 5-inch pots during February, 1895. There is no necessity to wait till the rods are near the thickness of a stout walking stick before commencing to crop them, as they will do quite as well, perhaps better, when nearer the thickness of the kitchen poker. It is a question of superior root action, and seeing that there were no supernumeraries to interfere with mine, and also that it would want a heavy pull to drag them out of the soil, there is little likelihood of a crop of three bunches, or 6 lbs. of Grapes, checking them from continuing to improve in size and serviceability.

It must not be thought I object to supernumeraries altogether. On the contrary, I believe in them up to a certain point, and if I had not had Tomatoes in the vinery during the first three years I should have planted scores, not along the fronts though, but fully 4 feet from the permanent Vines. If a strong stake were placed to each of these Vines, and the latter not stopped, other than at the laterals, till they are 2 feet or more up the roof, bunches may be left from near the ground to the end of rod. Not being over-cropped, extension may take place and fruiting go on till such time as the room is wanted by the permanent Vines; also cropped after the first year.

Vines might be thinly disposed all over the floor of a house, as well as against back walls, and the latter perhaps left permanently. A temporary border, largely composed of ordinary garden soil, answers well enough for the supernumeraries, and this could be cleared out with the latter as it becomes necessary to widen the border for the permanent Vines. Doubtless this arrangement would interfere with the presumably most important work of concreting bottoms, forming a drainage and such like, but what if I assert that all this is so much wasted labour in many cases. It is my belief that numbers of drains connected with inside Vine borders have never been seen to carry away any water, or in other words not enough water is given to test whether they would act or not.

Where supernumeraries answer well is in newly planted Peach houses. Supposing the trees are planted from 12 feet to 16 feet apart, with a view to training them up the roof, and there are no long-stemmed trees, a Vine could be fruited midway between them for at least three seasons without detriment to the Peach or Nectarine trees. They would also succeed for several years under the ridge of either a three-quarter span or a span-roofed house. When Mr. Austin had charge of the gardens at Ashton Court, Bristol, he used to cut some of his best Grapes for exhibition out of a comparatively narrow range of Peach houses, and although those Vines were, if I remember rightly, cut out by his successor, this does not weaken my contention that many more Grapes could be grown in Peach houses with advantage than is the case at present.

Vines are sometimes grown and fruited in pots by way of supernumeraries, and the plan answers well, always provided those practising it are no novices in the work. I have seen grand crops cut from pot Vines in newly planted houses, but these were very closely attended to, being tested at the roots, and watered, if need be, three or four times during bright days. Nor can pot Vines often be depended on to give more than one good crop of fruit, unless they happen to be rooting in extra large pots.

Personally I should prefer to have them in tubs, while if there would be no necessity to move them about, then I would plant them in square pits formed with loose bricks. Vines succeed remarkably well in temporary pits 18 inches to 2 feet square, and can easily be given a "shift" by taking down and setting out the walls a few inches wider all round. These loose walls also afford good opportunities for watching the root action, for testing the state of the soil and such like, a side being partly taken down and restored without disturbing the soil.—W. IGGULDEN.

FLORAL FACTS AND FANCIES.—15.

CHRYSANTHEMUM shows, so Mr. Edwin Arnold tells us in his "Sea and Land," are one of the features of Japanese life, and afford an agreeable break in its rather monotonous onflow. The usual charge for admission is but a cent, which is certainly moderate. Much attention is given to the training and culture of the plants during spring and summer. One peculiarity of these shows is that the Japanese have booths, in which are represented fables or historical incidents, and Chrysanthemums are deftly arranged to serve as robes or scenic accessories. Another display, that is quite unlike anything to be seen in our flower shows, consists of our miniature trees, to the production of which the Japanese gardeners often devote themselves. By special treatment of the buds and rootlets such trees as Oaks, Firs, Thujas, and Plums are curiously dwarfed, yet made to resemble in figure those of natural growth and great age. These are exhibited in pots, being perhaps only 20 inches high or thereabout while sixty years old, perhaps more aged than that. Then a number of them are grouped to form a mimic landscape, hills, valleys, and streamlets; cascades even are ingeniously contrived to complete the illusion.

Commonest of Japanese trees in many districts, this traveller says, is the Persimmon or Date Plum (*Diospyros virginiana*), the fruit often hanging up outside cottages to dry, or showing on the leafless autumn trees like a small elongated Orange. This exotic has its meaning, for the flower, of greenish hue, is symbolic of "love of Nature." Other fruit trees have had a variety of meanings associated with their flowers, some of which are curious. The bloom of the Apricot (at first people called it "Apricock"), a tree supposed to have been sent us from a country much talked about now—that is, Armenia; this was an emblem of "doubt," because, flowering early, there was an uncertainty whether, in our changeful spring, the flower would be succeeded by fruit. Rosy in hue, the Peach flower became a symbol of "deep affection," and the like meaning seems to have been attached to the Pear, owing perhaps to the early legend that a faithful old couple were transformed by Apollo into Pear trees. "Good education," we are told, is called to mind by the flowers of the Cherry, for some stroller in gardens took note of the fact many years ago that training and pruning did much to improve this fruit tree, and, indeed, many others.

As a symbol of "maiden purity" the Orange blossom has for centuries been worn by brides, and the kindred Lemon speaks of "loyalty," so, too, the Citron. Neither of these appear to have been grown in England till 1648, at Oxford, when the heat of the Civil War was cooling down. The Orange tree itself is a representative of "generosity." From the idea that the Pineapple is the most delicious of fruit, its flower was made a token of "perfection," but the Apple runs it close, since its fruit is esteemed the wholesomest, therefore it tells of "preference," though the Crab blossom implies "ill-nature," and that of the Vine naturally conveys a caution against loss of self-control. To the Black and the White Mulberries different significances have been given; the flowers of the former are expressive of "grief for the dead," and we are reminded of "wisdom" by those of the latter. Standing sometimes alone upon the bleak hill-top, braving wind and weather, we see "independence" in the wild Plum, and the cultivated species is supposed to tell us that "promises are sacred;" the flower of the Pomegranate is somehow typical of elegance.

Why the low-growing Strawberry should suggest "futura" is a query to which the likeliest answer is that the fruit is sure to follow the flower if the usual precautions of culture are taken. Rough must have been the Raspberries men first so named, for such is the significance of the word, but we have sweetened them now, a shrub this which symbolises "remorse," for ancient story associates it with the hills of old Troy. Again, the Fig flower is an emblem of "strife," and, in truth, it is a tree the culture of which has, in the past, caused much discussion amongst gardeners. Monck said, years ago, that of all fruit trees it is the least understood and the most tractable; perhaps he was right. The flowers of the Gooseberry represent "anticipation," and those of the Currant "timidity," as they oscillate and seem to shrink from the wind.

The Magnolia, when it was first introduced, was valued as a medicine, the bitter bark being esteemed a remedy for coughs and other complaints, but travellers who had seen in its native land specimens of *M. grandiflora* 100 feet high recommended its cultivation as an ornamental tree, and the whitish, fragrant flowers merited their meaning of "peerless and proud." But the Chinese *M. purpurea*, which thrives on the London clay, and was formerly very common in its suburbs, showy with its large flowers and leaves, speaks to us of the "love of Nature;" and perhaps *M. tripetala*, the "umbrella" Magnolia, was made a symbol of "perseverance" because it produces its long, curiously rayed leaves, and drooping flowers, followed by conical rosy fruit, under circumstances that seem unfavourable.

A native of Britain, but frequent in shrubberies, the Guelder Rose (*Viburnum opulus*) called after a district in Holland, where it abounds, is said to indicate "good news" by its white flowers and red berries; this is one of the shrubs into which, according to the old myth, the spirit of some woodland nymph has passed. Its relative, *V. lantana*, from its mealiness, has had the name of Cotton Tree, and Wayfaring Tree, as growing along roadsides, though it is admitted to some gardens, and Mrs. Howitt suggested that it had a resemblance to the Hydrangea.

The Philadelphus or Mock Orange, with bloom that has been supposed to resemble the true Orange, has leaves that were formerly fancied to taste like Cucumber—but no one eats them now—was grown plentifully by Gerard in his Holborn garden four centuries ago. It is a type of "deception," and has somehow got confused as to its names. There is no reason it should have the Latin one of Philadelphus, which belonged to a tree we cannot now identify; and Syringa, one constantly given it, belongs to the Lilac; also it was occasionally called "Pipe Privet." Some believe that the perfume causes headache. The Laburnum has a name of uncertain meaning; perhaps it alludes to the hardness and excellence of the wood. The flower represents "beauty," and its drooping clusters suggested the name of "Golden Chain;" another was Peascod Tree. It is unfortunate that many persons are unaware of the poisonous nature of the seeds, but they do not appear to injure animals, and the foliage is eagerly eaten by hares and rabbits.

The Lilac or true Syringa received its name from the fancy that the rustic pipe or musical instrument of the shepherds was made from its branches. The purple is symbolic of "youthful love," and the white variety of "innocence." It is a pity the Coronilla or Scorpion Senna is not more cultivated. We have had it since 1596; it is quite hardy, and makes a capital hedge. The yellow coroneted flowers are a token of "success."—J. R. S. C.

DUKE OF BUCCLEUCH GRAPE.

THE Editor has forwarded me a letter from a correspondent. Part of the letter I have replied to privately, and the other part I will now endeavour to answer through the columns of the Journal. It has reference to the above Grape.

From what Mr. C. says in his letter he grows "Gros Colman" splendidly, not only heavy crops, but good coloured and well finished fruit. I am pleased to hear this, and hope he may long continue to grow Grapes as well as he seems to be doing at present.

If Mr. C. will turn to the article on "The Duke of Buccleuch Grape," which I wrote for the Journal of September 5th, 1895, he will there find pretty full details in connection with its culture. Its various good qualities are enumerated, and its special weaknesses are also mentioned.

As I remarked in the article referred to, "The Duke" is much better when not subjected to much knocking about in sending to market. It is essentially a Grape for cutting and placing on the table, or presenting to the invalid, not exposing it to the rough treatment often bestowed on produce sent by rail. At the same time, if special care be taken, I have no doubt but that "The Duke," when well grown and placed in the market in prime condition, would command a higher price than any other variety. We sell nearly all we grow of it to private individuals, who have found out its splendid qualities and appreciate it accordingly.

In regard to an inquiry as to the weight of crop we have had on "The Duke," I have to say that we have never had more than about 25 lbs. on a 15-foot rod, and consider that quite heavy enough. With that weight of crop "The Duke" has coloured well, and in fact developed all its good qualities.—JOHN THOMSON, Clovenfords.

[We know of a long span-roofed house in an Essex garden in which most, or all, the popular varieties of Grapes are grown, including Gros Colman. During some seasons the bulk of the

fruit is sold, most of it being personally taken by passenger train to London. The result has proved that, Vine for Vine, the Duke of Buccleuch has realised the most money of all. Had the fruit been packed and left to take its chance of the "knocking about" incident to a long journey, the results might, and probably would, have been different.]



DENDROBIUM TREACHERIANUM.

RARELY is this *Dendrobium* seen at our exhibitions, and as a consequence the plant staged by Mr. W. H. White, Orchid grower to Sir Trevor Lawrence, Bart., Burford Lodge, Dorking, at the last meeting of the Royal Horticultural Society held in the Drill Hall, Westminster, attracted some considerable amount of attention. The specimen was a splendid example of culture, and was bearing three spikes of flowers carrying ten, seven, and five blooms respectively. The colour of the sepals, petals, and the front portion of the lip is bright rose shading to crimson towards the throat and side lobes. Several flowers on the plant exhibited were fully expanded, while others were still in the bud stage. A first-class certificate was awarded to this plant by the Orchid Committee. The woodcut (fig. 87) will convey to our readers an idea as to the form of the flowers and their method of production.

SOWING ORCHID SEEDS.

As the advice given to a correspondent in the *Journal* for November 28th (page 521) on sowing Orchid seed is the reverse of what my own experience points to as the best, I should like to ask if it refers to Orchids generally, or to any family in particular. I have been successful in raising *Dendrobium*, *Disa*, and *Phaius* from seed, and have never, as far as I could discover, had any seed germinate (although apparently good) when the surface of the material the seed was sown on consisted solely of sphagnum. I have at present a sowing of *Dendrobium* and another of *Disa* germinating, and it is strikingly noticeable that there is none to be seen on the sphagnum, while on the bare patches of peat in the same pans they can be easily seen. The seedlings in question are at the stage of a tiny semi-transparent green globe, apparently attached to the peat fibre by numerous hair-like processes, surmounted by a tiny narrow leaf, and might be easily overlooked by anyone who was not looking purposely for them. The *Disa* seed germinated most profusely on the slightly scaly rhizome of an *Odontoglossum crispum*, but have since nearly all gradually shrivelled away, apparently from lack of moisture, as those on the peat in the same pot are growing satisfactorily. I think the experience of other readers of the *Journal of Horticulture* would be both interesting and instructive, as I feel sure much good Orchid seed fails to germinate from what to the would-be raisers is an unexplained cause.—J. H. LANE, *Colesborne*.

[Since the note referred to was published we have seen seedling Orchids growing in sphagnum as closely together as Mustard and Cress. No doubt more Orchids of various kinds have been raised in that way than in any other, though it is conceivable that different material and its condition may be found more appropriate for the germination of the seed of particular kinds, and hence the value of published experience as in the above communication. Also since the publication of the note referred to we have seen what may be described as an Orchid seed bed of considerable extent not composed of either sphagnum, peat, or anything of the kind, but of strips of deal about an inch wide placed an inch apart or so across a bed and kept constantly moist. On these the seeds are scattered, and when the young plants are visible the strips are cut into lengths and affixed in a bed of sphagnum in baskets, and in this way do not receive a check in their early stages by transplantation.]

CATTLEYA LABIATA AUTUMNALIS.

THE last few years have been remarkable for the number of choice Orchids introduced that flower during late autumn and winter. The present species, although not new, was comparatively little known until its re-introduction a few years since, and the same may be said of the charming *Dendrobium Phalaenopsis*. Both these kinds are now well known; I had almost said common, but this epithet is capable of a double meaning, and in one sense it certainly would not apply.

The genus *Cattleya* will always have a very great attraction for

orchidists, and this is not to be wondered at considering the magnificence of the flowers, the wide range of colour, and the fact that beautiful blossoms may be enjoyed every month in the year. *C. labiata autumnalis* may, without a doubt, be reckoned as one of the best in the genus, and a plant quite indispensable. Notwithstanding *Cattleyas* are easily grown, it is a fact that many beginners in their culture are not as successful with them as with some other kinds, and if there is one thing that tends to this unsatisfactory state of affairs more than another it is the preconceived notion that Orchids, and therefore *Cattleyas*, require to be deluged with water for six months in the year, and that during the remainder they must not have a drop near them.

They are in fact to be grown on a hard and fast rule which admits of not the slightest variation, and such questions as "When



FIG. 87.—DENDROBIUM TREACHERIANUM.

shall I dry off my *Cattleyas*?" or "When must they be started?" are frequently put with a naïveté that is almost startling to hear. The sooner these ideas are confuted the better for the success of the experimenter, for if they are acted on the loss of many valuable plants will be the inevitable result.

C. labiata autumnalis usually arrives in this country in very good condition, and if ordinary precautions are taken very few plants will be lost in establishing. They ought always to be obtained, if possible, early in the year, and may usually be potted at once in crocks, the laying out process being hardly necessary in their case. Sometimes new roots will be pushed in advance of the growth, and in such cases it is advisable to lay on a little compost consisting of the best peat fibre and sphagnum moss. But if, on the other hand, the growths make their appearance first, roots are not usually emitted until the new pseudo-bulbs are approaching completion, and the compost therefore will not be required until this occurs.

If the plants are strong, a large percentage of them will flower the first season on the newly formed bulbs. Water must be given the plants in accordance with their strength and the number of roots they produce, always giving enough to soak the whole of the material in the pot. If, after the flowers are past, the plants still continue to make roots, the water supply must also be continued, but if they appear to be going to rest it must be diminished by degrees, at the same time allowing the plants full exposure to the sun and all the air possible in order to hasten and consolidate the growth made.

These plants will stand being kept much drier than any with badly ripened bulbs and foliage, the latter shrivelling if not kept moist at the root, and often starting out of their proper season. But with the strongest and best plants it is unwise to allow the peat and moss to become really hard and dry during the resting season. A point requiring care is not to wet the base of the pseudo-bulbs more than can be avoided in watering, as this is injurious to the eyes containing the pseudo-bulbs and flowers in embryo for the next season.

The plants must not be watered in dribbles, as this necessitates frequent applications, and consequently frequent wetting of the parts referred to. Sprinkling is a rather vexed question, some good growers practising it, while others aver it is injurious. Certainly it has beneficial results at times, but to resort to it indiscriminately is far worse than leaving it alone altogether. In dull and wet weather it is injurious, but when very hot and bright it replenishes the atmosphere about the plants wonderfully, and is very refreshing to them, as well as being useful in removing accumulated dust and dirt from the foliage. When the pseudo-bulbs are about half formed—that is, as the leaf begins to unfold, but before it has grown out of the sheath—the cavity thus formed is apt to collect water, so if syringing is then practised it will be necessary to look over the plants afterwards, and invert them to allow this to escape.

If these few details are attended to, and the plants grown in an ordinary Cattleya house temperature, this fine species will be found a very free grower, constant in flowering, and a desirable Orchid in every way. It is not necessary to describe the flowers, as they are well known, and hardly two plants produce blossoms exactly alike in all particulars. It is an old species, having been introduced as far back as 1818 from Brazil, and is the kind upon which Dr. Lindley founded the genus in honour of the gentleman whose name it bears.—H. R. R.

DENDROBIUM FORMOSUM GIGANTEUM.

THE Dendrobiums are, perhaps, more diverse in form and appearance than any other class of Orchids. There is a very wide range of beautiful forms between the densiflorum type and the group to which the above variety belongs. This variety is one of the finest autumn-flowering kinds, with very large axillary flowers produced singly from the upper parts of the pseudo-bulbs. They often measure 6 inches or more in diameter; the colour is a pure white, with the exception of the throat, which is orange-yellow. The clavate pseudo-bulbs often grow to a length of a foot or more, and bear at the apex several leathery dark green leaves. This is a tropical plant, and requires considerable heat and moisture. It will do well in a basket in equal parts of peat, sphagnum, and charcoal, and should be potted rather high. While growing, abundant watering is necessary. Like most Dendrobiums, this plant requires a good rest to mature the bulbs when the growing season is over.—("Garden and Forest.")

AN EXHIBITING PROBLEM.

How from time to time there crop up at flower shows odd problems or questions that need something more than even a code of judging to determine the merits of. At a well-known show recently, where there were classes for mixed-flowered and for Chrysanthemum-flowered bouquets, two handsome flower combinations were set up, and these in each case took first prizes. So far as I can gather, it seems that a metropolitan professional bouquetist took these bouquets to the show for the purpose of competing in the classes, but found when there that he was debarred from showing because he lived outside the prescribed district. That being so, it seems further that an exhibitor living in the prescribed area allowed these bouquets to be staged in his name, and, of course, is credited with the prizes. That was wrong and immoral.

But the point to be raised is this, Was he in so doing breaking any of the requirements of the schedule? I have looked, and cannot find that any stipulations prevent that course being taken, although there is a rule which requires that all products exhibited shall have been in the possession and under the cultivation of the exhibitor for at least three calendar months prior to the show. Obviously that is an absurd condition in relation to many things, but specially so in relation to floral decorations, as exception is always made in relation to flowers so employed. What rule, then, did the exhibitor break?

So far as I can see, if he chooses to employ a professional bouquetist to make up two bouquets for him, and then for him to set them up as his own, I cannot see that any rule of the schedule is broken. Did the schedule require that all floral arrangements, bouquets, sprays, epergnes and vases, should be made up or dressed by the exhibitor in person, then there would be some ground for disqualification in this case; but none exists. I hear of a protest against the awards being handed in, and very properly so, as, even if the Committee cannot in this case disqualify, and pass on the prizes to other competitors, yet they can formulate such other conditions as should render a repetition of this sort of action in the future impossible.

The case is interesting, as showing how many things disputable crop up from time to time never dreamt of by even codes of judging committees, and it is not possible to formulate in any code such suggestions as may meet all cases. It is just the sort of case, however, which the Council of the Royal Horticultural Society offers to arbitrate on and determine on the payment of a small fee, because it raises not a question of exhibition merit, which the duly appointed judges alone can determine, but one of law, or of interpretation of law. Nothing is known in this case as to whether there was any kind of agreement between the respective parties to this bouquet exhibiting that was purposely immoral. So far as is really known all may have been done in good faith. Still, all that has to be proved. The Executive must bend its energies to the framing of a rule which will prevent henceforth the recurrence of such acts as even now violate the spirit, if not the letter, of the schedule.—D.

OPEN AIR PEACH CULTURE.

(Continued from page 548.)

A SATISFACTORY border is of the utmost importance, and any time or trouble bestowed on its formation is well spent. Few gardeners would think of planting Peach trees under glass without first preparing the border, and also seeing that the drainage was perfect. The Peach being naturally a limestone subject it will thrive better on this formation than any other, but this does not prevent it succeeding on other soils, as there is generally lime present; and it can be increased to suit the requirements of the Peach by the addition of old lime rubbish, or even fresh lime, applied to the surface, and pointed lightly into the border with a fork before the trees come into bloom, or in the autumn. I was speaking to a gardener recently as to the benefits of applying fresh lime to Peach borders, and he told me that at one time, although apparently his trees were satisfactory, yet the blossoms set indifferently, and what did set eventually dropped off. After taking to the practice of dressing annually with fresh lime no more difficulty was met with on this point.

Like other fruit trees the Peach detests stagnant moisture at the roots. A plentiful supply, such as may be given to those growing in a well-drained and aerated border, will insure the trees keeping in good health, and also in bringing fine crops of fruit to perfection, so the border must be drained more or less according to the natural conditions. The border must not be cramped; quite 5 feet or 6 feet should be given up to the roots without disturbance of any kind. Allowing this width, with an extra 4 feet or 6 feet for the roots to ramble in, will not be too much. I quite believe that many of the failures with open air Peaches may be traced to undue disturbance of the roots by digging the surface to be further cropped with other plants.

If it is known, or even surmised, that water is apt to congregate within 2 feet of the surface, the border must be drained to this depth. If the subsoil is a cold clay, it will be found an excellent plan to overlay the surface with old roofing tiles, and above this a surfacing of rough stone, broken bricks, rough ballast, and such like material, the aim being to insure efficient drainage and aeration of the border. If any old coarse turf can be secured, then cover the surface with this, or even coarse gravel, the aim being, as all gardeners know, to secure perfect drainage. If the original or natural soil is to be utilised, to every six loads add one each of old lime rubbish, wood ashes, or well-burned garden refuse, with a portion of charcoal. If any fresh loam can be secured, utilise it for placing about the roots at the time of planting.

I now come to the selection and planting. In choosing the trees, I do not think anyone needs better advice than to go to a nurseryman whom it is well known takes an interest in the growth and training of the trees, and also in seeing that his stock is true to name, both of which are important. In selecting the trees some people prefer "maidens," but I never could see the advantage. I like a tree with about six shoots, or three years from the bud. Plant firmly and well, keeping the "collar" well up. It may also be necessary to add that care must be taken that the roots are not allowed to become dry before planting, and also all rough ends must be pared off with a sharp knife. The tree ought not to be fixed to the wall until the border has settled down.

In the formation of Peach trees a good foundation to start with is most essential. Strong growths must be checked to encourage the weaker, as it would not do for a few strong shoots in the centres of the trees to be allowed to grow ahead, as by so doing the lower branches would remain weak, and instead of having the whole wall covered with bearing wood it would only be the upper portion. The main branches at the first commencement of training must be spread out in the form of an open fan. The lower tier should be brought well down, or into an almost horizontal position, the remainder being equally spread out, keeping the centre open.

The main shoots as they grow will eventually form the framework of the tree. If any of these show signs of growing too strongly nip out the points, laying in sufficient lateral growth to fill out the tree. The aim must be to furnish the tree from base to summit with regular bearing shoots, laying these in about 5 inches apart. It is seldom that I find it necessary to prune back the bearing shoots, as by exposing the wood well to the sun the growth will become matured its whole length. Careful disbudding will also have to take place, but anyone can master this. By commencing early and keeping on at intervals—removing the strongest shoots first, taking care to leave a growing bud at the base and point of each shoot, intermediate ones being removed by degrees, also keeping an eye on the formation or extension of the tree, if a young one, also guarding against crowding—a well-balanced tree will be the result. As the young growth becomes long enough it must either be neatly tied or nailed in. If this proceeding is left too long there is an ugly bend in the shoot, and besides it is apt to break. Another advantage of early "heeling" in, as it is termed by gardeners, is that all parts of the tree and fruit are kept well exposed to the sun.—A. YOUNG.

(To be continued.)

THE GLADIOLUS IN 1895.

WHEN I write about the Gladiolus I have, of course, always in my mind the varieties of what is called the Gandavensis section, that being, as I conceive, *par excellence*, the Gladiolus. Although I have been now for so many years a grower of these beautiful flowers, I must say that they are very trying to the patience and temper of the grower. I have grown them in various soils and in different situations, but I have never had one that gave them an immunity from disease. I think, though of this I am not quite sure, that those who possess a garden in which there is good strong loam, such as Strawberries and Roses delight in, have the best chance of success, while those in which there is a large quantity of humus seem to be unfavourable.

A good stand of Gladioli is unequalled in the autumn months for its beautiful and striking effect; the flowers are most varied in their colouring of brilliant and also most delicate shades. For many years I was a successful exhibitor at the Crystal Palace show, but during the nearly twenty years that I competed I never had more than three or four competitors, and this has also been the case in country shows that I have attended. But all growers are not exhibitors, and there are certain persons who will be glad to know what new varieties are being brought forward. They are not to be found in the gardens of large places, but amongst those amateurs who spend much time, thought, and trouble on their little plot. I do not, of course, mean that the varieties in the following lists comprise all the novelties of the present year, but I have only included those that I grew in my own garden and have therefore been able to examine leisurely. Some were obtained from Mr. Kelway of Langport and Mr. Burrell of Cambridge, and others from France.

GERTRUDE.—A large and striking flower; white, with a slight blush of pink in it, and the edges marked with stripes of rosy pink. This is a grand variety, and seems to be of good constitution.

HILDA.—This is a fine white, somewhat similar to the preceding, probably not quite so large, and having a beautiful yellow throat, which gives it a charming appearance.

ROSALIND.—A very large flower with a long spike; the colour pale rose, richly flaked and ribboned with crimson.

DECIMA.—A pale rosy white grounded flower, flaked on the edge with crimson. This is a splendid large flower and spike.

BERNICE.—This beautiful flower belongs to a class which is somewhat scarce—I mean the yellows, and there has not been the advance in them that there has been in other colours, for Nestor, Pactole, and Rayon d'Or do not stand in the first rank, and retain their place, perhaps, more for their colour than anything else; but this flower is a decided improvement. It is large, has a good spike, and seems to be of a vigorous constitution.

BERRYER.—A fine and beautiful cherry red flower, lightly shaded with lilac, with a large white spot, fine spike, and striking colour.

BEHAUZIN.—A large and long spike of a somewhat remarkable colour, having a scarlet ground deeply shaded with slaty brown, with a white line in the middle of each division. I do not think that this tint of colour is much appreciated by us, although the French seem very fond of it; but in this variety the white line in each petal may give some set off to the dark shading.

DIADÈME.—This is considered by the raisers as the finest yet gained in the yellow series of flowers. I am inclined to think that they are right, and it is noteworthy that it comes to us in the same year as Burrell's Bernice.

GARGANTUA.—A very large well-opened flower, carmine red colour abundantly striped with violet red, and very light in the centre; a superb flower.

OLYMPE.—A large spike furnished with fine well-opened flowers of an intense rose, shaded with lilac, with a pure white spot.

TIGRIDIA.—A salmon yellow flower very large and well opened irregularly striped with carmine rose.

VALKYRIE.—A very striking and novel variety; the spike is long and the flowers are large; the colour is bright orange, oddly marked with slaty violet; very distinct and original.

I should like to see every good garden with its collection of named Gladioli, and this can be done now at a very trifling expense, so as that in the multitude of counsellors there is wisdom, we might be able to overcome the difficulties of their cultivation.—D., Deal.

MODERN GRAPE GROWING—KEEPING THE FRUIT.

(Continued from page 504.)

WELL-GROWN Grapes are comparatively easy to keep, and they generally pay for keeping. Badly grown ones soon decay or shrivel, but while they last they are thrust on the market in large quantities, and keep the prices of even the best down to a very low figure. Fruit may be kept on the Vines till the first week in January, but it is scarcely possible to keep it there later without injury to the Vines, which ought then to be pruned without delay.

The principal conditions requisite to keep the fruit sound, whether on the Vines or off, are a comparatively dry atmosphere, an even temperature, and provision for absorption by the stems of sufficient water to replace that which evaporates from the berries.

Possibly some day we may have a plan for preventing or checking evaporation from the berries, and at the same time preventing fungus spores or whatever it is that causes their decay from coming in contact with them. In the case of Almerian Grapes this is effected by packing in cork dust, and I take it that although the material is valuable for filling up interstices, keeping the berries in their places, and partly isolating any damaged berries, its greatest value lies in the fact that it excludes the external air with all its impurities and preserves a comparatively uniform temperature. Where there is uniform temperature there can be no condensation; and consequently decay, except when produced by disease or parasites, is reduced to a minimum. Has anyone tried to keep Grapes in air-tight cases? I know from experience that they will keep a long time in closed show boxes, although I have never seen a fair trial of what can be done in this way. In the first place, the boxes were not air-tight, and when I have kept any Grapes in this way it has been after they had been exhibited, consequently the stems were somewhat shrivelled to start with, and the berries even if not damaged were coated with dust.

While the fruit is hanging on the Vines I do not think that, in the south of England at any rate, there is anything gained by trying to keep a lower temperature than 50°. Fruit may shrivel in this or any other temperature, but this degree of temperature would not cause it to shrivel, and the fault must be looked for elsewhere. At the same time, if the weather should be severe after the leaves have nearly finished their work, I would rather allow the temperature to go considerably lower than fire hard to keep it up to this figure. When the temperature rises rapidly from natural causes it is necessary to be very much on the alert, and rather anticipate the rise, for the formation of dew on the berries is detrimental at any time, and doubly so when the fruit is ripe.

Small structures can be covered with canvas and kept in darkness, and consequently with a comparatively even temperature after the leaves are matured; but this is hardly possible with large houses, therefore we must do our best till the fruit is cut, by timely ventilation, to keep the house in the best possible condition to prevent decay.

In most large establishments there is a Grape-room, and it is a very necessary adjunct to any establishment where it is attempted to keep Grapes in quantity through the winter. An ordinary fruit-room, where Apples and Pears are kept, is not suitable, because the exhalations from other fruits are deleterious to the Grapes. A lean-to building facing north is to be preferred, and there should be no window on which the sun can shine, or if that is unavoidable, then let it be double-glazed, so as to be impervious to sun and air; the roof should have a layer of straw or other non-conducting material between the slates or tiles and the plaster, and the walls if not very thick should be hollow-built. Provision must be made for warming when necessary, and also at the highest point for a little ventilation.

Failing a properly constructed Grape-room, a spare room in a dwelling house may be fitted up for the purpose. It is best not to have it on the ground floor, and the more it is surrounded with other rooms the better. The commonest plan, and it answers very well for a few bunches, is to suspend rails or rods across it, and to use bottles, pint champagne bottles for medium-sized bunches and quarts for larger ones. But any sized bottle will do so long as the end of the stem is kept in water. If a rack can be made to hold the bottles in a slanting position and allow the Grapes to hang clear of everything all the better, and they can be stored closer together than when they are merely hung on a rod by a string.

When all is ready and the room thoroughly dry—a fine day is chosen for the purpose—the Grapes are cut with as much stem as can be spared, brought in a few at a time and immediately placed in position, the bottles having just sufficient water in them that when the Vine stem is inserted there will be no overflow. Should the stem below the bunch not be of sufficient length for the purpose, it answers just as well to turn it topsy-turvy and insert the upper end, for Vines are very accommodating, and will grow backwards as well as forwards.

During the first few days a large quantity of water will be absorbed, and strict watch must be kept that it does not get out of the reach of the stems, for if this happens, and is not attended to for a few days, not only will the stems shrivel, but the water will lose its purity. While the stem is in the water some sort of circulation is going on, and the water will keep sweet for several months, but once the stem is out of it it very soon becomes putrid.

During very severe weather, if there is no other way of keeping the frost out, one or two paraffin lamps may be used for the purpose, not that I believe frost of itself does much harm—indeed, I have had them frozen for weeks, when the bottles have broken away and left the bunches sticking in a solid mass of ice—but there is a risk when the thaw comes and the place turns very damp. Of course it is possible

with well-built hollow walls on the exposed sides, double-glazed windows, double doors, and a non-conducting roof, to keep out any amount of frost. I remember the case of a plant pit built with hollow 9-inch walls that protected its inmates from frost when the thermometer touched zero. Has the refrigerator been tried for keeping home-grown Grapes, say Muscats, till April? I am of opinion, but cannot now say for certain, that frost does not take much of the flavour from Grapes.—WM. TAYLOR.

(To be continued.)

"SWINDLING AT FLOWER SHOWS."

SUCH is the heading of an article which appeared in one of the leading Scotch papers some time ago, and its perusal makes one almost feel ashamed to have anything to do with flower shows. It seems that the honour of beating one's neighbour at a show is no longer sufficient for the exhibitor; but such an old-fashioned satisfaction has given place to the desire of obtaining the prize money by some means or other.

I have long had a faint suspicion that the flower show as an institution for the promotion of higher gardening was fast becoming a failure. The exposures of exhibitors from time to time who have taken prizes with other persons' fruits, flowers, plants, and vegetables, or by tying two bunches of Grapes together to appear as one, or potting two or three plants together to make believe it is one, have all tended to make me think that the original idea of flower shows was being frustrated. This suspicion is now becoming a conviction, and when the outside Press is taking up the matter I think that it is time we ourselves should look into it and see what we can do to mend it.

That abuses will creep into every institution, let it be ever so good and noble, is almost as certain as that darkness follows light, and therefore it would be very unreasonable to condemn the flower show simply because abuses have crept into it. Still, when the abuse has a more baneful effect than the unsullied aim has of good, I think the time has arrived when it would be better for the community that the institution in question should cease to exist. In expressing an opinion that such a time has arrived in the history of the flower show as at present conducted, I shall, no doubt, be in danger of bringing down a hornets' nest about my head. "But facts are chiefs that winno ding, an darna be disputed."

The general public seem to have but very little sympathy with the flower show if we are to judge by their unwillingness to attend. The majority of horticultural societies whose shows are well attended have to resort to all sorts of means to draw the public, such as military bands, fireworks, ballooning, and other exhibitions, all as far removed from horticulture as the poles are apart. Why is this? Simply because year after year the exhibits are almost identical, and one year's show is just a reproduction of another. Of course, this in itself is no argument against a show, as we may say the same of our gardens, for year after year we produce the same crops, sometimes heavier, sometimes lighter, but always the same in character. It does, however, in my opinion point out that we have no right to expect the general public to support our horticultural exhibitions, but rather that they should be supported by gardeners themselves, and genuine lovers of gardening.

Why do we want the public at our shows? Probably that they may get enlightened and educated, though the strongest reason for wishing their presence is to obtain gate money to pay for the prizes and other expenses incurred in making the show a success. Now I think the only means of having shows as they ought to be is to do away with money prizes altogether and substitute instead certificates, and thus go back to the original aim of shows by letting the emulation be the honour pure and simple of growing the best samples, and not in obtaining the money. If this were done the dubious methods spoken of would soon be swept away from all exhibitions, as I cannot conceive of anyone resorting to underhanded practices for the sake of pure honour. The expensive character of the flower show would be largely done away with, as the only expenditure incurred would be the printing of certificates, paying for the tents, hall, or wherever the show may be held, and thus the committees of shows would be much less dependent upon the patronage of the public than they are at the present time.

No doubt there are many good and sound reasons may be given against such an innovation as indicated, but personally I cannot see them, although I can see many other reasons besides that of morality for introducing such a sweeping change in the character of our flower shows. It does not cost more to grow good vegetables, fruit, or flowers, than to grow inferior ones, consequently a gardener in exhibiting his produce does not put himself or his employer to any extra expense beyond that of travelling to and from the place of exhibition with the exhibits. The abolition of money prizes would tend to keep the gardener from exhibiting away from home, but at the same time it would also tend to keep exhibits up to a high standard, as no one would go to the trouble of sending anything to a distance except it were really good.

Some may think that provincial shows would suffer and lose many of their best exhibits from the large gardening centres if there were no money prizes; but of that I have no fear, as nurserymen will always look after their own interest in that direction. At many of the shows I visited this year the best exhibits were those of nursery firms who were not showing for competition, but simply as a means of advertising.

I am afraid unless some radical change takes place, and the defects of the present system of showing remedied, that the flower show will soon be a thing of the past.—A SCOTTISH GARDENER.

We have only to say at present that the writer of this article is exactly as represented, and a most capable man. He gives in a

trenchant way prominence to one side of the question. Now let us hear what can be said on the other by persons not less experienced in the subject of shows and showing than he is, and whose sense of honour is equal to his own.]

WITH A VETERAN FRUIT TREE GROWER.

WHAT! late to talk about fruit? Well, yes, so it is; but Chrysanthemums have recently been occupying a large share of space, so Better late than never—at least, thus thought a Journal man the other day as he wended his way to Hounslow, a Middlesex suburb of London, to see the fruit tree nursery of Messrs. S. Spooner & Sons, and have a chat with the veteran principal of this flourishing firm and his capable sons.

Like most successful men whose success is due entirely to their own energy and dogged perseverance, Mr. Spooner, sen., is brimming with anecdote and useful information, the result of more than half a century's experience, so that a chat with him is not only interesting, but highly instructive. With becoming modesty he tells how in the year 1820 the business was founded on a small plot of land, and little by little it has grown and extended until now it occupies an eminent position among the fruit tree nurseries of this country. An area of some 35 acres is devoted almost entirely to the culture of fruit trees and Roses. Their success in this department is very marked, and the large spaces of ground from which trees have recently been removed prove that the output must be exceedingly large.

A hasty and, I might add, muddy walk round this forest of fruit trees suggested many thoughts, and passing through a large area of Plum trees prompted me to inquire if these were a speciality. "Oh, yes," replied Mr. Spooner, jun.; "we have 10 acres or more allotted to their cultivation, and this year the sale has reached over 7000 two-year-old trees." "And what kinds are the most in demand?" "Oh, Victoria certainly, followed closely by The Czar, Grand Duke, Monarch, Pond's Seedling, and Rivers' Early Prolific. Last summer we budded no less than 50,000 Plums, of which 30,000 were Victorias, and our sale of all kinds of fruit trees lies greatly with market gardeners." The last remarks, though spoken insignificantly, struck me as being important, pointing as it does unmistakably towards the increase of fruit-growing for profit.

I was of course too late to see specimens of Messrs. Spooner's fruit, but of the quality of that those who have visited the principal of the recent autumn shows will be fully satisfied, as their exhibits have elicited more than one complimentary remark from competent judges who are also severe critics. Turning to the Apples, there was no lack of evidence with regard to either the quantity or the excellent quality of the trees, while empty spaces and packing operations proved that the work of removal was still going on. "Which kinds appear to be most in favour?" I inquired. "Ecklinville Seedling and Bismark are much in demand," was the reply, "though we supply largely Beauty of Bath, Domino, Cox's Orange Pippin, Duchess Favourite, Gladstone, Grenadier, Early Julien, Keswick Codlin, Lane's Prince Albert, Manks Codlin, Potts' Seedling, Stirling Castle, Worcester Pearmain, Royal Jubilee, and Lords Suffield, Derby, and Grosvenor; and of these chiefly two and three-year-old trees go out.

Extensive breadths of Pears of various sizes and forms suggested inquiries respecting these, to which my guide promptly replied that Fertility, a heavy bearing October Pear very useful for market purposes, and Hessel, another prolific and profitable market sort, were in great call, also mentioning Pitmaston Duchess and several others as being favourites. The trees were all clean, in good condition, and reflected much credit on the cultivators.

"You appear also to grow Peaches and Nectarines largely," I observed, on noticing a number of thoroughly trained trees. "Oh, yes, we grow a considerable number," replied Mr. Spooner, "and of the former Royal George and Noblesse do well with us and are greatly in demand; while among the latter I think the premier place must be given to Early Rivers', which we have proved to be an excellent variety. We can safely recommend it, and predict a great future for this kind."

Cherries, Apricots, and other fruits all claimed attention, and it would be easy to give an almost unexhaustible list of names. This, however, would be to little purpose, and sufficient has been said to give an idea of the extent of Messrs. Spooner's business. The soil is admirably suited for the cultivation of fruit trees, and the nursery adjoins Hounslow Heath, once, according to history, the rendezvous of highwaymen of the Jack Sheppard and Dick Turpin type, but now frequented by fresh air seekers from the great City. A hasty glance at the Roses, shrubs, and forest trees had to suffice, as a nursery on a wet December day is not the most pleasant of places. "Are you troubled much with insect pests?" I asked before departing. "Oh, no!" was the reply. "We have no pests except an occasional attack of American blight, which is eradicated as promptly as it appears."

"What do you think of the fruit-growing movement as an industry?" I further inquired. The veteran's long experience and sound knowledge on the subject asserted themselves in his pointed remarks, and numerous instances were given where, in spite of occasional gluts and low prices, the culture of fruit has been the means of raising many from the quagmire of adversity in which they had fallen through the depression of agriculture. That fruit-growing is steadily advancing Mr. Spooner entertains no doubt, and in its advancement he sees the spread of a great industry in which we have much lost ground to regain. Surely such a firm as Messrs. Spooner & Sons is doing its share towards furthering the movement, as in order to obtain profitable fruit growers must have suitable trees, and that these can be, and are, supplied from the Hounslow Nurseries the recent visit proved—at any rate, to—WANDERER.



WEATHER IN LONDON.—Though Christmas is almost with us the weather still continues remarkably open. On one or two days since our last issue went to press there have been frosts, but generally the wind has been high and accompanied by cold, driving rains. On Tuesday it was dull and cold, the air towards evening feeling slightly frosty, while at the time of going to press on Wednesday a slight but cold rain was falling.

— **WEATHER IN THE NORTH.**—During the week ending the 17th *curr.* the weather has kept up its inconstant character. The 13th was a good day for the season; Sunday, with rain, sleet, and snow, one of the most unpleasant. Monday was dull and cold, with some rain towards evening. Tuesday was also cold, but dry. Five degrees of frost were recorded on the morning of Saturday.—B. D., *S. Perthshire*.

— **THE ROYAL HORTICULTURAL SOCIETY AND THE PROVINCES.**—We have received several letters, though not for publication, referring to the subject of our leading article last week. Every writer gives expression to the opinion that the work of the Society is too much circumscribed, and hopes are expressed that means may be devised to widen its scope. We have also received communications for publication, but as the whole of them could not appear in the present issue they are reserved, in order that all may be read together, if possible, next week.

— **ROYAL BOTANICAL AND HORTICULTURAL SOCIETY OF MANCHESTER.**—The exhibition arrangements for 1896 are as follows:—Spring Flower Show at the Town Hall, March 13th and 14th; National Auricula Society's Show (Northern section) at the Gardens, Old Trafford, April 25th; the annual Whitsuntide Exhibition will open at the Gardens on Thursday, May 21st; the annual Rose Show at the Gardens, July 25th; the special Exhibition of Produce grown by the tenants of small holdings at the Gardens on September 10th, 11th and 12th; Chrysanthemum Show at the Town Hall, November 20th and 21st.

— **HORTICULTURAL CLUB.**—The monthly dinner and conversation took place at the Hotel Windsor on Tuesday, 10th inst. There was a large attendance of members and visitors. The chair was occupied by Mr. Harry J. Veitch, and there were present amongst others the Rev. W. Wilks, Messrs. Philip Crowley, James Walker, George Monro, A. H. Pearson, George Paul, Peter Kay, H. Selfe Leonard, James Webber, J. Assbee, and Arnold Moss. A very interesting and instructive address was given by Mr. George Monro on "The Fruit Supply of Covent Garden." It was thoroughly practical, and was much appreciated by all present. It also originated a brisk discussion, during which many subjects of great importance were touched upon. A hearty vote of thanks was given to Mr. Monro for his admirable address, which we hope to give in a future issue. Mr. Peter Kay of Claiemar, Finchley, sent a basket of very beautiful Alicante and Canon Hall Muscat Grapes, and Mr. Shea a dish of very beautiful samples of Gascoigne Scarlet Apples.

— **CONCERTS IN AID OF THE GARDENERS' ROYAL BENEVOLENT INSTITUTION.**—The members of the Altrincham and District Gardeners' Improvement Society have always taken the deepest interest in the welfare of the Royal Gardeners' Orphan Fund and the Gardeners' Royal Benevolent Institution, and the efforts put forth on behalf of these deserving Institutions have been supported in a generous manner by the public. This year it was decided to give two concerts—one on December 3rd, and the other on the following day, this special effort being put forward with the object of establishing a local Orphan Fund, for the purpose of granting immediate relief if occasion required. The attendance on both evenings was very large, every available portion of the large hall of the Literary Institute being occupied. Programmes of more than usual excellence had been prepared for each evening. The amount realised, after paying expenses, was a little over £56, 40 guineas of which goes to the Gardeners' Royal Benevolent Institution, and the remainder retained for the local Orphan Fund. Since 1892 the amount of £161 has been raised in this way, £105 of which has been sent to the Royal Gardeners' Orphan Fund.—CHAS. HEWITT, *Hon. Secretary and Treasurer*.

— **COLOURS OF FLOWERS.**—The Scientific Committee of the Royal Horticultural Society is desirous of carrying out some experiments on the effects of ingredients in the soil on the colours of flowers. The Secretary will be glad to receive any information about accidental or other results which florists or other cultivators have met with. Any references to published accounts of changes of colours in flowers will be thankfully received. Address—Rev. G. Henslow, Drayton House, Ealing, W.

— **USEFUL INSECTS.**—A very important paper was read at the Penzance Natural History Society meeting recently by Mr. Baily on the good and harmful insect pests. He thought the place of honour should be accorded to the blow-fly, which, with an ever-increasing population, has its work cut out. The next is the honey bee, which should be better known and appreciated, as it not only fertilises fruit trees, but also kills innumerable caterpillars. He had been studying and experimenting with them for the last two years, and so could speak from experience. Insect life should be better known.

— **THE CHANGEABLE WEATHER.**—The changes in the weather over the United Kingdom are now very sudden and considerable. The dense fog of Wednesday had scarcely passed away from London, and the sky become moderately clear, before a large depression reached the west and north-west coasts of Scotland, drawing in a strong, squally wind from the southward along all our western coasts, accompanied by rain and a rising sea. In the metropolis and suburbs of London last evening rain fell in torrents. The storm was also accompanied by hail. The general appearance is still unsettled, but, apparently, colder weather is approaching, with a high barometer.

— **DEVONSHIRE HORTICULTURAL SHOWS FOR 1896.**—Devon and Exeter Horticultural Society; Hon. Sec., G. D. Cann, Esq., 16, Queen Street, Exeter. Summer Flower Show, Friday, August 21st. Fruit and Chrysanthemum Show, Thursday and Friday, November 5th and 6th, at Exeter. Schedules may be had from Robert Veitch & Son. Devon and Exeter Gardeners' Association Spring Flower Show, Wednesday, March 18th; Hon. Sec., Mr. Andrew Hope, 54, High Street, Exeter. The Devon County Agricultural Society's Show, May 19th, 20th, and 21st, at Plymouth; J. L. Winter, Esq., Totnes, Sec. Bath and West and Southern Counties Show, May 27th, 28th, 29th, 30th, and June 1st, at St. Albans; Thos. F. Plowman, Esq., Bath, Secretary.

— **TORQUAY DISTRICT GARDENERS' ASSOCIATION.**—We have received the balance-sheet of this Society, and must congratulate the Committee and members on the balance of upwards of £20 that is in hand. In the brief report before us the Committee say that "it wishes to sincerely thank those who so generously gave donations towards the recent show, those who exhibited, and the public who so liberally supported it by their patronage. In view of the great success of this first attempt it has been decided to hold two shows in 1896—a spring show on Wednesday, March 25th, and an autumn show on Wednesday, October 28th." At the spring exhibition Mr. G. Lee of Upton Leigh will read a paper on "Orchids: their Fascinations and Romance." Schedules for the two shows will shortly be issued. The energetic Honorary Secretary is Mr. Fred. C. Smale, Isaline, Avenue Road Torquay.

— **CHYSAANTHEMUM AND FRUIT SHOW IN CARLISLE.**—A meeting of gardeners and others interested was held recently for the purpose of discussing the desirability of promoting a Chrysanthemum show in Carlisle next year, Mr. C. Lonsdale, Rosehill, being Chairman. After some discussion it was decided to form a Society to be called the Carlisle and Cumberland Horticultural Society, and to hold a Chrysanthemum and fruit show under its auspices next autumn, and possibly a flower show earlier in the season. Mr. Sale of Botcherby was appointed Secretary *pro tem*. The Mayor of Carlisle was appointed President; a large number of gentlemen residing in the district were appointed Vice-Presidents; and Mr. Watt, jun., Knowefield, was elected Treasurer. The following were appointed members of the Working Committee:—Mr. C. Lonsdale, Chairman; with Messrs. Blackstock, Thompson, Hetherington, Wilton, Hay, Fairbairn, Robertson, Potter, Horn, M'Causland, Tait, Stewart, Fry, Boyd, Scotby, Cairns, Arthur, Littlejohn, Ivison, Hammond, Clark, Low, Tait, Davidson, Strethon, Veitch, and Little. The Committee has power to add to the number of office-bearers. All the foregoing have been elected subject to their acceptance of office. The fee of membership, it was agreed, should be 5s., payable on the 1st January in each year. Another meeting, it was decided, should be held next month for the purpose of drawing up rules and lists of premiums.

— CHATTERTON'S POEM ON "KEW GARDENS."—We learn that the authenticated manuscript was sold by auction at Bristol a few days ago, when it was purchased for £70 by Mr. Barker, Chairman of the Bristol Libraries Committee, who bought it for the city.

— GARDENING APPOINTMENTS.—Mr. Thomas Pritchard, late gardener to the Countess of Selkirk, Balmae, Kirkcudbright, has been appointed head gardener to J. G. Muckrie, Esq., Auchencairn House, Castle Douglas, N.B. Mr. Arthur Metcalfe, who for nearly two years acted as general foreman for the late Mr. Richard Gilbert, has been appointed to succeed Mr. Gilbert as head gardener to the Marquis of Exeter, Burghley, Stamford.

— A HINT FOR CHRISTMAS DECORATORS.—For light effective decoration nothing is prettier than sprays of Ivy carefully removed from tree trunks with a sharp knife, put round the frames of mirrors or pictures, just made secure with a large pin. Ivy furnishes a charming decoration. It is well to follow Nature, and arrange the sprays upwards instead of hanging down from a mass of evergreen piled at the top of the frame.—THE MISSUS.

— THE HESSLE GARDENERS' MUTUAL IMPROVEMENT SOCIETY.—At a meeting of the above Society, held December 10th (Mr. Chas. Lawton, The Gardens, Welton House, in the chair), a paper was read on "The Cultivation of Melons" by Mr. M. Skinner, The Gardens, Swanland Manor. In commencing the essayist remarked that in too many instances the quality of Melons is sacrificed to outward appearance, the smaller and more common-looking fruits as a rule being of superior flavour to those of a handsome appearance. Mr. Skinner went on to describe their culture from seed sowing to their arriving at a state of perfection, entering into all the details in a most practical way. A good discussion followed. Votes of thanks to the essayist and Chairman concluded one of the best attended meetings of the session.—F. L. T.

— PROPOSED PALM HOUSE AT BATTERSEA PARK.—The Parks and Open Spaces Committee recommended: "That, subject to an estimate being submitted to the Council by the Finance Committee as required by the statute, the Council do authorise an expenditure of £2000 for the erection of a Palm house at Battersea Park, in accordance with the design prepared by the architect, and that inasmuch as the Chairman or the Works Committee is of opinion that the work is one which the Works Department is not in a position to execute with special advantage to the Council, the Committee be authorised to invite tenders." Mr. Beachcroft moved as an amendment: "That the Council, having regard to the increasing demands upon it in regard to open spaces both on capital and maintenance accounts, is not prepared to undertake the cost of erecting a Palm house at Battersea Park." Colonel Rotton seconded the amendment, which was carried by seventy votes to twenty-eight.

— WHOLESALE DESTRUCTION OF PLANTS.—At the North London Police-court, Arthur Smith, thirty-one, gardener, of Willow Cottage, Spring Lane, Clapton, was charged on remand, before Mr. Paul Taylor, with maliciously damaging and destroying the contents of seven large hothouses at the house of Captain David Gibbs, Springfield, Clapton, on the early morning of Sunday last. The damage done has been estimated at the actual cost of £150. There was a further charge against the accused of stealing a coat, value 2s. 6d., the property of the gardener, Frank Woolmington. The evidence went to show that the prisoner had been for two years in the service of Captain Gibbs as gardener. He left five months ago, and since then he had not been able to get employment because Captain Gibbs was unable to give him a character for sobriety. On Sunday morning the gardener at Springfield found that the grounds had been entered, and that the contents of seven out of the nine hothouses had been wholly destroyed. Vines which had been growing many years, and Orange Trees, Peach trees, and climbing exotic plants had been clean cut through at the roots; banks of Ferns and boxes of bedding-out cuttings, hundreds of feet in length, had been mown down, apparently with a large knife; and hundreds of valuable Orchids had been smashed and rammed into a tub; in fact, not a single growing plant had been left alive in the seven houses, which cover an area of over 3000 square feet. The police described the state of the houses as a heartrending sight. It was found that the footprints on the soft ground corresponded with the prisoner's boots, and the gardener's coat, which was missed from a house which contained no plants, was found in the prisoner's house. Mr. Paul Taylor sentenced the prisoner to a month's hard labour for stealing the coat, and to three months' hard labour for the damage to the plants—four months in all.

— DOBBIE'S VICTORIA KALE.—We are desired to state that the Selected Curled Kale, for which an award of merit was granted at the Royal Horticultural Society's meeting last week, will be distributed by Messrs. Dobbie & Co. under the name at the head of this note—a good name, as will be admitted, while those who saw the specimens will agree that it is deserved.

— CROP OF CIDER APPLES.—A correspondent in Gloucestershire writes to the "Kew Bulletin":—Cider Apples are so abundant here that they fetch only 1s. a sack. Eight sacks make 100 gallons of cider, therefore 1s. will produce about 12 gallons of cider, or 1d. a gallon. Double this for making, casks, and profit, and you arrive at $\frac{1}{2}$ d. per quart. There is a lot of drinking in store for those who require it.

— MESSRS. CARTER & CO.'S ANNUAL CONCERT.—On Saturday last the employés of Messrs. James Carter & Co., High Holborn, London, held their annual soirée at Bloomsbury Hall. A most enjoyable evening was spent, the attendance being larger than on any former occasion. Songs both humorous and otherwise were rendered in excellent style by various members of the staff, as were also several pianoforte solos. The dancing was vigorous and well maintained during the evening.

— POETRY AND TRUTH.—I do not know whether the atmosphere of the Emerald Isle of necessity promotes contentiousness, which looks like anger, although public events seem to indicate such is the case. It is only on that basis I can understand the bitter attack which Mr. Burbidge has made on my criticisms, not at all ill-natured, of some observations which were made by Mr. D. T. Fish. What proved to be a veritable red rag in Dublin, was practically regarded as a white handkerchief in Bury St. Edmunds. To my good friend Mr. D. T. Fish I offer every apology if he feels hurt; but if he does, he has shown himself too good a gentleman to display it to all the world. Probably I am one of the severely practical sort, who fails to find in poetry much that is in the common work of life useful, and also who has found in it similes or metaphors beautiful, as I said, and employed in that way, but yet not true. We live in severely practical days, when even metaphors must bear the test of criticism. It was because I object to possibly misleading illustrations that I criticised the reference to the generation of water through leafage, and the manufacture of drinks through embryos. This sort of thing is very like the philosopher's assertion, that the black material which fills our scuttles was not coal. It was the bottled-up sunshine of thousands of years past. That is all very pretty, and has in it a modicum of truth; but the practical man, whose soul is not poetical, calls it coal all the same, and coal it is.—A. D.

— SCOTTISH PANSY AND VIOLA ASSOCIATION.—The general meeting of this Association was recently held in Glasgow. The President, Mr. W. Cuthbertson, presiding. The reports of the Treasurer and Secretary for 1895 were read and adopted, and the retiring office-bearers were specially thanked for their services. The following officials were appointed for 1896:—President, Mr. W. Cuthbertson, Rothesay; Vice-Presidents, Mr. John Baxter, Daldowie, and Mr. John Stewart, Lennoxton; Treasurer, Mr. James Robertson, Carlisle; Secretary, Mr. John Smellie, Bushby. The rules were revised, and a few slight alterations made, the principal one being on No. 4, instead of one Committee of seven judges to examine all flowers that two Committees of five be appointed, one for Pansies and one for Violas. Over 300 varieties were staged at some of the meetings in 1895, and it therefore took the Committee a long time to go over them all. The appointment of two Committees should greatly facilitate the judging, and give more time to the members to examine the exhibits. After business the members partook of a substantial tea, and a very enjoyable evening was spent. The following is a full list of the certificates awarded by this Society in 1895. First-class certificates to Fancy Pansies Mr. Toots, A. Struthers, Col. M. R. G. Buchanan, Mrs. W. Steele, Sir John Watson, Jeannie R. Kerr, and Frank. Certificates of merit to Fancy Pansies Mrs. Gamp, The Barron, Lady M. Hozier, Mary Bennett, Jessie Gillespie, Alex. Lister, John Mackie, James Smellie, Maggie Goodlet, Mrs. Robert Stewart, John Jackson, Lord Salisbury, Geo. Sproul, Willie Park, Mrs. R. G. Moir, Jas. Stewart, Alice Lister, Liz. Barron, Miss Blair, Bessie, Mary Bain, Miss E. C. Melven, John Crawford, Mrs. Jas. Muir, and Jennie B. Smith. First-class certificates to Violas Fortuna, Ganyowen, Jessie Pretswell, and W. Haig. Certificates of merit to Violas Sunray, Nellie, Mrs. W. Haig, A. J. Rowberry, Amy Barr, Pickle, Lady Reay, Hamlet, Zebra, Maria, Ag. Harris, Katrina, Aroon, Crème de la Crème, Hobbill Gem, Liz. Barron, Princess Ida, Pollokwood, Dandie Dinmont, Bella Duncan, Mrs. R. K. Mitchell, and Duke of York.

— THE DEVON AND EXETER GARDENERS' ASSOCIATION.—It has been arranged to have the annual supper on Friday, the 3rd of January, 1896, at Martin's Castle Hotel, Castle Street. Supper to be on the table at seven o'clock, prompt. As the supper affords an opportunity for pleasant intercourse, and the cultivation of social friendship among the members, the Committee hopes that all who can will be present. In order that proper arrangements may be made for the comfort of those attending, tickets must be taken not later than 27th December.

— LADY DOWNE'S GRAPE NOT COLOURING.—In reply to Mr. J. Thomson (page 537) the Vine of Lady Downe's alluded to by me at page 502 was of fruitful habit, but I never allowed it to carry more bunches than such a Vine should carry; in fact, if anything it was undercropped in comparison with its near neighbours, which always finished well. This Vine used to be a conundrum to several gardeners who paid me a visit annually, as it seemed very strange that it alone should fail out of the many Vines grown in five vineries. I may mention that in the same house Mrs. Pince's Black Muscat succeeds wonderfully well, we never having any trouble in getting bunches from 5 lbs. to 7 lbs. in weight, and also for the variety of excellent colour. I mention this to show that the treatment could not be at fault. As Mr. Thomson says, it seems a pity that Lady Downe's should not be popular as a market Grape, as it has most excellent qualities, and when well grown is of really handsome appearance.—A. Y.

— COFFEE IN THE SHIRE HIGHLANDS.—The Shire Highlands Coffee crop for 1895 has now been gathered in. At present it is difficult to form an accurate estimate of the number of tons "pulped" throughout the "Highlands," but one is very near the mark in putting it down at 150 tons, which would be an increase of 75 tons on last year's crop. C. M. McKinnon, Esq., of the Mwalanduzi Estate, has this year reaped his maiden crop. From something like 13,000 trees he has managed to pick nearly three tons of Coffee. Great pains have been taken in the pulping and washing, and the sample of berry, which is large and very clean, has been pronounced by a London expert as "one of the best and cleanest samples of Coffee he has yet seen in the Shire Highlands." There are now between fifty and sixty Coffee plantations in the Shire Highlands of Central Africa. Of course the large majority of them are still in their infancy, but within the next two or three years there undoubtedly ought to be a large export of Coffee from this part.—G. A.

— TIGRIDIA PAVONIA.—This is, in my opinion, one of the most beautiful of Iridaceous plants. Tigridias grow to the height of about 2 feet, and produce flowers of a brilliant scarlet, spotted with crimson, measuring as much as 6 inches across. The flowers expand every morning, lasting only one day. There are several varieties of the type, the most noteworthy being *T. grandiflora*, producing larger and richer coloured flowers. Tiger flowers are of easy culture, requiring a rich open soil, and enjoying a partially shaded position. When the leaves begin to decay the bulbs should be lifted, gradually ripened, then stored for the winter, planting again in April. Some growers prefer to pot the bulbs in the early part of the month of March, and start them under glass before planting them out. They may be increased by means of offsets or seeds, the latter plan of propagation being the more interesting. The seeds should be sown as soon as ripe in a warm house, and as soon as the seedlings are large enough to handle they may be pricked off into pans until large enough to plant out. Seedlings flower in about the third season.—H. S. M.

— GARSTON TECHNICAL INSTRUCTION LECTURES.—The first course of Lectures on Horticulture was brought to a conclusion on Tuesday, December 10th, in the Public Offices, Grassendale, by Mr. J. J. Craven, Allerton Priory, reading an admirable paper on "Fruit Culture under Glass," the subject being dealt with in a thoroughly practical manner. Since these Lectures have commenced, Grassendale has led the way, and the money spent cannot fail to do a great amount of good, for at each the attendance has been excellent. The following syllabus is sufficient to show the varied character of the Lectures: "Insect Pests," "Orchids," "Chemistry of Manuring," "Fruit-growing for Market," "Potting and Watering of Plants," the lecturers being Messrs. R. Newstead, John Cowan, G. Clarke, John Taylor, and Frank Ker. Perhaps a great share of success is due to Mr. D. H. Browning, Mr. R. Fawkes, the courteous Secretary, and Mr. W. Blomily, the indefatigable Chairman. It is much to be regretted that the latter gentleman—owing to the pressure of business—cannot see his way to again pilot another course which is expected to start shortly after Christmas.—R. PINNINGTON.

— LEMONS IN CALIFORNIA.—The Lemon groves of California have proved a good thing for their owners this year. The crops have been very heavy. The products of groves planted ten years ago has brought in this season 3600 dols. an acre, and at least half of this sum is profit. Not long ago California used to import Lemons.

— CHISLEHURST GARDENERS' ASSOCIATION.—Mr. W. Cuthbertson, F.R.H.S., of Messrs. Dobbie & Co., gave a lecture on Tuesday evening, December 10th, before the members of this Association, on "Pansies and Violas." The lecture, which was an admirable one, dealt fully with the cultural details as well as the scientific side. A great assistance to the latter part was a number of coloured plates and drawings. There was a good muster of members present.

— THE ROYAL INSTITUTION.—The following are among the lecture arrangements at the Royal Institution before Easter:—Professor J. G. McKendrick, six lectures (adapted to a juvenile auditory), on "Sound, Hearing, and Speech;" Professor Charles Stewart, eleven lectures on "The External Covering of Plants and Animals: Its Structure and Functions;" Professor H. Marshall Ward, three lectures on "Some Aspects of Modern Botany;" Lord Rayleigh, six lectures on "Light." The Friday evening meetings will begin on January 17th, when a discourse will be given by Lord Rayleigh on "More about Argon." Succeeding discourses will probably be given by Professor Burdon Sanderson, Mr. W. S. Lilly, Dr. John Murray, Mr. J. J. Armistead, Dr. Edward Frankland, Mr. A. R. Binnie, Mr. Sidney Lee, Professor T. R. Fraser, Professor Dewar, and others.

— WAKEFIELD PAXTON SOCIETY.—Programme of meetings for the first quarter of 1896:—January 4th, "The Grape Vine," Mr. Russell, Clayton West; January 11th, "The Study of Geology," Mr. H. S. Goodyear; January 18th, "Propagation and Culture of British Ferns," illustrated by lantern views, Mr. W. H. Atkinson, Batley; January 25th, "Cambridge and the Isle of Ely," illustrated by lantern views, Mr. J. Swire; February 1st, "Notes on Extension of the Vine," Mr. R. Scott, Bradford; February 8th, "Frost Crystals," illustrated by lantern views, Mr. G. Parkin; February 15th, "The Cultivation of Small Fruits," Mr. A. H. Pearson, Chilwell Nurseries; February 22nd, "A Glimpse Down the Corridors of Time," Mr. J. Clark, Ph.D., M.A., Yorkshire College; February 29th, "With Axe and Camera under Italian Skies," by Rev. L. S. Calvert, M.A., Member of the English Alpine Club, illustrated by lantern views; March 7th, Annual meeting.—G. W. FALLAS, T. H. MOUNTAIN, *Hon. Secs.*

PROSECUTION UNDER THE PHARMACY ACTS.

WE enclose a cutting which we have taken from the "Glasgow Herald," of the 11th inst. Of course we have seen the same thing occur before, but we consider the Sheriff's remarks anent the arrangement with the chemist to be a matter of considerable importance to the seed trade.—AUSTIN & M'ASLAN, *Glasgow*.

"A case of great importance to nurserymen, florists, gardeners, and others came up in the Sheriff Court at Dumbarton—before Mr. Sheriff Gebbie—when Mr. James Bryson, seedsman, 11, East Prince's Street, Helensburgh, was charged at the instance of the Registrar under the Pharmacy Acts, 1852 and 1868, in name and by authority of the Council of the Pharmaceutical Society of Great Britain, with the concurrence of the Procurator-Fiscal of Dumbartonshire, with an offence under these Acts, in so far as he, between 30th May and 29th June, 1895, not being a duly registered pharmaceutical chemist, or a chemist and druggist within the meaning of the Pharmacy Acts, did keep open shop for the retailing, dispensing, or compounding of poisons, and did sell by retail (first) a poison within the meaning of these Acts—viz., a quantity of arsenic forming an ingredient in a quantity of 'The Ballikrain Ant-Destroyer,' and (second) a similar poison forming an ingredient in a quantity of 'Smith's Perfect Patent Powder Weed-Killer,' whereby he became liable to a penalty of £5 sterling. Mr. Robert MacFarlan, writer, Dumbarton, appeared on behalf of the Registrar, and Mr. H. H. Ormond, writer, Helensburgh, defended for Bryson. The defender admitted the sale of the ant-killer, but denied that of the weed-killer, and evidence was led at some length, when it appeared that Mr. Bryson had at one time been agent for the sale of the weed-killer, but on learning that it might be held to be an infringement of the Act he had given up the agency, and arranged with Mr. Howie, chemist, to take it and allow him a commission on all orders sent by him. A long discussion took place between the agents on the case, and the Sheriff ultimately held that there being no doubt about the sale of the ant-killer, that of itself was sufficient for a conviction under the complaint, and indicated that in his opinion the arrangement for the purchase through Mr. Howie was a technical infringement of the Act, but that he did not find it necessary to take that into account in giving judgment. Mr. Ormond pleaded for a modified penalty in the circumstances, and the Sheriff fixed £1 1s. of a penalty, and £2 2s. of modified expenses."



CHRYSANTHEMUM WM. SLOGROVE.

ONCE again we would call the attention of readers to a new Chrysanthemum, and this time it is such an one as promises to be admirably suited for the back row of a stand. At a recent meeting of the Royal Horticultural Society, where it was shown by Mr. Wm. Slogrove, gardener to Mrs. Crawford, Gatton, Reigate, an award of merit was accorded to it. As may be seen by glancing at the illustration (fig. 88) it belongs to the incurved Japanese section; in fact, it is almost an incurved. The beauty is of the massive imposing style, the blooms being of immense depth, width, and solidity. In addition to its size it possesses another recommendation in its beautiful clear yellow colour, which renders it doubly conspicuous. At a meeting of the Floral Committee of the National Chrysanthemum Society this variety received a first-class certificate. We understand that Mr. W. Wells, Earlswood Nurseries, Red Hill, has secured the stock of this novelty.

NATIONAL CHRYSANTHEMUM SOCIETY.

A MEETING of the Floral Committee of this Society took place on the 11th inst. at the Royal Aquarium, when Mr. T. Bevan occupied the chair. There was only a small gathering of members and exhibitors, and the following awards were made:—First-class certificates to

Mrs. R. W. E. Murray.—A fine globular Japanese variety, very full and double, and deeply built with narrow florets closely intermingling, forming a compact bloom of great value for the show board. Colour pure paper white. Shown by Mr. R. W. E. Murray of Edinburgh.

Jannette Sheahan.—An attractive decorative and market variety, a sport from the late variety *Princesse Blanche*. Colour yellowish buff. Shown by Mr. D. Sheahan of Wimbledon.

For a collection of cut blooms staged in bottles and in vases Mr. R. Owen of Maidenhead was awarded the Society's small silver medal. Other varieties of promise were *H. W. Rieman*, an American raised yellow Japanese incurved; *Goldfield*, a decorative Japanese of a similar shade of colour; *Mrs. C. E. Shea* as shown was a reflexed Japanese white, tinted yellow; *Marie Vallean*, a fine Japanese incurved pale pink. *Bellem*, somewhat similar in form but lighter in colour, and *Madame Eugène Mercier* were also in fairly good form.

N.C.S. EXPENDITURE.

IT is not my place as a mere non-official or exhibiting member to defend the expenditure of the Committee as complained of by "An Exhibitor;" but can he really think that because he is an exhibitor at the Society's shows that he is also entitled to be invited to partake of a lunch every time the judges sit down to one? Would he be an exhibitor were there no prizes or else some trade benefit to be obtained? Why, then, should he expect to be invited to lunches? So far as I know the lunches are severely limited to officials who have to perform all the work of the Society through the year, and whether of the officers or the Committee, at considerable expense to themselves through the autumn, or at other times when Committee or general meetings are held. A lunch on the show days, and, I believe, to the bulk of the Committee on the first November show day only, is this given. Is that too great a reward for a year's labour and expense personally? Surely only a dog in the manger would make such a selfish complaint. "An Exhibitor" says he objects to the principle. What principle? Does he mean the giving of a lunch to the Committee and officials who have worked hard for some hours previously, or to the judges, who are also paid their fees? Surely he knows that judges are invited to lunch everywhere at every show. Why, then, object to the principle in this particular case. He writes as a disappointed man. The general meeting will soon be held, and when the accounts are presented he can criticise. If the accounts are wrong, or items are unauthorised or too lavish, that is the time and place to protest.—A. M. N.C.S.

THE N.C.S. RULES AND AWARDS OF THE FLORAL COMMITTEE.

SURELY Mr. Briscoe Ironside is in error when he says that the Floral Committee do not award certificates unless the majority of the members present vote for them. I remember that at one of the meetings a variety was certificated by four votes to three against, the majority of members not voting at all. In that case the variety was exhibited by a member of the Floral Committee. I would like to ask whether in the instance quoted by Mr. Ironside the exhibitor was a member of the F.C. It seems curious when a large proportion of members cannot decide as to whether a variety is incurved or Japanese that these undecided opinions can out-balance those of the few really practical members who know what a bloom is when they see it. Most of the members live in or near London, and some are "great" writers, but I should prefer growers, whether they were residents of London or otherwise.—Z.

MR. BRISCOE IRONSIDE'S grievances with the N.C.S. may occasionally result in some good, but it is difficult to see what useful purpose he is serving by quibbling about a silver medal which was not awarded him,

and which he himself admits he did not deserve (page 532). As a member of the Committee, I was present on the occasion referred to, and was quite surprised to hear a proposal that the Society's small silver medal should be awarded to such an exhibit of cut blooms. As it was the medal would have been awarded had not a recount of the votes been demanded, when a majority of one was found against the proposal.*

If awards of the kind are made to such exhibits as the one in question, medals will soon become so common that the special honour and recognition of merit which should be conveyed by them will be lost altogether. According to the rules, the Floral Committee should be composed of experts only, and if such a low standard of excellence be set up, I, for one, shall begin to doubt the honour of being associated with that body.

Apart from the above question we do not want to expose ourselves to the charge of "patting each other on the back," and medals or certificates should only be awarded to exhibits or varieties of very decided excellence. Some system of numbering the exhibits, too, might be easily arranged, so that members in Committee could not know whose exhibit was under consideration. By the present method it is too easy to overhear the call, "Mr. So-and-So's exhibit next."

The "eccentricity" (?) of the regulation which does not please Mr. Ironside was not "shown," as suggested by him (page 532), in the Committee being unable to say if a certain variety was an incurved or not; the members rather proved their discretion by asking to see the variety again in better form, especially as the variety is a sport from a two-year-old Japanese. Too much care cannot be exercised in the classification of novelties, and I am glad that the F.C.C. was not tacked on to this variety as an incurved, or it may have been offered by the trade at a high price next season, and buyers and vendors alike be perhaps disappointed with the results, then the blame would go home freely enough to the Floral Committee.—CHRYSANTH.

SELECT NEW CHRYSANTHEMUMS.

SINCE the last issue of the *Journal of Horticulture* I have found four other Japanese varieties well worthy of inclusion in this list.

M. G. MONTEGNY.—This is somewhat peculiar in colour. The broad florets are a white ground, striped and splashed with purple.

MRS. BEVAN.—Belonging to the incurved section. This is a bold-looking flower, pearly white in colour.

LE RHONE.—Pale self, yellow in colour. The florets incurve during expansion, afterwards becoming quite flat.

GRAPHIC.—This grows to a very large size. The florets incurve and are slightly twisted, inside of petals rosy mauve, outer surface silvery shade.

REFLEXED VARIETIES.—It cannot be said that this section increases in popularity, neither do the blooms exhibited nowadays display high culture. New varieties are but few, the best being:—

DOROTHY GIBSON.—This is pure yellow in colour, a full, massive, well-built bloom of the true reflexed type.

PYRAMID.—One of Mr. Cannell's seedlings from *Cloth of Gold*, similar to its parent in all respects except colour, and that is a deeper yellow.

ANEMONE-FLOWERED VARIETIES.—Although much appreciated by some growers Anemone-flowered varieties are not general favourites, being too stiff to be of much decorative value. Several new kinds have been added this year, the best of them being the following:—

JUNON.—This belongs to the Japanese Anemone type; is silvery pink in colour, the cushion or disc being extra large and full. The latter is the salient point in all Anemone flowers.

DESCARTES.—Perhaps the finest variety in the whole section of large flowered Anemones. The colour, bright crimson red, is so striking. The blooms are especially full in the centre, accompanied with extra good guard florets.

NEW DECORATIVE VARIETIES.—Pleasing as are the large flowering kinds when grown to perfection many persons prefer those known as decorative varieties. Any new and improved variety is sure to meet with approval.

YELLOW SOURCE D'OR.—As its name would imply this is a yellow flowered sport from the well-known and much appreciated bronze *Source d'Or*. The newcomer possesses all the characteristic points of freedom in flowering of its parent and therefore cannot fail to become popular.

MEDUSE.—This is terra-cotta and old gold in colour, very free flowering, and a good kind for decoration in any form.

MRS. CONWAY.—Though not quite new this is yet so little known that a note here will not be out of place. The flower has the general formation of *Mdlle. Lacroix*, but the florets are a trifle wider. The colour is most pleasing, the centre being a delicate shade of yellow, gradually fading to straw at the tips.

MRS. W. FILKINS.—Bright golden yellow; the long thread-like petals are split at the end, giving it a novel appearance. For freedom in flowering this is a capital variety.

CLINTON CHALFANT.—This is one of the best of the decorative section of Japanese. The colour (rich yellow) is just what is desired.

PALLANZA.—This must be included in this section, for as a market

* As we are preparing for press Mr. Briscoe Ironside informs us that he has received a silver medal. He also sends the secretary's note conveying it, which says it is "not a brass farthing."—ED.

variety it will take a high position. Plants growing in 6-inch pots produce splendid blooms, while the colour is exceptionally pleasing.

COMMANDANT SCHNEIDER. — Purple amaranth in colour, this novelty is exceedingly free flowering. The blooms are sweetly scented, rendering it all the more valuable for decoration.

CENTUREA. — This belongs to the fringed class of flowers of which Mrs. Carter is the type. It is a soft yellow, much resembling blanchéd Endive in appearance.

obtainable. It is well when possible to make a more rigid selection, retaining none but those possessing distinct merit.

MRS. A. E. STUBBS. — This is a pure white flowered variety, having extra long petals, twisted at the point, giving the blooms a less stiff appearance.

MISS A. HOLDEN. — A sport from the well-known and much-appreciated Mary Anderson, therefore it is typical of that variety in form. The colour is a soft bronzy yellow, most beautiful.



FIG. 88.—CHRYSANTHEMUM WM. SLOGROVE.

SINGLE-FLOWERED VARIETIES. — It is pleasing to find, especially to myself, after having advocated the extended culture of this section so long that single-flowered Chrysanthemums are receiving their due share of favour. Their merits for decorative purposes are second to none, and seldom do we find an epergne, vase, or table in a competitive class that is not adorned by blooms of this section. Many tables are wholly dressed with single Chrysanthemums alone with suitable greenery, and a pleasing effect is produced. This section is so easily increased by seedlings that no wonder so many new varieties are

EMPEROR. — This variety has extremely large well-formed blooms of a clear magenta colour.

MISS JOSEPHINE STALLARD. — This has long drooping bright red petals.

SNOW WREATH. — As its name implies, this is pure white. The florets are quite shapely, making a most effective bloom.

ANNIE TWEED. — This has velvety like petals, deep maroon in colour, with a high yellow disc; a very showy small flowered variety.

MR. ALFRED DOUBLE. — An extremely free flowering variety, bright terra-cotta in colour; most useful for decoration.

MRS. E. COWARD.—This is salmon pink in colour shading to yellow towards the disc. A really good variety, resembling White Perfection in formation.

MAY BLOSSOM.—Crimson maroon in tint. This variety has a strong scent of May blossom.

The following were raised by Mr. J. Agate, Havant, and staged by him at the Winchester autumn show. So meritorious were they that the judges awarded him a certificate of merit.

J. ARTER.—This is exceptionally large, brick red in colour; one row of florets.

HAROLD STALLARD.—This is best described as a crimson coloured Admiral Sir T. Symonds.

MISS JOSEPHINE STALLARD.—This has narrow florets of a pleasing shade of claret. An extra large flowered variety.

T. SUTER.—Much resembling Janc in the size and formation of its florets which are of a charming blush tint.

MRS. VOSE.—This, too, has but one row of florets which curl lightly at the tips. Soft pink in colour; a fairly large flowered variety.

GEORGE ROSE.—This is of medium size, florets crimson with a yellow disc.

MISS GERTRUDE PARKER.—This is a yellow splashed with bronze, especially pleasing.

MR. HARWOOD.—This develops blooms equal in size to Admiral Sir T. Symonds of a blush tint of colouring.

ETHEL SUTER.—This is yellow and bronze, with pointed petals.—E. MOLYNEUX.

CHRYSANTHEMUM GROUPS.

THE "Staff Officer," whose "dispatch" to the Journal headquarters appeared in the last issue, apparently wrote from the "seat of war," and let us hope that the gallant commander is bivouacing on the field of recent victory. This "tale of the war" bore traces of the veteran's pen, and contained many useful suggestions. The old soldier concluded by telling us that twenty-five years have elapsed since he saw his first campaign, then a young recruit, at Woolwich (not the Arsenal). A Napoleon was there too; if only he could have counted a Wellington and Blucher among the visitors it would have sounded like a second Waterloo. However, we salute you, Mr. Staff Officer, and agree with you that once again the fight is practically over, and the campaign of 1895 will soon be looked on and spoken of among the deeds of the past. The fortunate among the many champions of the Autumn Queen may now find breathing time to rest on their laurels, and cast a surveying glance over the scenes of their encounters, be they few or many. But while there are winners there must also of necessity be losers who have the same opportunity for retrospection, and amongst them there are doubtless those who feel ready to throw up the sponge and leave Chrysanthemum showing to those who have either better facilities or greater adaptability for prizewinning, and also others who are undaunted under defeat, and having had eyes and ears open are better prepared for the campaign of next season, as they have learnt something by observation from those who may have occupied the position which they coveted and strived for.

The present, or rather as it may now be termed the past season, whilst being in many ways but a fac-simile of its predecessors, has also been unique by pointing more unmistakably than ever to the increased popularity of the Chrysanthemum. If anyone doubts the veracity of this I would advise them to con the pages of a recent issue of the Journal to find an article headed "Chrysanthemums to the Rescue," and as Captain Cuttle would say, "When found make a note of," for there is a record of the Chrysanthemum not only coming to the rescue but saving from what looked suspiciously like the sheer ruin of a Rose society—yea, and a society too with a Rose enthusiast like Mr. H. V. Machin at its head. This single instance is to my mind conclusive evidence of the Chrysanthemum's popularity, and yet another is the largely increasing number of shows that are annually held in various parts of the country.

Speaking of shows reminds me that I may have wandered somewhat from the subject of my remarks; so to return. To one who in the past campaign has had occasion for visiting numerous exhibitions many thoughts are suggested, and amongst them the lack of effectiveness, the great similarity, and stiffness of outline that still generally exists amongst groups of Chrysanthemums. True, we have some bright exceptions, which prove forcibly the want of more wide-spread improvement, such as at Brighton, Hull, and a few others where Chrysanthemums arranged with foliage plants for effect are really effective.

It is at smaller shows however, such as those held under the auspices of provincial and metropolitan suburban societies, that the need of improvement in this direction is more apparent, as with few exceptions the same old stereotyped plan of setting up groups is still in practice. True, there has been some improvement, as in most cases a single row of foliage plants is admissible to hide the conspicuous bareness of the pots. Even this is a step in the right direction, but does not fulfil the conditions of the schedule, which usually runs "to be arranged for effect," whereas any appreciable degree of effectiveness is often conspicuous by its absence. A description of the average group of to-day is needless, as everyone is acquainted with the solid wall-like mass of bloom, stiff and artificial, with the flowers very often tied in position, that may be seen at almost any Chrysanthemum show. By this mode, too, the blooms are massed so thickly together that if there are any of special merit the chances are that they pass unnoticed.

Could not this state of affairs be altered with advantage? Surely yes, as has already been proved in the instances mentioned, through the

introduction of graceful foliage plants, which lend themselves admirably for the purpose. In this case, too, as with miscellaneous plants, the decorative taste of the exhibitor would have to be brought into play, whereas under present conditions it is hardly necessary except in the judicious blending of the colours. Then, again, what a pleasant break would thus be formed from the long rows of cut blooms which adorn the tables; they are sufficient for exhibiting the individual merits of the flowers, while arrangements of the kind suggested would be a means of initiating those unacquainted with the decorative value of the Chrysanthemum.

A few weeks ago I had occasion to visit a show where a 20-guinea challenge cup was offered, together with a substantial money prize for a group of plants occupying an areal space of 35 square feet. Close by was a class in which a much smaller sum was offered in prize money, and composed of a limited number of blooms on long stalks arranged with decorative plants and foliage intermixed. Though naturally the former was the more conspicuous, the latter received a larger amount of admiration from the visitors, and were indeed the most interesting in the show. I ventured to suggest to one of the officials that foliage plants might with advantage be used in the groups for the premier prize. "Yes," he replied "something of the kind was placed before the Committee, but received so much opposition that it was immediately dropped." Is this conservatism, or why are committees so loth to depart from the beaten track and entertain new ideas, which would not only add to the interest of the visitors, but would in a great measure abolish the air of monotony which to a greater or lesser degree characterises the majority of Chrysanthemum shows?

With the season now at an end enthusiasts and society officials have time to look round and note where improvements might be made, having had another season's experience and the example of a few of the most enterprising to work on. In every phase of horticulture, and Chrysanthemums are no exception, "Forward" is the watchword of the present age, and to maintain or, if possible, increase the popularity of the Chrysanthemum show, societies must not be content to run on the same lines year after year without any idea of changes, but rather they should be alive to the necessity of introducing new departures likely to appeal to the taste of their supporters. Committees will do well to bear in mind when making up the schedules for the forthcoming season that it is only by catering for the public that societies such as those mentioned have grown and become so popular, and others having an ambition to prosper should follow their example. What form these should take is, of course, open to discussion, but those already introduced by a few societies have been sufficiently appreciated to merit their continuation and to prompt others to follow the example set, so that in the future the words "to be arranged for effect" will not be, as is often the case now, a mere figure of speech, but that taste in arrangement will add a goodly share towards bringing the coveted prize card to the Chrysanthemum group.—WANDERER.

SMALL-FLOWERED CHRYSANTHEMUMS IN THE OPEN.

WITH a view of testing the ordinary November-flowering varieties of single, Pompon, and Anemone-flowering varieties in the open for giving cut blooms during the month of November I planted some spare roots of the following varieties at the end of May. A border facing east was chosen, the soil not being particularly rich. My object was to obtain short-jointed, firm growth, knowing well the more luxuriant it was the less chance of success would follow.

The plants were not pinched at all, but allowed to grow with one stem until they made their first natural break, when all additional shoots were carefully tied to one stout stake, and in spite of the exceptionally hot and dry weather satisfactory growth was made. The surface soil was kept well stirred. The roots were once well soaked with clear water, stimulants of any kind being withheld. We experienced frost to the extent of 10° on several mornings during the third week of October, and coming at the time the buds were in a soft state somewhat marred the prospect of success. In spite of this it was surprising how the plants recovered during the early part of November, and gave bloom in a satisfactory condition even as late as the end of that month, and if the weather remains open for another fortnight blooms will be available until then.

Seldom do we experience frost so severe as that in October thus early in the autumn here, and therefore the attempt to cultivate this section of the Chrysanthemum out of doors is worthy of extended attention. Persons with limited glass accommodation and who desire Chrysanthemums at this late date would do well to cultivate these sections. More satisfaction would result than is so often the case with the incurved and large-growing varieties of Japanese, as the fact of their being large militates against success. Not only does frost injure the soft petals, but continued moisture from rains and heavy dews rots the blooms owing to their being unable to become dry quickly. Not so with the small-flowering types, especially the singles. Having but one or two rows of petals they retain but little moisture for any length of time.

The following varieties I find the best of the few experimented with. Amongst single-flowering varieties Florence, blush white, most effective and free-flowering, 3 feet; Pattie Penford, 4 feet, rich pink, free and good; Mrs. Langtry, 5 feet, exceedingly pretty, free-flowering, retaining its pleasing perfume even under these conditions, pink; Rose Perfection, 5 feet, an extremely free-flowering bright pink variety; Miss M. Wilde, 4 feet, rosy lilac, long drooping florets, most effective; and White Perfection, 4 feet, free-flowering. Pompons—Pygmalion, 3 feet, deep

rose; President, 3 to 4 feet, rosy carmine, one of the best for out of doors culture; Golden Circle, 4 feet, extremely free, deep yellow; and Mdle. Elise Dordan, rose pink. Anemone Pompon—Briolis, rosy blush, high centre. In addition to the above one plant of Japanese W. H. Lincoln, pinched once at 6 inches, and allowed to grow afterwards uninterrupted, is now (November 30th) giving clean blooms. The deep yellow of this variety appears to be especially rich out of doors. Mrs. Conway, another yellow Japanese variety, 5 feet high, is most profuse in giving blossoms.—E. MOLYNEUX.

CHRYSANTHEMUM MADAME CARNOT.

THE bloom, stated to have measured over 13 inches in diameter, at the recent show held at Bawtry, was indeed a remarkable one. Surely a mistake has crept in somewhere, or the method of measuring Chrysanthemum blooms varies considerably. The finest bloom of this variety, staged by Mr. Lees, did not measure more than 9 inches wide and 6 inches deep, and to hear of one over 4 inches wider still, is surely sufficient to make one sign oneself—A SCEPTIC.

CHRYSANTHEMUM MAJOR BONAFFON.

I OBSERVE that whilst "P." regards this variety as a questionable incurved, Mr. Molyneux classes it as such. At the Kingston show, where it was staged by Mr. Mease in his first prize twenty-four incurveds, not only was it so admitted by the judges, but was awarded the premier prize as the best incurved. (Owing to misplacement this award was at first credited to C. H. Curtis.) No doubt the petals of Major Bonaffon are narrow and too pointed, but still in that respect somewhat resembling the Princess type. The flower shown at Kingston was less flat than were some others shown later, and was of the best form. No doubt it is an incurved, and with more culture will show a higher centre. Still, for the making of a true incurved broader and more rounded petals should now be insisted upon.—D.

"SPORTING" OF CHRYSANTHEMUMS.

IN your issue of December 12 (page 595), Mr. Molyneux says, "With all the increasing knowledge we have of the Chrysanthemum, we do not appear to be any the wiser with regard to the origin of sports." As this is a subject of considerable interest, I would venture to ask those of your correspondents interested to give us the benefit of their views on the matter. What strikes me as the most likely cause is due to hybridism. For over thirty years I have taken an interest in this work, devoting my attention mainly to Pelargoniums, Azaleas, Crotons and Dracenas. The Pelargoniums are the easiest to manage, and "sports," by crossing, can be produced without any difficulty. Azaleas sport as readily, but of course you must wait longer for the result. Now, in the case of the Azalea and Pelargonium, if "sporting" is due to hybridism, I do not see why it should not have some bearing on the Chrysanthemum.—G. R.

CHRYSANTHEMUM MRS. C. E. SHEA.

MR. N. MOLYNEUX, The Gardens, Rooksbury Park, Fareham, has forwarded to us a splendid example of this Chrysanthemum, which was put into commerce with such *éclat* last season. Curiously enough, though it promised so well, it has only been staged two or three times this year, and it can only be concluded that growers have not yet mastered the peculiarities of temperament sufficiently to have the blooms at just the proper time. The colour is a pale cream, and the florets are very numerous, so much so in fact as to preclude our getting a satisfactory reproduction for the purpose of illustration as we had wished. Mr. Molyneux's bloom measured $5\frac{1}{2}$ by 6 inches, so those who may not be acquainted with the variety can, from this, form some idea of its size. Another Japanese, in Mrs. R. B. Martin, also reaches us from the same source. This promises well, as the colour is very distinct, the lower florets being wine-red, and the upper ones yellow. They are narrow, reflexing, and pointed. Both flowers prove the excellent culture that is always expected from the brother of far-famed Edwin Molyneux.

I FORWARD you a bloom of the new Japanese Chrysanthemum (of which we have seen so little this season) Mrs. C. E. Shea, for your opinion. I accidentally broke it off, as you will see it is not quite finished, or you would have had it at a later date. It measures 7 inches by $6\frac{1}{2}$ inches, and is from a bud taken on the 8th of September. High feeding has been adopted. I think buds taken on the 8th of August will be in good time for shows held about the second week in November in this district.—CHAS. BELLIS, *Downton Hall Gardens, Ludlow.*

[The specimen sent was a very fine one, and clearly showed the characteristics of the variety. It would probably have been somewhat deeper had it become fully developed on the plant. We congratulate our correspondent on his success.]

CAMBRIDGE (N.Z.) CHRYSANTHEMUM SOCIETY.

OF all the Colonial Chrysanthemum societies this appears to be conducted with an unusual amount of energy and enthusiasm. Not long ago Mr. Thomas Wells, the Chairman, drew up a list of the best thirty-six Japanese varieties suitable for Colonial growers, an undertaking that seems to have met with general approval, and which was reproduced

in the Journal some short time ago. One good feature of the Society's work is the free plant distribution, and a list of incurved and Japanese varieties is sent round to the members from which to make their selection. The list for the present season contains a very choice assortment, there being twenty-six kinds of incurves and sixty-four Japanese. Each member is entitled to select free of charge five plants from the list, or if they prefer, five plants of any reflexed, Anemone or Pompon varieties. After formal business at the annual meeting a "Chrysanthemum Talk" was held, a novel and interesting idea.

THE FRENCH CHRYSANTHEMUM SOCIETY.

Having briefly referred to the proposal to found a French National Chrysanthemum Society in a former issue, it may be worthy of mention that on the occasion of the Paris Chrysanthemum show another body of exhibitors and admirers of the flower held a meeting for the purpose of organising a similar Society, or Chrysanthemum Committee of the National Horticultural Society. After waiting so long for something of the kind to be started it seems a pity that the French growers should divide themselves into two camps, and it is to be hoped that the forces will be united, so as to avoid any conflict of operations. Referring to the project in its last issue "Le Sardin" says that in order to accomplish useful work the Society must not favour any private commercial enterprise, that it should be really "National" and not serve the interests of one part of the country more than another, that the Committees be composed in such a way as to be considered authoritative by French and foreign nurserymen and amateurs, that the members be gathered from all parts of the country, and that the Society should have if possible the support of all the French horticultural societies. Many other items in the plan of operations might be suggested, but until the rules are settled, and the executive appointed further speculation on what might or ought to be done is premature. During the past ten or twelve years I have frequently urged upon my French Chrysanthemum-growing friends the necessity for some such Society as is now proposed; and it is, therefore, with more than ordinary satisfaction that I chronicle the fact that what has hitherto been merely a dream is about to become *un fait accompli*.—P.

ROYAL HORTICULTURAL SOCIETY.

DECEMBER 10TH.

SCIENTIFIC COMMITTEE.—Present: Mr. McLachlan (in the chair); Dr. Müller, Dr. Russell, Mr. Michael, Dr. Bonavia, Rev. W. Wilks, and Rev. G. Henslow, Hon. Sec.

Carnations Attacked by Grubs.—With reference to *Dianthus glacialis* destroyed by larvæ, brought to the last meeting by Dr. Müller, Mr. McLachlan added to his previous observation that he presumed that they were of the same nature as those brought before the Scientific Committee in 1892. The perfect insect obtained from those grubs was then determined to be *Hylemyia nigrescens*, for many species of black flies infest greenhouses, and it is impossible to distinguish them from the larvæ alone; but on one occasion when they were bred they proved to be the species named above.

The Colours of Flowers.—The question was raised whether it would not be possible to carry out some experiments with various substances in the soil to test their effects upon the colours of flowers and fruits. Mr. Wilks remarked upon the effect produced by hoeing in quicklime and soot over the roots of various Apple trees, with the result that a crimson-scarlet hue was imparted to the fruit. With regard to the supposed action it was a question how far the lime could affect the colour, for if the ammonia was presented in the form of sulphate, it would tend to fix the lime, though the soot itself would certainly be a vehicle for the ammonia. This is a known agent for improving the colour of Balsams, Weigela, &c.; peat also appears to have a similar effect. Hence the deeper coloration would be due to the enhancing the assimilating powers of the foliage. The case of *Viola calaminaria* was mentioned, a species which absorbed salts of zinc from growing in localities where the carbonate of this metal was abundant; and Dr. Müller alluded to the peculiarity that it did not appear solely as an accidental ingredient to the plant, but that it actually entered into its constitution. Mr. Wilks was good enough to place some Apple trees at the disposal of the Committee for experimental purposes, and it is also proposed to use white Hyacinths as soon as the procedure shall have been determined upon by Dr. Müller and Dr. Russell. The Committee will be glad to receive information from any correspondent who may have had experience in the changes of colours through the action of the soil in any way.

Cypripedium, Origin of the Slipper.—Dr. Bonavia gave the following possible morphology of the labellum of this Orchid:—"In Canada a wild *Cypripedium* (*Selenipedium*) acaule has a natural slit down the median line on the front of the slipper. This suggests that the slipper may have been originally an open labellum, like that of other Orchids, while the incurving of the edges and their final fusion made a slipper. To-day at the meeting I saw a *Cypripedium* with its slipper open. This may have been an accidental rent; but, supposing this to be so, the fact that the rent occurred down the median line shows a *line of cleavage* there. Moreover, in several there was a distinct line down the middle, and in some the veins converged towards that line; in others both the veins and median line were obliterated."



N.R.S. PRIZES—THE RESTING SEASON.

I NOW hardly ever see anything about Roses in the Journal, and even in last week's number, although a notice was given by the National Rose Society about some prizes for Messrs. Dickson's Roses in 1896 and 1897, the news was placed amongst a miscellaneous assortment of paragraphs instead of under the heading of Roses. Being only a small Rose grower I am not so interested as many of your readers probably are in Rose prizes. I do not know who the amateur donor of these prizes may be, but I think that a notice from the principal Rose Society as to important gifts is as worthy of prominent notice in your Rose columns as one I saw there recently as to Lord Penzance's contribution to a Rose book on the hybridisations of Sweet Briar Roses. In any case, the prizes seem to me unusual ones.

My views may be wrong, and if so I am prepared and willing to be corrected, but I think a few remarks by the Editor as to which are Messrs. Dickson's most noted Roses and the most desirable for amateurs to grow for such a competition would be helpful. Such of us as are rosarians I suppose must bear patiently, but some of us regret the times which are past and trust they may yet return when Potatoes, Ripened Wood, Seakale and "Mums" did not occupy all the space of our old friend the *Journal of Horticulture* to the exclusion of Rose information. —R. J. FROST.

[Our correspondent need have no fear that history will not repeat itself. Judging from past experience we fully anticipate that towards the end of next July or in August complaints will pour in of "nothing but Roses" and "nothing about Chrysanthemums." The fact is, as in the garden so in the Press, flowers, fruits and vegetables have their respective seasons, and even the "Rosarian's Year Book" admits that Roses have their "resting season." At present Ripened Wood is "off," Seakale coming on; Potatoes are generally with us. We shall have spring flowers by-and-by, then our summer beauties, while "mums" will be sure to come again. As to varieties of Roses for winning the prizes referred to on page 530, December 5th, it will perhaps be best to write either to Messrs. Dickson or the N.R.S., and as to the position of the paragraph (which was not overlooked) we may perhaps say that the page on which our correspondent thinks it ought to have appeared was with several others made up for press at least ten hours before the information reached this office, and it had to appear where it did or be left out. We shall be glad when the Rose pens awake from their rest; we have known them to be active, even in frosty weather.]

WHEN THE SHADOWS BEGIN TO LENGTHEN.

"WANTED, a head gardener, endowed with all the qualifications; age must not exceed thirty-five to forty." In brief, such is the general run of the present-day advertisement for gardeners to fill public official positions. In another form, the same slur is cast on age and experience in private establishments; the foreman secures the head appointment, whilst the experienced head gardener has to drift about in the vain hope that something may eventually turn up, until through "Hope deferred the heart grows sick," he begins to realise that at middle age he has to face the inevitable by beginning life again from the bottom of the ladder, often under new circumstances and uncongenial surroundings. Many gardeners, owing to the hold their life calling has on them, are unable to wrench themselves free of it by starting life afresh, and eventually settle down to the menial condition of nursery labourers, at a mere pittance which makes life a mockery of the conditions and comforts that they may have previously been able to obtain.

For this state of matters I am casting no reflections on the foreman, who, because having his opportunity to better his condition seizes on it, as his predecessor has done; or on the nurserymen, who, like other tradesmen, pay their labour bill on the same lines which they conduct the other branches of their business. Whilst the employer recognises no rights of the employé beyond those of demand and supply in this matter we may also fairly claim that all the benefits of the connection between the employer and the gardener are not monopolised by the latter; allowing the fact that "there are gardeners and gardeners," it must be conceded that those who cover the term in its best sense are a majority who ungrudgingly and without stint have taken their part in the elevation of the nineteenth century civilisation to which it has attained. The benefits thus accruing to employers of gardeners and the world at large can never be estimated by the sum total of what the gardener's service may be obtained for in the labour market.

Through the force of circumstances, the evils from which are daily accumulating, the gardener in the interests of his employer has adopted a system of turning nearly every gardening establishment into a manufactory of "head gardeners," which, having now reached the climax, scarcely leaves an opening for the unfortunate head gardener who may be thrown out of employment through no fault of his own, although at the time both his bodily and mental vigour is undiminished, with a store of accumulated experience which must perforce be practically wasted to himself, like a bankrupt's stock when forced into the market where there are no purchasers.

At the age of forty it is the refinement of cruelty to shut the door of employment in the gardener's face, which calls for vigorous protest not only from those who are thus unfortunately circumstanced, but also from those who, being apparently fairly and comfortably settled for life, yet do not know how soon the stroke of fate may overtake them. If we read the signs of the times aright public opinion has become an important factor in redressing real grievances, and although we may be unable at present to restrict the "output" of young head gardeners, surely the head gardener of the present is worthy of his hire, and as such is entitled to fair treatment and support of his *confrères* in maintaining his status, which may have cost him more than riches to obtain. Therefore, a candid and temperate discussion on this important subject would do no harm, but would carry with it the possibility of much good.—AZOTO.

THE POTATO IN FIELD AND GARDEN.*

THOSE who are fully acquainted with the history of the Potato, its varieties, its culture, and general surroundings, with all of which the horticultural Press has made the reader well acquainted, may naturally exclaim, "What! another book on the Potato?" Certainly there is lying before me a new one having the above title. It is for the humble vegetable to which its pages are devoted a somewhat pretentious book, though as books go perhaps neither cheap nor dear. The author seems to have been intimately associated with Potatoes all his life, and undoubtedly possesses wide knowledge concerning them. Still, he has little or nothing that is new to tell us—a fact of which he may or may not be aware, and those who are habitual readers of the gardening papers may well ask, Is there anything to be said concerning the present varieties of Potatoes that has not previously been written?

Our author deals with the tuber partially historically and partially physically, at the outset covering in some degree similar ground to that covered by Mr. A. H. Sutton in his recent admirable lecture at the Westminster Drill Hall. One observation, however, calls for comment. The variation in the character of the plant in now producing tubers in great abundance, and in failing so generally to fertilise flowers and produce seed, the author regards as evidence of physical debility. From the botanists point of view that may be so; from the gardeners aspect it is not only matter for congratulation, but strong evidence that so far from there being debility the Potato plant evidences robustness of the most satisfactory nature.

The assumption that this form of development has led to the plant falling an easy prey to disease may be put aside as inexact, seeing that not only do real species grown here in all their pristine habit also become subject to disease rapidly, but so also do those few varieties of the garden Potato that produce pollen and seed in abundance. Our author, in referring to cross-fertilisation of flowers, says, New varieties can only be obtained by cross-fertilisation—that is, by fertilising the "anther" of the blossom of one with pollen taken from the blossom of another plant. This indicates either indifferent knowledge of the essential organs of the Potato, or a deplorable slip of the pen. There is, too, rather odd information close by, for after stating that, "until within the past few years new varieties were obtained from seeds taken haphazard from the fruits of any Potato, but systematic crossing was not practised. It was found that one apple would often produce seeds which developed several distinct varieties." "Of recent years crossing has been conducted on scientific or systematic lines with much more satisfactory results."

Now everyone who has engaged in the intercrossing of Potato blooms knows that nothing tends more to produce extreme variation in the plants from seed so obtained than does this intercrossing. Thus a couple of fruits, products of the very same cross, will give perhaps 200 seedling plants, not two of which shall in every respect be exactly alike. On the other hand fruits naturally produced—i.e., in the absence of systematic intercrossing, generally produce seedlings near to or a reproduction of the parent. If any one wishes to test the natural intercrossing theory let them plant rows of any variety that blooms and produces seed freely by self-fertilisation, intermediate with rows of a variety that always sheds its bloom and never produces seed apples naturally, and they will then learn in one season how much of trust to place in the theory of natural cross-fertilisations.

However tempting a theme as this is to dilate on, it will not do to dwell longer, for the book goes on to deal with the development of new varieties, the surprising statement being made that to secure successful results in inter-crossing the plants operated on should be isolated. That is indeed news to an old cross-fertiliser and raiser, whose chief trouble always was to get pollen at all. The instruction as to the raising and testing of seedlings seems to be fairly correct; also in relation to soils and methods of cultivation, although what is written seems to be more applicable to field than to garden culture. The author thinks Potatoes need liberal manuring. Our experience is rather in favour of planting after a crop that has previously been well manured, but then that seems to be almost a universal experience. He is right, however, in suggesting that dressing land with lime that has in the past been highly manured is good practice.

With reference to the best season for planting tubers, from January to May is held to be long enough, June being too late. That is so, but all experience tends to show that too early planting gives no gain, and the month of April is the best average time generally. Submitting

* "The Potato in Field and Garden," by Mr. W. J. Malden. Published at the "Mark Lane Express" Office, 150, Strand, W.C. Price 3s. 6d.

tubers to the soil when it is yet very cold does no good. Far better is it to let them produce sturdy sprouts first, then plant in April, as growth is strong and immediate.

Manures, both natural and chemical, are largely referred to, and results of experiments with the latter in various places given, both the Warminster experiments and those of Mons. Girard being quoted. Also, we find various references to experiments in relation to the respective produce of sizes of sets, matter generally well known, although some experiments in Surrey this year rather upset the theory as to bulk of crop being relative to size of sets. Still, what is here in the book well merits consideration, because it may lead some growers to pay more attention to the selecting and housing of seed tubers than is now evidenced.

Selections of Potatoes are given with most of which growers are familiar, and of many of the varieties a sort of running commentary is given, though such information as "The Reading Russet is a very handsome Potato, and is valuable for show purposes; the International Kidney is also very popular," do not help readers very much, as ordinary Potato lists usually give full information on this head. General culture is fully treated, as also is the Potato disease, which is described and also the effects of the Bordeaux mixture in counteracting it. The Warminster experiments seem to have been helpful in this case also. This portion of the book is, however, freely illustrated, whilst the chief woodcuts are those of a number of Messrs. Sutton & Son's fine Potatoes reduced from that firm's seed list. Lifting the crop, storing and marketing, are fully dealt with. Those who grow Potatoes largely for market and are not ordinary press students, may find in the book much that is to them new and helpful. In all such cases we advise the book to be obtained and carefully read.—D.

IXIOLIRION MONTANUM.

THE two "Ixia Lilies" known to horticulturists—namely, *Ixiolirion montanum* and *I. tataricum*, are both attractive border plants, and form welcome additions to any collection of hardy favourites. They are suggestive of *Camassia esculenta* in the form and colour of the flowers, especially the first-named, which is represented in the woodcut (fig. 89), but they are not quite so strong growing as that, though very free and floriferous. *I. montanum* has been found in Persia upon the hills about Teheran and in other similar districts of temperate Asia. It is quite hardy in the neighbourhood of London permanently planted out in the borders. A moderately good soil appears to suit it better than one that is very rich, as in the latter case the growth is excessively luxuriant and the flowers proportionately few. In a well-drained position, where the bulbs become thoroughly matured, flowers are annually produced very freely, and are not only attractive in the borders, but afford a useful supply for cutting, the bright purplish blue colour being most agreeable for associating with the numerous other tints, which are more common.

COOPER'S BLACK GRAPE.

HAVING seen the discussion about this Grape in the *Journal of Horticulture*, I thought a little information from one who knew Mr. G. Cooper for many years might help to clear the matter up. Mr. Cooper told me the original Vine was growing at the "Palace," Armagh, when he went there as gardener about forty years ago. On coming to take charge of the gardens here, he brought a few eyes of the Vine with him; when these fruited he sent some bunches to the office of "the Journal," with a request for the name of the variety. The Editor had not seen it up to that date (thirty years ago), and if it is the same as "Gros Maroc," it would have been recognised as such. It requires keeping until the spring to develop its proper flavour. Mr. Cooper thought it excellent when kept until March. I have never tried to keep it, as the house is required for plants. Mr. Thomson, Clovenfords, correctly describes it, but it is deceptive in weight as well as flavour. As has been stated, it was shown at Carlisle in the year 1877 by Mr. Lees of Hillsborough, and obtained the first for bloom.—WILLIAM THOMPSON, *Harristown Gardens, Kildare*.

[We clearly remember the Carlisle bunch referred to, and it had rounder berries than the Gros Maroc has, as grown by Mr. Rivers and in the South generally. It is much less than "thirty years ago" that Dr. Hogg had fruits of "Cooper's Black" and "Gros Maroc" for comparison for the purpose of preparing his "Fruit Manual," and he was unable to discover any more difference between the fruit than was apparent in different forms of the Black Hamburgh. We have had forty bunches of Grapes sent to us, some named "Cooper's Black," others "Gros Maroc," in some instances both wood and foliage accompanying the fruit. We have not the least hesitation in expressing our conviction that with the labels removed from the samples there is not a person living who could have picked out the bunches and arranged them in two distinct classes. We have not said the true Cooper's Black and the true Gros Maroc are in growth or other respects "identical," but after a critical examination of the fruit alone, as represented by an unusual number of bunches, we are unable to arrive at any other conclusion than that the alleged varieties, as generally grown, are decidedly too much alike for exhibiting in the same class as distinct without risk of disqualification. We are much obliged to Mr. Thompson, and shall be glad, if he cannot send us

a bunch of Cooper's Black this year, to favour us with one another season. We hope to hear from Mr. Cooper next, whose address has been obligingly sent to us.]

EDGBASTON BOTANIC GARDENS.

SELDOM, if ever, has this noted and popular botanical establishment presented a more attractive display of floral beauty than it has for about a month past, by reason of the abundance of *Chrysanthemums* of the leading varieties, to examine which many hundreds of persons have visited the gardens. The plants were well clothed with healthy foliage, and many of the blooms would have graced the exhibition table. Among the *élite* of the collection we noticed—Sunflower, William Seward, W. H. Lincoln, Mdle. Marie Hoste, Colonel W. B. Smith, Florence Davis, Viscountess Hambledon, Vivian Morel, William Tricker, John



FIG. 89.—IXIOLIRION MONTANUM.

Shrimpton, Charles Davis, Gloriosum, Rose Wynne, La Triumphante, and Colonel Chase. Mention must also be made of the gigantic *Camellia alba plena*, said to be the largest specimen in the United Kingdom, which was, at the time of my visit, carrying hundreds of blossoms, forming a striking contrast to the multi-coloured array of *Chrysanthemums* beneath.

An adjoining house was bright with a long row of the brilliant *Salvia splendens*, which well deserves more extended recognition by gardeners as a late autumnal decorative plant. Apropos of the genus, we are reminded of the useful but little grown *S. gesneræflora*, introduced as a stove plant, but which has proved to be amenable to a greenhouse temperature. Grown as a standard it makes a noble looking plant that may be preserved year after year, requiring only liberal application of the knife after the flowering period. The Orchid house was rendered attractive by the display of several interesting plants of *Cattleya labiata* in variety, *C. gigas*, *Cymbidium Mastersi*, *C. giganteum*, *Lælia Perrini*, *L. purpurata*, *Coelogyne (Pleione) maculata*, *Cypripedium Schlimi*, *C. longifolia*, *C. callosum*, *C. Spicerianum*, and many others. In the aquatic house mention must be made of two or three large plants of *Callicarpa purpurea*, its pendent shoots, from 3 to 5 feet long, being covered with pretty clusters of berries of a rich colour, resembling well-coloured Damsons or Grapes, and in size about that of small Red Currants.

Altogether, at the present season of the year, the inside floral display here is sufficiently attractive to draw hundreds of visitors to the gardens, and is in every way creditable to the painstaking and popular curator, Mr. W. B. Latham.—W. G.

THE FLORISTS' TULIP.

[By JAS. W. BENTLEY, Hon. Secretary of the Royal National Tulip Society.]

DESCRIPTIVE CATALOGUE. (Continued from page 505.)

GEM (Abbott).—Bybloemen. Shape fair; base requires bleaching; white ground good; petals broad, but reflex a little at the tops. A favourite feathered flower forty years ago, although the feathering was rather rosy and apt to flush.

GEM (Battersby).—Rose. Dwarf; shape good; a good rose breeder, which was broken finely feathered in 1851. It is now, I fear, lost.

GEM (Goldham).—Rose. Very similar to, if not identical with, Elizabeth (Jeffries).

GEM OF GEMS (Willison).—Bybloemen. Shape long; base pure. A heavily pencilled feathered flower, much liked thirty-five years ago, but never deserving its name.

GENERAL BARNAVELDT (Dutch?).—Bybloemen. Tall; shape not very good, as the petals do not clip closely enough together; base and white ground beautifully pure. This variety, notwithstanding its sixty years of service, is still useful as a flamed exhibition flower, the markings of rich dark purple on the pure white ground being very effective. As a bed flower it is not a success, the stem being too weak to keep the flower upright. Syn., General Bournonville.

GENERAL GORDON (Norman).—Bybloemen. Shape good; base pure. A showy, heavily feathered variety of large size which is not quite first class, as the feathering lacks refinement and the white ground brilliancy. Well worth growing, but very scarce.

GENERAL GRANT (Hepworth).—Bizarre. Shape good; base may be considered pure, although there is, to a practised eye, a slight greasiness apparent. The ground colour is a rich golden yellow, and when feathered the marking colour is a bright scarlet beautifully and evenly "laid on." It is by far the best scarlet-feathered bizarre I know. It is steady, and its chief fault is a tendency to flush as it gets old. An early bloomer, and very scarce, as it increases slowly.

GEORGE DELAFORCE (Headly).—Bizarre. Shape good; pure; valuable only in feathered state, when the feathering is a deep purplish red on a pale yellow ground.

GEORGE EDWARD (Schofield).—Bybloemen. Shape good; petals stout; base cloudy at opening, but bleaches. Usually this variety is flamed with deep purple, and in this state, although not quite first rate, is a good exhibition flower. This year, however, it mostly came beautifully feathered, and, of course, became doubly interesting. It blooms early, lasts a long time, and to grow it to perfection must have plenty of sunshine. Raised from Lord Denman, and still in few hands, having only come into notice during the last two or three years.

GEORGE GLENNY (Zuill).—Bybloemen. A delicately flamed variety, of good form and exquisite purity. A Scotch seedling, now I fear entirely lost.

GEORGE HARDWICK (Hardwick).—Bybloemen. Tall; shape good; base pure. This variety is generally seen as a breeder, when the colour is light purple. As a broken flower it has not much merit, although occasionally it is fairly good. It comes into bloom rather late.

GEORGE LIGHTBODY (Headly).—Bizarre. Dwarf; shape good; very pure. A first-rate feathered variety with a shining black feather on a clear yellow ground. Broken about thirty-five years ago by Mr. Headly, and named in honour of the well-known florist Mr. Lightbody of Falkirk. Very scarce.

GEORGE HAYWARD (Lawrence).—Bizarre. Shape good; base pure; flower large. A once-famous heavily feathered red bizarre with a rich golden yellow ground. First broken in 1853, it was certificated in 1854, in which year it was figured in the "Florist," and for many years was justly considered the best red-feathered variety. It has a good constitution, but is now of little value as an exhibition flower, having apparently lost its cunning in the matter of feathering, and when flamed, although it makes an attractive bed flower, it is far inferior to Storer's varieties.

GEORGE SCHOLES (Hepworth).—Bizarre. An exquisitely feathered dark bizarre with a wretched constitution, and now, I fear, lost.

GLENCOE (Lawrence).—Bizarre. Shape rather long; base pure. A dark flamed variety with a rich yellow ground. A great favourite in the south forty-five years ago, but now discarded. Syn., Leonatus Posthumus.

GLORY (Buckley).—Bybloemen. Shape long; base creamy, but bleaches. A large flowered, heavily flamed variety, formerly much grown in Lancashire, but now discarded.

GLORIA MUNDI (Dutch).—Bizarre. Dwarf; shape long. A delicately feathered dark bizarre, with an intense yellow ground. Introduced over 100 years ago, it was a favourite flower for forty or fifty years, but is now only seen in the pages of a Dutch catalogue.

GLORY OF ABINGDON (Betteridge).—Bizarre. Shape long; base not strictly pure. A richly feathered and flamed dark bizarre, with a deep yellow ground. Forty-five years ago considered first rate, but now quite neglected.

GLORY OF STAKEHILL (Ashmole).—Bybloemen. Tall; shape good; base and filaments beautifully pure. A large and splendid breeder, rosy purple in colour, which has for the last twenty years been the most prominent exhibition bybloemen breeder. As a bed flower it is excellent, having a strong stem, which carries the large flower well. A vigorous grower, and worthy of a place in the choicest collection. As a broken flower it is of little value for exhibition, being too rosy in colour and poorly marked.

GLORY OF WALWORTH (Maddocks).—Rose. Shape too long; base

very yellow. A feathered variety, introduced in 1790; for many years a great favourite, but now quite valueless, and only interesting as being an early English variety.

GOLD CUP (Clegg?).—Bizarre. Shape good; a feathered variety of which great things were expected forty or fifty years ago. With many good properties it lacked steadiness, and is now only seen flamed, and of little exhibition value. Raised, I believe, by the same florist who raised Catharina.

GODET PARFAIT (Dutch).—Bybloemen. Shape long; base pure. Formerly a much esteemed dark feathered variety, but not grown nowadays.

GOLDFINDER (Hepworth).—Bizarre. Shape good; base pure. A beautiful orange-scarlet breeder, with a rich golden base. A fine exhibition breeder, but rather scarce. As a broken flower it is flamed, but is of little value in that state, except as a bed flower.

GOUD BEURS (Dutch).—Bizarre. Shape long; base pure. A feathered variety, feathered with brown on a good yellow ground. It was much grown fifty years ago, although most unsteady in its markings.

GRACE DARLING (Gibbons).—Bybloemen. Shape fair; base pure. A dark feathered and flamed variety much liked forty years ago.

GUIDO (Cotterill).—Bybloemen. Shape fair; base yellow on opening, but bleaches; petals stout. A feathered variety which, although it cannot be called first rate, is a very useful exhibition flower when well grown. The feathering is of a pleasing purple shade, and rather plated than pencilled. Its great fault is a tendency to flush if exposed to much direct sunlight, and as exposure to light is necessary to bleach the base many growers failed with this flower. A grower named Bromley used, however, to bring it to the local exhibitions perfectly bleached and yet not flushed. For some time he kept his secret, but at last it was discovered that he put a shade of oiled paper over each bloom, which transmitted sufficient light to bleach the base but not to flush the colour. It came out about 1850 and is still grown.

HAMLET.—Syn. of Polyphemus.

HANNAH (Battersby).—Bybloemen. Shape good; base pure. A very attractive feathered variety, seldom seen at exhibitions, but well worth growing. It can also make a good flamed flower.

HARRY LOWE (Storer).—Bizarre. Shape good; base pure. A large flowered, finely feathered bizarre of great promise. One of Mr. Storer's latest seedlings, which, if a good grower and constant, will, in my opinion, be one of the finest feathered bizarres ever raised.

HEBE (H. Goldham).—Rose. Dwarf. A second-rate feathered rose that is very yellow at the base and bleaches with difficulty. A seedling from Portia × Arlette.

HENRIETTA (Slater).—Rose. Tall; pure; shape good. As a breeder it is light rose-carmine in colour; when broken it is generally flamed, and although it can make a well-marked flower it is far inferior to such varieties as Annie McGregor and Mabel. Syn., Queen Henrietta.

HENRY GROOM (Groom).—Bizarre. A flamed variety much liked formerly in the south, but grown no longer.

HEPWORTH'S SEEDLINGS.—There are many of Hepworth's seedlings still unnamed, and only distinguished by seedling numbers. It is scarcely likely that any of them will ever be of much value, as they are over thirty years old—quite old enough to have given an idea of their worth; I therefore only mention the best known to me.

Roses.—23/61, breaks well; flamed. 25/62, good shape; deep rose coloured; breeder. 34/63, breeder. 138/63, good breeder; breaks flamed. 9/64, good breeder; blooms rather late; about the best. 21/64, a shy-growing feathered variety.

Bybloemens.—61/62, a good dark breeder. 65/62, a good breeder; breaks badly. 68/62, a good dark-flamed flower; promising. 81/63, a very dark purple breeder; too long, and breaks badly.

Bizarres.—58/62, good brown breeder. 140/62, long shape; red-brown breeder. 104/62, good shape; brown breeder, not quite pure. 29/63, red-brown breeder; when broken much resembles Sulphur flamed. 15/64, a brilliant orange-red breeder; breaks badly. 36/64, red-brown breeder; breaks badly. 94/64, brown breeder. 180/64, good dark brown breeder; breaks feathered. 190/64, good shape; flamed bizarre. 194/64, good red-brown breeder; breaks both feathered and flamed; well worth growing.

Hepworth's seedlings, speaking generally, are far from robust. In his cross fertilisations I fear Mr. Hepworth overlooked the necessity for constitutional vigour in his desire for refinement, consequently his varieties, being mostly poor growers, are gradually refining themselves away altogether.

HERALD (Battersby).—Bizarre. Shape good; base pure; petals rather narrow. A fine variety, feathered with reddish brown on a deep yellow ground. It is about forty-five years old, and not much grown at present.

HERCULES (Thurstan).—Bizarre. Shape good; base pure; petals wide and stout. A promising flamed variety, somewhat resembling Dr. Hardy. A seedling from Dr. Hardy × Sir Joseph Paxton. Still entirely in the possession of the raiser.

HEROINE (Dutch).—Rose. Shape too long, and petals rather pointed; base and white ground beautifully pure. It is at its best when feathered, when the edges of the petals are beautifully pencilled with crimson. Although Heroine has been known in England for over 100 years there are few feathered roses that can beat her when she is in her best dress. Unfortunately age appears to be telling, and good feathered examples are scarcer every year. When flamed, the flower, following a bad old custom, is called Triomphe Royale, and is often

useful still as an exhibition flower. Syns., La Belle Nanette, Lachesis Miss Edgeworth, Cerise Triomphante.

HERO OF THE NILE (———).—Rose. Shape too long; base creamy. A steady feathered rose, dating back to the beginning of the century; now obsolete.

HETTY BARKER (Oldfield).—Bybloemen. Shape good; base pure. A good flamed bybloemen, much in the style of Adonis, but rather too rosy in colour.

HORATIO (Headly).—Bizarre. Shape fair; base pure. Generally seen as breeder, which is pale orange-scarlet in colour. It generally breaks badly, and is never seen at shows except as a breeder.

HOSPODAR (Headly).—Bybloemen. Shape fair; base pure. A tall-growing variety with a broad slate-coloured feather, very striking, but more valuable as a bed flower than for exhibition.

HUGH MILLER (Storer).—Bizarre. Shape good; base pure. A flamed variety, which has apparently gone out of cultivation.

SPARKEN, WORKSOP.

THE residence of J. D. Ellis, Esq., is one of the prettiest and best-kept places in the Dukeries. About two years ago Mr. Ellis (who formerly lived at Thurnscoe Hall, Sheffield) came to Sparken, and has done wonders in the short time. The extent of the gardens is about 7 acres. The chief lawn runs south and west of the mansion, and on the south side adjoining the park is a plantation of evergreen shrubs, which form a good background and has a pleasing effect. At the east end of this plantation there are two beds about 50 feet by 12, which were planted last autumn with a choice collection of Rhododendrons that have stood the severe frost well. On the north and west side of the mansion is a plantation which has been thoroughly overhauled, taking out all the common and replacing with some hundreds of choice trees and shrubs. All the garden walks and drives have been broken up, thoroughly drained, and covered with a good coating of Mount Sorel granite, which not only makes a first-class walk, but gives the place a very neat and finished appearance.

Six glasshouses were erected by Messenger & Co. about two years ago. No. 1 Peach house, 30 by 14, for early work, is planted with Hale's Early, Royal George, and Rivers' Early York. No. 2 Peach house is the same size, planted with Acton Scott, Condor, Royal George, and Pit-maston Orange Nectarine. They are fine healthy trees, which were lifted and brought from Thurnscoe Hall when Mr. Ellis left, and have carried splendid crops since. A well-grown collection of Cinerarias are in these houses, also a fine Lemon tree in a 12-inch pot carrying twenty-five fruits in various stages of growth. This tree was raised by Miss Ellis about twenty years ago from a pip, and the fruit is of excellent quality.

No. 1 vinery, 30 by 14, early house, is planted with Black Hamburgh, Muscat of Alexandria, and Madresfield Court. No. 2 vinery of the same size is planted with Canon Hall Muscat, Muscat Hamburgh, and Gros Colman, all doing remarkably well. These two houses are now filled with really grand "mums." About 300 grown for show blooms, and about 100 in 6-inch pots, rooted in June, which have made good heads of useful flowers to cut and come again. Mr. Alderman, the head gardener, is a well-known successful exhibitor at some of our best northern shows. I noticed some grand blooms of the following—Golden Gate, International, Duke of York, President Borel, Inter-Ocean, E. G. Whittle, Madame Carnot, Mdle. M. A. de Galbert, H. H. Spencer, Mrs. C. H. Payne, Mrs. E. S. Trafford, and Golden Wedding. Incurred—Major Bonaffon, C. B. Whitnall, Robert Cannell, John Doughty, Mons. R. Bahuant, Golden Empress, Lord Alcester, Emily Dale Improved, and Empress of India.

We now come to a span-roofed stove, 30 by 14, containing a clean, healthy, well-grown collection of plants. Amongst others I noticed *Adiantum farleyense*, *Anthurium Scherzianum*, *Tabernemontana coronaria*, and several finely coloured *Crotons* and *Dracænas* for table work, besides *Eucharis* and *Gardenias*. The next house is a greenhouse, 30 by 14, filled with Zonal *Pelargoniums*, all the latest varieties, and just a mass of bloom. Outside this range is a span-roofed pit, 45 by 6, filled with *Primulas* and bedding plants, and used in the summer for Cucumbers and Melons. Another range of glass, 60 by 14, in three divisions, contains chiefly Ferns, *Poinsettias*, *Euphorbia jacquiniæflora*, *Kentias*; and one division is devoted to Orchids. The Dove (*Peristeria elata*) does well here, some of the flower spikes this season having had fifty blooms on. One plant I noticed had seven leads, the largest bulb on this plant measuring 14 inches by 7. *Oncidium Papilio majus* bearing three good flower spikes, *Calanthes* and *Pleonies* (the former making a fine show now). *Dendrobiums* and *Cœlogynes* promise well; *D. thyrsiflorum* exceptionally fine growths.

The kitchen garden is well cropped, and not a weed to be seen; in fact, everything both inside and out is in the most perfect order. Mr. Ellis takes great interest in his garden. He is a good supporter of the Worksop show, and in Mr. Alderman (the head gardener) he has a thoroughly good all-round man, one whom it would be difficult to beat. —T. H. CRASP.

CATERPILLARS ON FRUIT TREES.

THERE are several moths whose wingless females crawl up the stems of Apple trees in the autumn and early spring and deposit eggs in the interstices of the rind of the twigs and branches. From these eggs caterpillars are hatched in the spring which eat the leafage and blossoms, and, in conditions favourable to their development, cause

much injury to the fruit crop. Among these moths the winter moth (*Cheimatobia brumata*) and the mottled umber, or great winter moth (*Hybernia defoliaria*) are the principal offenders. There are other moths of similar habits, as the scarce umber (*Hybernia aurantiaria*), the great brindled beauty (*Phygalia pilosaria*), the small brindled beauty (*Nyssia hispidaria*), and the belted beauty (*Nyssia zonaria*), whose caterpillars injure fruit trees; but these are not nearly so common as the winter moth and great winter moth.

In the beginning of October the winter moths and the great winter moths come from chrysalids in the ground, under and near the Apple trees that were infested with caterpillars in the preceding spring, and the wingless females crawl up the trunks of the trees for the purpose of egg laying. The eggs of the winter moth are very small, cylindrical, and at first of a light green colour, afterwards becoming red. They are placed in small groups in the chinks of the rind, and fastened there with a sticky substance. From 150 to 200 eggs are laid by one female. The great winter moth lays larger, rather rusty coloured, long eggs, and more in quantity (as many as 400), which are placed in lines, or small groups, according to circumstances.

From the eggs the caterpillars come in the early spring and, as it appears, just as the buds begin to burst. The winter moth caterpillars are at first grey, with dark heads, and so small that it is difficult to see them. Later on they become greenish, with white stripes and brown heads, and are finally rather yellow. When full grown they are about three-quarters of an inch long. They have three pairs of feet, and move like other "looper" caterpillars, making loops with their bodies as they progress. They glue the leaves and blossoms together to form a shelter, and soon clear them off if the circumstances are suitable. When food fails, or when they are fully fed, they let themselves down to the ground by silken threads and bury themselves in it. The moths begin to appear in the first week in October, and may be seen throughout November, and even December, if the weather is fairly mild.

The caterpillar of the great winter moth is chestnut brown in colour, with a tinge of yellow on the under part of the body. It is much larger than the winter moth caterpillar, being $1\frac{1}{4}$ inch in length. When the period of pupation arrives the caterpillar descends to the ground and changes to a chrysalis just below the surface.

In some seasons, especially in those when the progress of the leaves and blossoms is arrested by spells of cold weather, great mischief is caused by the caterpillars of these and other wingless moths. Sometimes the trees are left as bare as in winter, and are, besides, seriously injured for another season. The caterpillars not only attack Apple trees, but also Plum, Damson, Filbert and Cobnut trees, and occasionally Currant and Gooseberry bushes that are set under Apple and Plum trees in fruit plantations.

METHODS OF PREVENTION.

It is very necessary to adopt methods of prevention against these insects. The first and most important of these is to prevent the passage of the wingless female moths up the trees in the autumn and winter months. This can be effected by putting sticky compositions round the stems to entrap the moths; or by placing an apparatus made of wood and tin, or other materials, such as stout varnished cardboard, to bar their progress. Fruit growers who have applied bands of sticky composition round fruit trees in a proper manner and renewed them from time to time, have experienced great benefit from this practice.

Cart grease made from fat or oils, and without tar, is recommended as the best and safest composition to use for banding fruit trees. It can be applied directly to the stems, but as constant greasing affects the bark, particularly of young trees, it is better to put it upon wide bands of tough, grease-proof paper, like that used by grocers, fastened round the trees with string or bass. When these paper bands are used for old trees the rough bark must be scraped away.

Tar and some manufactured compositions have been found to injure the trees. If these are used they should be always spread upon bands of paper, and great care should be exercised in the selection and application of all compositions whose ingredients are unknown.

Grease-banding must be commenced early in October, and renewed from time to time when the composition has become dry and hard. Bands made from old oilcake bags or manure bags, smeared with sticky composition, may be used, but these must be fastened very closely to the trees, and frequently examined to see that the composition has not been absorbed. Hay bands have been employed for this purpose. There is, however, nothing so good as grease-proof paper.

It will be necessary to keep the bands in good working order as long as moths are seen about. This will be quite up to Christmas, unless the weather is very frosty.

In February or March, or as soon as frosty weather has gone, the wingless females of the other moths mentioned above come forth, and ascend the trees for the purpose of laying eggs upon them. These moths are not nearly so numerous as the winter moths, and it might not be necessary to keep the bands in working order for these alone, but it is desirable upon the breaking up of the winter to note whether the male moths are flying about the trees in the dusk, and if they are seen in quantities to put the bands in working order.

A guard extensively used in the United States and Canada to prevent the "canker worm" (*Anisopteryx pometaria*), a moth of similar habits to those of the winter moths, from ascending fruit trees, consists of a girdle of tin, fastened so as to slant 3 or 4 inches out from the trunk of the tree, held there by a circle of fine sacking or linen, and fixed by a cord, to which the sacking or linen is sewn. The tin is smeared inside

all round with an offensive substance, applied with a small brush, which causes the insects to drop to the ground as soon as they come in contact with it. In the United States a mixture of castor oil and paraffin is used. Softsoap, used without water, and carbolic acid or paraffin would answer equally well; or cart grease and carbolic acid or paraffin could be applied.

Another form of moth guard consists of a square box sunk some 4 inches in the ground round the tree, and so as to leave about 4 inches of space all round it, about 10 inches being above the surface. There is a zinc roof over the box, and under this there is a trough, in shape like the letter V, 2 inches deep, made of zinc. This is tacked on about 2 inches below the upper edge of the box and filled with paraffin oil. The moths get into the trough and are killed by the oil. To expedite the process of refilling the V-shaped trough with oil, and clearing it of the dead moths, and seeing that it is in order, it is arranged that the roof can be taken off by loosening one screw. This is a somewhat expensive guard, but it is said to be very effective.

On some fruit farms, where banding is carried out, lighted lamps are also hung above tarred boards, placed near the fruit trees in order to attract and entrap the male moths, which, in their flight, sometimes carry the females up into the fruit trees.

In the case of cultivated fruit land, many of the chrysalids might be destroyed by digging or hoeing the ground all round trees that were infested in the spring, and by digging or hoeing-in lime or gas lime. In grass orchards, the grass should be cut off short and removed, or fed off by sheep close to trees that had been infested. The surface should be raked hard with long-toothed garden rakes, and beaten down with shovels to smash the chrysalids.

REMEDIES AGAINST THE CATERPILLARS.

Spraying trees infested with caterpillars has proved advantageous in many cases where this process has been carried out well, and adopted as soon as the slightest signs of infestation appeared. Small Apple, Plum, Damson trees, and fruit bushes can be easily sprayed by means of ordinary garden engines fitted with long lengths of hose and fine spray jets to distribute the solutions over every part of the foliage. Large, old Apple trees are beyond the reach of ordinary garden engines; to spray these, hand hop washing machines would answer, and there are machines especially manufactured for this purpose, fitted with strong pumps, and made narrow so as to go in fruit plantations.

"Knapsack" machines may be used for small trees, half-standards, and pyramids, also for Filbert and Cob Nut trees, and fruit bushes.

The solutions recommended for spraying fruit trees infested with the winter moth caterpillars are:—

- 1, The extract of 7 lbs. of quassia, obtained by boiling quassia chips in water, to 100 gallons of water and 6 lbs. of softsoap.
- 2, The extract of 5 lbs. of quassia chips to 100 gallons of water, with 5 lbs. of softsoap and 5 pints of paraffin.
- 3, The extract of 4 lbs. of quassia chips to 100 gallons of water, with 4 lbs. of softsoap and 4 pints of carbolic acid, Calvert's No. 5.
- 4, Six pounds of softsoap, and 2 lbs. of finely ground hellebore and a quart of paraffin, boiled and well stirred. This is sufficient for 100 gallons of water.

Softsoap is dissolved in a tub with hot water. The quassia chips are boiled and put in a separate tub. Where paraffin is used it should be well stirred up, or "churned up," as the Americans say, with boiling soap and water, before it is mixed with the cold water.

Spraying must be commenced early, directly there are any signs of infestation, and as the hatching out of the caterpillars is not simultaneous, but may be extended over some days, the operations must be repeated when requisite.

The solutions recommended above do not kill the caterpillars directly, but make their food and surroundings unpleasant and distasteful, so that they die of starvation or fall from the tree.

In the United States and Canada arsenical solutions are employed most extensively, and with remarkable effect, against the "canker worm." They have not yet been adopted generally in this country on account of their poisonous properties, although, from some experiments made with them here, they have proved to be most efficacious.

There are two of these arsenical compositions. One, known as "Paris green," is most strongly recommended by American and Canadian entomologists. It costs from 10d. to 1s. per pound. It should be obtained in the form of paste, which is safer than powder, and used at the rate of 1 lb. to from 200 to 280 gallons of water, according to the age and conditions of the leafage. If it is used too strong the leaves will be burnt. The solution must be kept constantly stirred so that it may be maintained of an uniform strength. It is not advisable to spray with arsenical solutions when the trees are in blossom unless the attack is very severe; in this case the solution must be made weaker. And as the object is not to dislodge the caterpillars, but to poison their food, the arsenical solutions should be made to fall like gentle rain upon the leaves, fine spray jets being used for this purpose. The other arsenical compound is London purple, which should be used in the same proportions as Paris green, and in a similar manner. It can be obtained in a fluid form, and is as poisonous as Paris green.

Live stock must not be put on grass in orchards where arsenical compounds have been used until a considerable time has elapsed, and rain has fallen. Such compounds must not be used where Gooseberries for early picking, and herbs and vegetables for early use, are grown under the trees.

Three or four days will elapse before the effect of the arsenical applications is apparent, and probably it will be necessary to repeat them in

many cases. They can be put on with the same machines as those advised for the quassia, carbolic, and paraffin solutions. Spraying with Paris green, London purple, and the other solutions prescribed for winter moth caterpillars, would be also efficacious against the Apple blossom weevil, *Anthonomus pomorum*, and the Apple sucker, *Paylla mali*.—("Board of Agriculture.")



HARDY FRUIT GARDEN.

Winter Pruning Gooseberries.—*Bush Trees.*—Gooseberry bushes should be freely thinned out wherever they are crowded with growth. The majority of branches which cross one another, and those interlacing, ought to be first removed. Many shoots will be found growing in various directions in the centres of bushes, also downwards, and probably some may have rooted in the soil. It will be apparent that all these are superfluous, and tend to choke the bushes with a large number of needless shoots. The weakest of the reserved shoots may be pruned back to one or two buds. Shoots devoid of buds the greater part of their length must be cut out. Secure as far as possible a fair quantity of vigorous current year's shoots, disposed 6 or 8 inches apart, taking off the tips to the extent of a few inches in those which extend beyond the general outline, or otherwise are too long.

If well furnished with buds that can be retained, the greater part of the young shoots might be shortened to 6 or 8 inches, but some allowance has to be made for the depredations of birds. If, therefore, crowded shoots are simply thinned, dead and weakly material removed, and the rest regulated to produce a fairly shapely bush, nothing further, as regards pruning, need be done.

Some prefer the spurring system, a certain number of main stems forming the skeleton of the bush, and the side shoots emanating from them pruned back each year to an inch of their base, the portion left producing spurs. Some are also developed naturally, and must be preserved. The main shoots should be shortened to a length of about 9 inches each year, until further extension is undesirable.

Cordon Trees.—Gooseberries are well adapted for walls and trellises, growing them with several stems as upright cordons. These may be originated 8 or 9 inches apart, the leader shortened each year to encourage side shoots to be produced, which, summer-pruned and shortened in the winter to an inch of their base, will form clusters of spurs the whole length of stem.

Red and White Currants.—Whether grown as bushes or on walls the best method of pruning consists of that known as spurring—that is, shortening the side shoots to an inch each winter. Clusters of fruitful buds are developed at the base, and these are stronger and more freely formed when the side shoots are shortened in the summer to two pairs of leaves. The extension shoots are pruned to a length of 8 inches each winter, but are not shortened in summer. When the main branches reach their limit in length the young wood from the apex must be shortened closely in each year. New branches may be originated when required by encouraging a suitable strong growth either from near the base or other desirable position.

Black Currants.—Black Currants, as a rule, produce the best fruit on vigorous young wood. The main object, therefore, to keep in view is to maintain a supply of the youngest shoots distributed over the trees, leaving them unshortened. Those which spring from or towards the base may, as a rule, be selected, cutting out the oldest branches at each annual pruning. By these means shapely bushes will be secured and retained in a fruitful condition without much trouble.

Preserving Gooseberry and Currant Buds.—Birds are more or less troublesome to the buds of both Gooseberry and Currant bushes at intervals during the winter, and especially when severe weather occurs. After the trees have been pruned dust them over with fine lime, or soot and lime mixed. It is best to apply the dressing when the trees are wet, either from fog or small drizzling rain, because then the powdery substance easily adheres. Another method of keeping away birds consists in stringing black cotton over the branches. Some tie the branches together and leave the pruning until February, but there is the danger of the necessary pruning and thinning being overlooked. On the whole it is advisable to prune early and adopt some means of preserving the buds from the attacks of birds.

Cleansing Trees.—Lime dressings have the effect of cleansing the branches, freeing them of mossy growths, red spider, and scale insects. The lime which falls to the ground also acts beneficially on the soil, especially if at all sour or overcharged with organic matter, and it helps to destroy the pupæ of the Gooseberry and Currant caterpillars which winter in the soil near the surface; but trees that are annually limed are rarely troubled with caterpillars in the summer.

Manuring and Forking Among Bush Fruit.—Gooseberries that are growing very vigorously will not need much manure, but the spaces between the bushes may be forked over to bury weeds and leaves. Immediately under the spread of the branches the soil must scarcely be

disturbed, because it is usually fully occupied with fibrous roots. When that is the case pull out the weeds and point the surface very lightly with the fork.

Currants, as a rule, are more plentifully furnished with masses of surface roots than Gooseberries, so the greatest care must be exercised in moving the soil about the bushes. A mulching of manure suits Currants better than disturbing the soil near them.

Gooseberries and Currants against walls will seldom need the soil forking deeply at the base if the previous treatment has induced the production of fibres near the surface. Simply loosen the overlying crust, and lay down a dressing of manure about 2 inches thick for a space of 2 feet outwards from the wall. Old established trees, or bushes that show any signs of weakly growth, may be much benefited by liberal applications of liquid manure during mild weather in winter.

FRUIT FORCING.

Vines.—*Early Forced in Pots.*—Where fermenting materials are employed in the pits and the pots are placed on pillars frequent additions of fresh leaves or sweetened material should be made as the heat declines. The heat about the pots must not exceed 70° to 75°; indeed, that temperature at the base of the pots is sufficient until the buds commence swelling, when the heat may be gradually increased at the roots by placing material about the pots, so as to have it between the degrees named by the time the Vines are coming into leaf. Increase the temperature of the house gradually after the buds are on the move from 55°, so as to have it 60° to 65° by the time the shoots commence developing, allowing an advance of 5° to 10° by day, carefully admitting a little air at 70° and close early. Disbud as soon as the shows for fruit can be detected in the points of the shoots, reserving the most promising. Stop about two joints beyond the bunches and pinch the laterals from the current growths at the first leaf, or remove them up to the bunches, allowing those beyond to extend as space permits; but this is usually limited in the case of Vines in pots, therefore retain no more foliage than can have full exposure to light, for to encourage more and afterwards remove it is disastrous.

Moderate moisture only will need to be applied by sprinkling where fermenting materials are employed, and where these are not at command an occasional damping with dilute liquid manure, such as guano (1 oz. to a gallon of water), will be of service, while evaporation troughs should be kept charged with it at half strength. This will give a perceptible smell of ammonia as well as moisture constantly, and modify the dry heat where it is solely derived from hot-water pipes. Water should be given carefully at the roots, as these do not move much until the Vines are in growth, and even then they do not require very copious supplies before the leaves have formed and evaporation from them is considerable.

Early Forced Planted-out Vines.—The buds of Vines started last month, even those subjected to fire heat and forced early in previous years, are now swelling and need a moist but not very wet condition at the roots. Making the soil sodden by needless waterings is very injurious, retarding instead of accelerating root formation. Raise the temperature gradually, say 2° or 3° in the course of a few days, so as to have it 60° to 65° at night, when the Vines come into leaf, and 70° to 75° in the daytime, with a little air at 70° without lowering the heat, if only for a short time, so as to secure a change of air once at least in twenty-four hours. If the Vines have not been started early before and are tardy in moving, ripe fruit being required by a given time, growth may be induced by a brisk moist heat of 70° to 75°, continuing it until the Vines have fairly started growing, when the temperature should be allowed to fall to 60° to 65° at night and kept at 70° to 75° in the daytime, it being important whilst the foliage is being made that a moderate temperature be employed in order to secure short-jointed wood and stout well-developed foliage.

Young Vines that have not been forced before will need more time, and all young canes must be brought down to a horizontal position, or lower, to insure their breaking the buds regularly. Some well-fermented short stable manure and leaves placed in ridges on the inside border will afford a genial moisture and warmth, and lessen the necessity for syringing, it being a bad plan to keep the rods dripping with water, which greatly accelerates aerial roots in pushing and developing.

Figs.—*Early Forced Trees in Pots.*—To have ripe Figs in April the trees must be started at once, and they must consist of the early varieties, and such as hold the first crop fruits, than which there are few to equal St. John, a greenish-white Fig of fair quality and medium size. Pingo de Mel is a fruit of better quality and size, and the plant is a free first-crop bearer. These properties, however, depend on the trees not carrying heavy second crops the previous year, and on the autumn-set being on sturdy, well-ripened wood. Angelique is also a good forcer, and so is White Ischia. For general purposes Brown Turkey surpasses all others, being good in both first and second crops, but it must not bear the latter on the points of the shoots, nor too many of them at the base, or the first crop following will not be satisfactory.

A slight warmth at the roots is highly beneficial, but even this has its disadvantages, as when the heat at the roots is 70° or more during the early stages of growth that is forced too rapidly, therefore see that the temperature at the base of the pots is not more than that until the leaves are unfolding, when the heat may be 75° at the base of the pots. The temperature of the house should be 55° at night, gradually increasing to 60°, and to 65° in the daytime, 5° more in mild weather, and 70° to 75° with sun heat and moderate ventilation. It is better, however, to bring the trees on slowly rather than quickly, especially in dull weather, as

foliage produced under such conditions is not of stout texture, but thin, and liable to scorch under bright sun and to fall an easy prey to red spider. Water in a tepid state must be supplied to the roots as required, and the trees and house be syringed morning and afternoon, damping the house later on, but not the trees, as it is desirable to have the foliage fairly dry before nightfall.

Cherry House.—To have ripe Cherries in April the trees must now be started. Early Rivers', Governor Wood, and Black Tartarian are unsurpassed for size and quality, it being unwise to grow many varieties, as these will give a long succession of fruit. In the case of trees in pots greater variety may be indulged in, yet there are few to equal those named. Be careful of fire heat at the commencement, not employing it unless absolutely necessary to maintain the temperature at 40° during the night, and 45° to 50° by day, ventilating when the temperature is that, and not allowing 55° to be exceeded without full ventilation. Close the house at 50°. Syringe the trees and other surfaces early on fine afternoons, so as to admit of the buds becoming dry before night. The border will be sufficiently moist through the removal of the roof-lights, if not it must have water to bring it into a thoroughly moist state. Trees in pots, if at all dry, will require repeated supplies of water to secure the thorough moistening of the soil to the base of the pots.

Aphides do not usually appear until the buds swell and growth takes place, but a sharp look out should be kept on the buds, and if there are any minute objects about it is wise to fumigate on two or three consecutive evenings. This will make quick work of the small aphides that may appear from the eggs in result of the warmth, and repeating the fumigation at intervals of a fortnight or three weeks it is likely there will be few or not any to infest the growths. Of course, the aphides may come on the wing, but that takes time to arrive at, the eggs, as a rule, being deposited on the Cherry trees in the autumn. The thing is to keep the trees clear of the pests, otherwise Cherries will not be forthcoming fit for use.

Strawberries in Pots.—The commencement of swelling in the crowns usually marks the advent of aphides on the developing leaves and trusses. A close scrutiny for these pests must be made on the earliest started batch, which are now pushing growth from the crowns, fumigating repeatedly until the pests are entirely exterminated. The temperature may be advanced a few degrees by day, but it is advisable to seek this from sun rather than procure it from fire heat. A temperature of 50° to 55° at night is quite sufficient for the present, and 60° to 65° with sun and a free admission of air. This will insure steady and sturdy development, and the more slowly the plants are brought on the stronger the blossom and better the setting. This means relying greatly on sun heat, which is very uncertain during the winter months, therefore the plants have to be brought on independently of weather, and as near the glass as safe, in order to secure a stout growth. Syringing the plants in the early part of fine days will be advantageous, also early on fine afternoons, but avoid a close saturated atmosphere. Examine the plants daily, and apply water to all those which require it. A plant with the soil too dry cannot grow, but is wasted through exhausting the stored juices, and one with the soil too wet is stagnated, the soil being sour and the plant unhealthy.

Other plants should be started for affording ripe fruit in late March or early in April. There are now so many varieties that it is difficult to make choice of a few so as to include the best. For marketing it suffices if the fruit be of a good glossy colour, large or even sized and shapely, quality being of very little account, as sugar and cream make up for that deficiency. Those fortunate in possessing a stock of Newton Wonder and Royal Sovereign have an advantage over those having to plod with the older varieties, but it is only a matter of a few days, and the old sorts, such as La Grosse Sucrée, true stock of Keen's Seedling, and Vicomtesse Hericart de Thury are not a great way behind the earliest in ripening, and they are worth waiting for if quality is of any consequence. Noble and Auguste Nicaise will satisfy most people in need of a big crop and large fruit. Remove the decayed leaves, attend to the drainage, and if necessary rectify it, washing the pots clean. Loosen the surface soil, and top-dress with horse droppings rubbed through a half-inch sieve. This and a pinch of superphosphate acts well on the roots, causing them to push fresh fibrelets freely. The plants may be introduced to a Peach house now being started, or to a Strawberry house if one be available.

Plants for draughting to houses as started should be placed in frames, or in a house from which frost is excluded, so that they will be fit for work when required, but they must not be kept dry, and the pots must be plunged if there is danger of frost, as it is absolutely necessary that they be kept from damage of all kind. Plants for introducing later on will be quite safe in their quarters out of doors plunged in ashes to the rim, and a light covering of dry fern or litter may be given in severe weather, allowing to remain on whilst frost-bound, removing in mild weather, but not exposing frozen plants from beneath protection to the direct rays of the sun.

PLANT HOUSES.

Zonal Pelargoniums.—Plants that have been kept in a cool temperature in frames may now be introduced into a heat of 55°. Give a little air when the weather is favourable, and if not overwatered the plants will soon come into flower. A little chemical manure may be placed on the surface of the soil at the time they are removed, and also to plants that have been flowering for some time. The double and semi-double varieties must be kept slowly growing if they are to continue blooming, a temperature of 55° to 60° being ample to accomplish this. On no account must they be subjected to a close, confined atmosphere.

Cyclamens.—Where these have been in a light airy house, and the plants are not coming into bloom sufficiently fast, a few of the most forward may be placed in a temperature of 50°, when their flowers will soon appear. Give air daily to prevent the plants becoming drawn. Young plants raised from seeds sown in July may still be kept in pans close to the glass where the temperature does not fall below 45° at night.

Epacris.—These are very useful for cutting, and where the plants are not growing quickly enough a few may be placed in gentle warmth. They must be placed where air can be given daily and syringings occasionally, as a dry confined atmosphere is detrimental. With a good stock of plants we rarely have to remove them from the greenhouse, where the night temperature seldom falls below 45°. They commence flowering in October and continue until the end of March.

Primula obconica.—The flowers of this variety are useful for small glasses, and are easily obtained. No better place for the main stock of plants can be found than greenhouse shelves on which a little moisture-holding material has been placed. When removed from this position to a temperature of 50° they soon produce flowers and continue for a very long time.

☐ **Callas.**—A few of these will be found useful when Chrysanthemums are over. Where large numbers of plants are grown and have been liberally treated, sufficient can be picked out already throwing up their flower spathes. These, if placed into gentle warmth, will soon come forward. If the plants are hurried the spathes are often a poor colour. In the spring they will bear more forcing without the least injury.

Azalea indica.—These are always useful about Christmas, and there is no difficulty in bringing them into flower if the plants were assisted to make their growth in warmth after flowering. The difficulty this season has been to retard them. A few days in a warm moist heat will bring those into full bloom that are already bursting their flower buds. Where dinner-table decorations are carried out and tracing is appreciated *A. amcena* will be found useful.

Abutilons.—The flowers of the better yellow varieties are extremely useful and can be used to advantage in small glasses or for the decoration of the dinner-table. Plants that have been grown fully exposed to the sun and not too confined at their roots will, if given an intermediate temperature and a little feeding, continue to grow and flower all the winter. If planted out where they can be kept cool throughout the summer, and gentle warmth given during the winter months, they will yield a profusion of flowers.

Clivias.—Where these are grown, and plants assisted to make their growth after flowering, they can be brought into bloom at almost any period during the winter and spring. Some will already be showing flower, and these, if placed in an intermediate temperature, will quickly afford large spikes of useful flowers.

Chrysanthemums.—All plants that have been preserved for late flowering must be kept as cool as possible, for they will be found invaluable at Christmas and during January. These plants should not be neglected; a little liquid or chemical manure will prove beneficial to them. It is surprising how quickly the roots come to the surface after chemical manure, and it also assists the production of strong cuttings afterwards.

THE BEE-KEEPER.

WIDE versus NARROW ENTRANCE TO HIVES.

As there appears to be a doubt in the minds of some bee-keepers as to which is the more desirable for the successful wintering of bees, a few notes on the subject may be of interest at this season to other bee-keepers besides "R. A. C.," who seeks information, and assumes that the advice lately given in these pages in reference to the above subject is contrary to the teaching advocated by other writers, whereas there is no difference in the actual result.

One writer recommends the entrance to be open the full width; another says all hives should have ventilated floor boards, and the entrance reduced to 1½ inch in width. The same writer, to prove that bottom ventilation is necessary, states on February 28th, 1895 (page 196), that of two apiaries in the same garden 50 per cent. with solid floors are dead, while in those having ventilated floors all are alive, thus proving that both are of the same opinion on this subject as regards bottom ventilation, although solid floors are no detriment, provided they are loose, and that bottom ventilation is duly attended to.

In discussing a subject of this importance actual facts only will be given, as these are worth a great amount of theory, and which may be verified at any time. At the present date (December 14th) I have upwards of three dozen stocks, the majority of them facing due west, from which quarter during the past week there have been high winds, accompanied by heavy rain, hail, and snow. For upwards of three months all entrances to hives have been open their full width, and only a few of them have porches. According

to theory the rain would be driven in and saturate the floor boards, but in practice they are as dry as when first placed under the hives.

On lifting off a number of the hives from their boards to-day, which had not been done since August, they were found to be in perfect condition, ample stores, and plenty of bees, the interior being as dry as at midsummer, thus proving the fallacy of closing the entrance to hives during the winter. This is a matter that any bee-keeper may soon prove, as, after making many experiments, I have found that where solid floors are used and the entrance reduced to about an inch in width, on examining them in the spring they were often saturated with moisture, and the combs mouldy for want of ventilation. It was by accident I found out how necessary this was to the successful wintering of bees, having the previous summer wedged up the front of a hive to prevent the overheating of the stock. The wedges were not removed till the following spring, when it was found to be in better condition than any of my other stocks. Occasionally I have wedged the hive up a quarter of an inch from the floor board all round; these have been perfectly dry, and proved to be my strongest stocks the following spring. I always reduce the entrance both in the autumn and spring, and open them their full width directly all danger of robbing is over.

In bee-keeping, as in other things, we should not deprecate other systems than that practised by ourselves, as all have the same aim in view.—AN ENGLISH BEE-KEEPER.

TRADE CATALOGUES RECEIVED.

J. Carter & Co., High Holborn, London.—*Seed Catalogue*.
B. Crews, Banbury.—*Onion List*.
Stuart & Mein, Kelso, N.B.—*Amateurs' Gardening Guide*.
Sutton & Sons, Reading.—*Amateurs' Guide in Horticulture*.
J. Veitch & Sons, Royal Exotic Nursery, Chelsea.—*Catalogue of Seeds*.
E. Webb & Sons, Wordsley, Stourbridge.—*Spring Catalogue*.



TO CORRESPONDENTS

•• All correspondence should be directed either to "THE EDITOR" or to "THE PUBLISHER." Letters addressed to Dr. Hogg or members of the staff often remain unopened unavoidably. We request that no one will write privately to any of our correspondents, as doing so subjects them to unjustifiable trouble and expense.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Bee subjects, and should never send more than two or three questions at once. All articles intended for insertion should be written on one side of the paper only. We cannot reply to questions through the post, and we do not undertake to return rejected communications.

Kew (A. J. S.).—If you write to "The Curator, Royal Gardens, Kew," he will send you the required information.

Cattleya Buds not Expanding (W. S.).—The most probable cause is lack of vigour in the plant, the roots not being in good condition. It also arises from deficiency of temperature, and sometimes from sudden checks. Of these matters you will best be able to form an opinion.

Alocasia cuprea and Aphelandra nitens (W. S.).—*Alocasia cuprea* syn. *metallica* and *Aphelandra nitens* are stove plants, and of comparatively easy culture, both requiring plenty of heat and moisture during the growing season, and when these are afforded the plants are very handsome.

Chrysanthemum Harold Wells (W. Wells).—The particular bloom you forward might undoubtedly be classed and shown as an incurved, but as the blooms vary the committees mentioned were perhaps wise in withholding a definite opinion until the variety had been further tried.

Ficus elastica variegata Leaf Spotted (W. C.).—The spots on the leaves are caused by moisture resting on the cuticle, which is absorbed by the epidermal cells, and causes their disorganisation or decay. This is usually confined to the variegated portion of the leaf, which is much more tender than the green part, but even that portion is liable to become discoloured through moisture lodging thereon, and then being suddenly evaporated. The only thing to prove of service in such cases is to maintain as equable a temperature and uniform a moisture as

possible, keeping water from the foliage. Even then this variety is difficult to grow without discolouration, especially at this time of year, and requires great care.

Roses (A. Novice).—Tea Roses are so called because the flowers are more or less tea-scented, the original variety having sprung from the old blush and yellow tea-scented varieties of the common China Rose (*R. indica*). The Noisette Roses were named after a Frenchman—M. Noisette of Paris—who had a hybrid between the Musk and China sent to him from America. They are distinguished from the Teas by bearing their flowers in large clusters. The term Hybrid Perpetuals is given to a class of very hardy Roses, which originated from Damask Perpetuals crossed with hybrids of Bourbon and Chinese Roses. They justify their name of Perpetual by flowering more or less from May to November. Bourbon Roses are so named from the fact that the original variety of this group was a seedling found in the island of Bourbon, and supposed to be the result of a cross between the China and Four Seasons' Rose.

Challenger Tomato Splitting (S. S.).—We have not previously heard that the fruits of this variety are liable to split in the way you describe, and of course materially impairing the value of the crop. We have seen the variety produce heavy crops of fruit free from blemish. We cannot undertake the responsibility of singling out from so many the "best" Tomato of all for midseason and late supply, and thus declaring in effect that all the rest are relatively inferior. As a matter of fact Tomatoes are very much like Potatoes in the varieties being influenced by soil, some growers obtaining the best results from one variety, others from another. Many of the most extensive and successful growers of Tomatoes for market try a few plants of selected varieties and eventually choose those for extended culture which give the best response to their soil, circumstances, and general management. There is very little to lose by these home experiments. It is the safest and surest course to pursue for insuring the best results in the end.

Destroying Spores of Peronospora in Tomato House (Festina Lente).—We do not know of anything that will destroy the resting spores of *Phytophthora* (*Peronospora*) *infestans* beyond that of consuming the haulm of plants that have been attacked, by fire. It is possible that there may be spores in the soil if any plants have produced them, but what will kill them we suspect no one knows. Sulphate of iron has been recommended, also gas-lime, but we have no evidence of their efficacy in destroying the resting spores of this fungus. We should use a wineglassful of pure petroleum, such as used in lamps, to 3 gallons of water, and apply by alternate syringes into the vessel, so as to force the oil into the water, and over the house, wetting every part, woodwork and walls. Some will fall on the soil, so that it is unnecessary to use any there. The wall may then be whitewashed in the usual way, and beyond that we know not what more you can do. If you use the sulphur every living form of vegetable life will be killed in the house, and the paint become a bluish colour. That, however, will pass off in time, meanwhile being very unsightly and foul smelling.

Manure for Asparagus Beds (A. P. G.).—The best time and the best manure to use on Asparagus beds depends on the soil and location, also the manurial substances employed, and whether these are of a quick-acting or enduring nature. You do not even name the nature of the soil. The following is slow:—Basic slag phosphate, 2 cwt.; kainit, 3 cwt.; dissolved bonemeal, 1 cwt. = 6 cwt. per acre, mixed. The basic slag and kainit should be applied in the autumn, and the bone superphosphate in the spring (March). The object is not to "flush" the grass, but secure a sturdy, thoroughly solidified growth by essential food and an abundance of stout heads. The basic slag and kainit should be lightly pointed in, but the superphosphate may be left on the surface, or preferably lightly raked in. If more growth is wanted follow with 2½ cwt. per acre of "ammoniated" Peruvian guano not later than the early part of June, it being preferably given during moist weather in May. A quicker acting manure consists of dissolved bones, 2 cwt.; muriate of potash, 1 cwt.; dried blood, ½ cwt.; nitrate of soda, 1½ cwt. = 5 cwt. per acre, mixed, supplying (in March preferably) half the amount then and the other half during moist weather in May. It is found in practice that a dressing of kainit, 2 cwt. per acre, in the autumn or early in spring (February) gives better results than by using the quick-acting manure alone, as the kainit is rich in essential natural food of the Asparagus, and is of more importance than that derived from readily available sources. We advise the kainit in addition to the other substances. Kainit contains: sulphate of potash, 21.3; chloride of potash, 2.0; sulphate of magnesia, 14.5; chloride of magnesia, 12.4; chloride of sodium (common salt), 34.6; sulphate of lime (gypsum), 1.7; matter insoluble in water, 0.8; water, 12.7; potash, 12.8; salts neutralising ammonia, 28.6 per cent.; this being an analysis of the natural product of the mines. But there is a difference in kainits.

Names of Fruits.—Notice.—We have pleasure in naming good typical fruits (when the names are discoverable) for the convenience of regular subscribers, who are the growers of such fruit, and not collectors of specimens from non-subscribers. This latter procedure is wholly irregular, and we trust that none of our readers will allow themselves to be made the mediums in infringing our rules. Special attention is directed to the following decision, the object of which is to discourage the growth of inferior and promote the culture of superior varieties. In consequence of the large number of worthless Apples and Pears sent to this office to be named, it has been decided to name only

specimens and varieties of approved merit, and to reject the inferior, which are not worth sending or growing. The names and addresses of senders of fruit or flowers to be named must in all cases be enclosed with the specimens, whether letters referring to the fruit are sent by post or not. The names are not necessarily required for publication, initials sufficing for that. Only six specimens can be named at once, and any beyond that number cannot be preserved. They should be sent on the first indication of change towards ripening. Dessert Pears cannot be named in a hard green state. (S. P. C.).—1, Warner's King; 2, Gloria Mundi; 3, Blenheim Pippin; 4, Bramley's Seedling. (D. T. M.).—1, Cox's Orange Pippin; 2, probably local, and of poor quality; 3, Fearn's Pippin; 4, Wyken Pippin; 5 and 6, unknown; worthless. (Amateur).—1, Adams' Pearmain; 2, Margil; 3, Dumelow's Seedling; 4, Round Winter Nonesuch; 5, Kerry Pippin; 6, Cox's Orange Pippin. (South Devon).—We do not recognise the Apple sent, but we consider the local name of Crimson Pippin a very appropriate one.

Names of Plants.—We only undertake to name species of plants, not varieties that have originated from seeds and termed florists' flowers. Flowering specimens are necessary of flowering plants, and Fern fronds should bear spores. Specimens should arrive in a fresh state in firm boxes. Slightly damp moss, soft green grass, or leaves form the best packing, dry wool the worst. Not more than six specimens can be named at once, and the numbers should be visible without untying the ligatures, it being often difficult to separate them when the paper is damp. (H. B.).—Possibly *Sansevieria Zeylanica*. (P. H.).—A good form of *Anthurium Andreanum*. (C. F.).—1, *Impatiens Hawkeri*; 2, *Seaforthia elegans*; 3, *Adiantum gracillimum*; 4, *Yucca filamentosa*. (V. P. P.).—1, *Kentia Fosteriana*; 2, *Agave americana*; 3, *Kentia Belmoreana*. (Novice).—All your specimens were dead; send fresh ones, properly packed, and we shall endeavour to assist you. (Mona).—1, A *Polypodium* resembling several species; kindly send fresh specimen, and say whether it is grown in a warm or a cold house; 2, *Polypodium membranaceum*; 3 and 4, specimens insufficient; 5, *Athyrium felix foemina multiceps*; 6, *Doodia aspersa*.

COVENT GARDEN MARKET.—DECEMBER 18TH.

FRUIT.

No alteration in the character of the trade.

	s.	d.	s.	d.		s.	d.	s.	d.		
Apples, per bushel	2	0	to	3	6	Lemons, case	11	0	to	14	0
" Nova Scotia, per	13	0		17	0	Pears, Californian, per case	13	0		14	0
barrel.. ..	0	6		1	6	Plums, per half sieve	0	0		0	0
Grapes, per lb.	0	6		1	6	St. Michael Pines, each	2	0		6	0

VEGETABLES.

	s.	d.		s.	d.		s.	d.		s.	d.
Beans, per lb.	0	4	to	0	6	Mustard and Cress, punnet	0	2	to	0	0
Beet, Red, dozen	1	0		0	0	Onions, bushel	3	6		4	0
Carrots, bunch	0	3		0	4	Parsley, dozen bunches	2	0		3	0
Cauliflowers, dozen	2	0		3	0	Parsnips, dozen	1	0		0	0
Celery, bundle	1	0		0	0	Potatoes, per cwt.	2	0		4	0
Coleworts, dozen bunches	2	0		4	0	Salsafy, bundle	1	0		1	6
Cucumbers, dozen	4	0		9	0	Seakale, per basket	1	6		1	9
Endive, dozen	1	3		1	6	Scorzoneria, bundle	1	6		0	0
Herbs, bunch	0	3		0	0	Shallots, per lb.	0	3		0	0
Leeks, bunch	0	2		0	0	Spinach, bushel	2	0		2	3
Lettuce, dozen	1	3		0	0	Sprouts, half siv.	2	6		0	0
Mushrooms, punnet	1	0		1	6	Tomatoes, per lb.	0	3		0	6
						Turnips, bunch	0	3		0	0

AVERAGE WHOLESALE PRICES.—OUT FLOWERS.—Orchid Blooms in variety.

	s.	d.	s.	d.		s.	d.	s.	d.	
Acacia or Mimosa (French)					Pelargoniums, 12 bunches	4	0	to	9	0
per bunch	1	0	to	2	0	Primula (double), dozen				
Arum Lilies, 12 blooms	4	0		6	0	sprays	0	6	1	0
Asparagus Fern, per bunch	2	0		4	0	Roses (indoor), dozen	1	0	2	0
Bouvardias, bunch	0	6		1	0	„ Tea, white, dozen	1	6	2	6
Carnations, 12 blooms	1	0		3	0	„ Yellow, dozen (Niels)	3	0	6	0
Chrysanthemum, doz. blms.	1	0		4	0	„ Red, dozen blooms	1	0	1	6
„ doz. bunches	3	0		6	0	„ Safrano (English),				
Eucharis, dozen	4	0		6	0	dozen	1	6	3	0
Gardenias, dozen	2	0		4	0	„ Safrano (French), per				
Geranium, scarlet, doz.						dozen	1	3	2	0
bunches	4	0		6	0	„ Pink (French), per				
Hyacinth (Roman) dozen						dozen	3	0	4	0
sprays	0	6		1	0	Smilax, per bunch	5	0	0	0
Lilac (French) per bunch	5	0		5	6	Stephanotis, dozen sprays	4	0	6	0
Lilium lancifolium, twelve						Tuberose, 12 blooms	0	4	0	6
blooms	2	0		4	0	Violets Parme (French),				
„ longiflorum, 12 blooms						per bunch	4	6	0	0
Lily of the Valley, dozen						„ Ozar (French), per				
sprays	1	0		2	6	bunch	2	0	3	0
Maidenhair Fern, doz. bchs.	4	0		6	0	„ Victoria (French),				
Marguerites, 12 bunches	2	6		4	0	12 bunches	2	6	0	0
Orchids, various, dozen						„ English, 12 bunches	2	6	0	0
blooms	1	6		12	0					

PLANTS IN POTS.

	s.	d.	s.	d.		s.	d.	s.	d.		
Arbor Vitæ (golden) dozen	6	0	to	12	0	Ferns (small) per hundred	4	0	to 6	0	
Aspidistra, dozen	18	0		36	0	Ficus elastica, each	1	0		7	0
Aspidistra, specimen plant	5	0		10	6	Foliage plants, var. each	2	0		10	0
Chrysanthemums, per doz	6	0		18	0	Lycopodiums, dozen	3	0		4	0
Dracæna, various, dozen	12	0		30	0	Marguerite Daisy, dozen	6	0		9	0
Dracæna viridis, dozen	9	0		18	0	Myrtles, dozen	6	0		9	0
Ericas, various, per dozen	9	0		24	0	Narciss (French) doz. bchs.	2	6		4	0
Euonymus, var., dozen	6	0		18	0	Palms, in var., each	1	0		15	0
Evergreens, in var., dozen	6	0		24	0	" (specimens)	21	0		33	0
Ferns in variety, dozen	4	0		18	0	Solanums, per dozen	8	0		12	0



DAIRY FARMING.

IF more proof were wanted of the absolute necessity for co-operation by British farmers in the manufacture and sale of dairy produce it is always forthcoming; here are two recent examples. At the Stilton Cheese Fair at Melton Mowbray on December 5th there was an exceptionally large pitch of cheese, for which prices ranged from 9½d. down to 4d. per lb., the higher price being given readily by the factors for really good mature cheese, but the greater part of the cheese was inferior and unripe. We have no doubt it was the decided inferiority that caused so much of it to be left unsold. It was a bitterly cold, stormy day, and we had a keen apprehension of the misery of the poor souls who, after standing all day in the open market place over their pitch of cheese, had the mortification of carting it back at night to the farm unsold, and the haunting thought of the rent audit close at hand.

These are the tenant farmers who always have some arrears at rent day; some of them complain of hard times, all of them ask for a reduction of rent. Very slow indeed are we to advise any such concession, knowing as we do that if only they could produce fine cheese they would obtain a highly profitable price for it. What is known as prime Stilton is as much in demand and almost as profitable as it ever was. Very seldom is it that the best makers send any cheese to a fair, factors are only too glad to buy it in the cheese room, and to give a 1d. or 2d. per lb. more for it than the highest fair quotations.

Such skilful cheesemakers are unlikely to take any interest in co operation, but they are few and far between; it is for the unskilful, who are always in the majority, that the co operative factory proves such a boon. The reason is self evident; there is no risk, no possibility of failure; a sure and profitable market for milk is brought so near to them that there is no carriage to pay; as payment is made on quality as well as quantity of milk, and they also share in the dividends, it is possible for their cows to become 30 per cent. more profitable; there is an end of the worry and anxiety of the home cheesemaking, and a strong incentive to do their utmost in the selection, feeding, and general care of the cows.

This reasoning applies with even greater force to British butter making. What sort of condition is the butter trade of our dairy farmers in when they are simply ignored in London quotations? Taking the latest we find the best butter from Irish creameries at 106s., Cork butter 109s., Danish 110s., Australian 108s., French 114s., and even Italian, Russian, and Finnish butter has each its respective quotation; but there is no mention whatever of English butter, nor will there be till it can be had of uniform excellence in full unbroken supply. This will not be while the farmhouse butter basket continues to be taken to the weekly market; factories are the only possible means by which a trade can be built up; and even with factories established on correct lines it will now be no easy matter. Importers have got so strong a grip on our trade that they are likely to hold their own. Witness the competition now going on in our markets between Australia and Denmark. The attempt of Australian shippers to wrest the butter trade here from Denmark has been met in the most gallant manner by the Danes, who have responded by increasing their output, though obliged to accept a lower price for it.

Still the struggle goes on, the butter from both countries being of the best, the most remarkable thing in connection with this contest being the marvellous growth of the Australian

trade. To get a clear grasp of the situation here are comparative returns for eight months of the last three years:—

Denmark	1893, cwts. 649,779, value £3,568,301.
	1894, cwts. 762,774, value £4,027,374.
	1895, cwts. 791,037, value £3,893,845.
Australia	1893, cwts. 101,095, value £519,792.
	1894, cwts. 203,760, value £999,696.
	1895, cwts. 245,940, value £1,090,428.

These figures are worthy of careful study, showing, as they do, how our markets are being exploited by these two countries, to say nothing of others, including Sweden, Germany, Holland, France, Canada, the United States, and other countries, to whom conjointly has gone in the last three seasons £27,197,162 of British money for butter.

The Australian method of a Government bounty to exporters has now been adopted by Canada. While we at home indulge in sneers at such grandmotherly legislation, colonial governments are doing much to encourage producers, and so are British farmers. We practically leave this splendid market to them; and while we talk of our dying agriculture, they absorb the money which would not only keep it alive, but render it fully prosperous; but then we have not yet learnt how to lay our land down to pasture, to say nothing of the establishment of deep-milking herds of cows, or co-operative factories.

WORK ON THE HOME FARM.

Oat and Barley stacks are now being thrashed, and a barn head is being filled with chaffed straw to follow that; from the winter Oat straw, which is running low. Some Pea stacks have also been threshed, and the straw carted and stacked, in part by the lambing yard and part in the paddock in which the ewe flock is now kept at night, and often by day. An ample supply of Oats has been huddled, and we are ready for the coming winter, of which we are having indications in frosty nights and occasional snow storms.

Be cautious about threshing Wheat that was stacked in a damp condition; we prefer leaving any such corn till we have had plenty of high March winds among the stacks, whether the Wheat is for sale or home use. The object of the home farmer in growing Wheat at all now is for the straw, and for home-grown flour there is often a surplus for sale, but of late years, with the price so low, we have just ground it up and used it with other corn for the live stock.

We have strong faith in a mixed dietary, especially during the winter, when any change is so beneficial. We are using a few cattle Cabbage for the dairy cows, but only sparingly, the basis of our feeding now being the best meadow hay. We like to have the option of giving ewes some Cabbage in the month before lambing, but with so much herbage on pastures we have just had some troughs put out on the pasture for some chaff and crushed Oats, which they clear up greedily.

As usual, the winter Oat straw chaff, under slight pressure and salting in a barn head, has a delicious aroma equal to that of well-made meadow hay, and is evidently very palatable. Care is taken not to over-feed in troughs, but to have the food well cleared up. There are plenty of roots in store by the lambing yard and folds, but none will be used till after the lambing. Twice already have we had the pasture covered by snow, more trough food being given then, and the racks filled with Pea straw for the night and replenished in the morning. Look closely after all such matters now, when so much depends on the ewes being kept quiet, thriving, and contented. We know a good shepherd ought to see to this, but then so ought a good master.

METEOROLOGICAL OBSERVATIONS.

CAMDEN SQUARE, LONDON.

Lat. 51° 32' 40" N.; Long. 0° 8' 0" W.; Altitude 111 feet.

DATE.		9 A.M.				IN THE DAY.				Rain.	
1895. December.		Barometer at 32°, and Sea Level.	Hygrometer.		Direc- tion of Wind.	Temp. of soil at 1 foot.	Shade Tem- perature.		Radiation Temperature		
			Dry.	Wet.			Max.	Min.	In Sun.		On Grass.
		Inchs.	deg.	deg.		deg.	deg.	deg.	deg.	Inchs.	
Sunday ..	8	30.100	33.0	31.2	N.W.	41.6	40.9	30.7	52.9	26.8	0.021
Monday ..	9	29.967	40.0	40.0	W.	40.1	49.0	30.2	51.6	25.9	0.024
Tuesday ..	10	29.922	42.1	40.4	N.W.	41.9	45.9	40.0	62.0	33.2	—
Wednesday	11	30.072	34.0	34.0	N.	41.0	42.7	30.7	42.4	28.2	0.080
Thursday ..	12	29.833	38.7	37.9	W.	41.0	48.4	33.9	50.6	32.1	0.327
Friday ..	13	29.317	36.4	33.9	N.W.	40.9	43.9	34.7	62.9	29.7	—
Saturday ..	14	29.807	34.9	33.7	N.	40.0	51.8	33.0	53.0	27.4	0.338
		29.860	37.0	35.9		40.9	46.1	33.3	53.6	29.0	0.808

REMARKS.

- 8th.—Sunny all day.
 9th.—Showers early, misty and damp till 10 A.M.; cloudy day.
 10th.—Showers in the small hours; bright sun from sunrise to sunset; clear night.
 11th.—Dense fog all day; lights necessary throughout. Slight showers in evening, and rain at night.
 12th.—Overcast early; fair morning; rain from 1 P.M. to 6.15 P.M., heavy at times; clear evening, and a shower at 11 P.M.
 13th.—Almost cloudless morning; sunny afternoon, and clear night; high wind.
 14th.—Faint sunshine all the morning; overcast afternoon; heavy rain from 5.30 to 6.30 P.M., and showers later.
 What with fog and rain an unpleasant week, but it can hardly be called unseasonable, as the temperature was near the average.—G. J. SYMONS.

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Journal of Horticulture.

THURSDAY, DECEMBER 26, 1895.

GARDENING IN 1895.

NO one can pass through any important market at any period of the year, and especially immediately preceding Christmastide, without being impressed with the fact that the garden does indeed contribute enormously to the necessities of life. In fruits, vegetables, plants, and flowers, the supplies appear to increase, not only in magnitude, but in quality, year by year; and this improvement in quality is generally accompanied with what the grower does not consider, but the purchaser certainly regards, an advantage in price.

It is difficult to comprehend how and in what way products of such high excellence can be grown and sold with profit at the low rates which generally prevail in our markets. That profit is derived by many growers must be taken for granted, or they would not continue their cultures year after year, and not only continue, but increase them, as several are doing, without appearing either dejected or unprosperous.

No doubt it is true that many, very many, growers of garden produce for market find the competition so keen that they can only with difficulty derive any material advantage from it; but still, only comparatively few who know their business and have the requisite means for conducting it, fail entirely. They have to endure losses from time to time no doubt, but the gains that follow in turn seem to be still greater, and the average is not far wrong in the end. This at least is the case with the majority of established growers of garden produce for commercial purposes, but so-called "small men," or beginners, find it hard to obtain a satisfactory return for their labour.

Watchfulness, foresight, business capacity, enterprise governed by prudence, persistent industry on a sound basis, with high aims for excellence in production, are among the chief requisites to be possessed by persons for winning success in commercial horticulture. Through the possession of those essential qualifications, men who commenced work in a small way, even during the epoch of low prices, have succeeded to a marvellous extent in building up gigantic establishments. Not long ago we were very nearly surprised—and it takes something to

surprise us in gardening achievements—on seeing what had been accomplished in about a dozen years by two gardeners—men with brains, and who have known how to use them, undoubtedly.

Met with a carriage and pair, we were first driven to about 25 acres of glass, next to 20 acres, then, as a climax, to nearly 40 acres more. Astounding! Yes, that is the word, and scarcely to be believed without inspection. Yet it is a fact. And what did we see grown in these crystal-roofed fields? In comestibles more than 100 tons of Grapes, 200 tons of Tomatoes, and as many of Cucumbers, and splendidly grown, too. Second-rate culture would not do. Value the products at average market prices, and note the amount for one season, then there will be no reason to wonder at the gardeners' carriage and pair, nor of the excellent and elegant repast charmingly presided over by the angel of the house—a delightful home!

Pass into the plant and flower section. See millions, actually millions, of Palms in magnificent condition, and of all heights, from 3 inches to 10 feet, not a higgledy-piggledy jungle, but an orderly tasteful arrangement of popular kinds—a picturesque forest, and once seen not to be forgotten. In contrast, see thousands upon thousands of Aspidistras, glossy and clean; golden Crotons, crimson Dracenas, and innumerable Ferns. Find an unhealthy plant, a dirty plant—an insect-smitten plant, if you can. You cannot. Such plants are not there because they do not pay.

Then look into the "forcing department." Forcing! That is not the word. We want a new term. It is a waking up of plants and natural growth at an unnatural season. The whole business is topsy-turvied. Extra cold is the active agent, and not extra heat, in the attainment of something akin to startling results. Let us take a typical example—Lily of the Valley—sleeping, waking, and flowering all in the same house. We are speaking of September, and it is no doubt the same now. But seeing large breadths of the sweet May flower in September is enough as a sample—crowns closely packed, with foliage as robust, and a sea of spikes rising from it as large, pure, and sweet as ever were seen at any season, either under glass or the open air. This is no dream, no exaggeration, but a plain truth about a striking fact—but not the whole truth.

How is it done? Go to the end of this long house, and the secret is revealed. But it is no secret to many. It has been proclaimed through the *Times*, and seen, of course, by hundreds of workers and not a few privileged visitors, but is not known by the majority of gardeners and has not been described in the *Journal of Horticulture*. The process is delightful in its sweet simplicity. Nothing grows when it is frozen, no matter how long the winter. Very well; millions of Lily crowns are kept frozen, with many "forcing" plants and shrubs besides, in a gigantic refrigerator built for the purpose, in which the temperature is kept below freezing point by the aid of a steam engine. It is just a winter of frost and snow prolonged throughout the summer—crowns, bulbs, plants, and shrubs kept sleeping, and awakened just when they are required to grow.

First see huge, hard, sparkling blocks of Lily of the Valley crowns brought into the house to thaw; see others thawed, and the crowns in process of division and planting; see another bed a few days planted just starting in the then-deferred spring; another pushing leaves and spikes; a third with the buds just whitening; a fourth in full bloom; a fifth gathered and cleared out, and the whole routine will be comprehended, including men gathering spikes for the packing-room, and others making up huge bunches with broad, bold fringes of leaves, as if all were being done in the "Lily woods" in May. This is commercial floriculture in 1895.

What care such masters in production about foreign competition? Nothing. It is to them a name, and nothing more. What care they for any competition? Nothing. Who are they; and where is this wonderful work going on? There is one reason, and one only, why this cannot be told here—a good, sound, and

valid reason. Let one of the masters state it. "If you see anything worth note or mention you are welcome to note and mention it; but not our names. With hundreds of men we must have a system—they must work like a piece of machinery. The derangement of one part would affect many, or the whole; and anything like an invasion is out of the question. Anyone is free to do as we do. Our own men who rise by merit to responsible positions we like to see start for themselves, and we would help rather than hinder them, and we wish them well; but we cannot have streams of visitors, nor letters of application to 'view,' which either could not be answered, or the answers would be disappointing." Not another word is necessary. The scene may be in Jersey or Guernsey; in Derbyshire or at Worthing, or somewhere else. It does not in the least matter. The object is to show that the horticultural spirit is abroad, that England is up-to-date, and can, by the best work of competent men, hold its own commercially.

A word of evidence on the amateur aspect of gardening. It is alive and healthy—growing, and will grow, faster and faster, as time goes on. To catch the spirit of it and feel its influence it sufficed to be at the annual dinner of the National Amateur Gardeners' Association on the evening of the 18th inst. in the historic Guildhall Tavern, Gresham Street, a gathering of nearly a hundred ladies and gentlemen who indulge in the delightful pursuit for love, and not for gain. Note the ovation, almost overwhelming, that was given to the President (Mr. T. W. Sanders) in recognition of his services; see the smiling cultivators receive, amidst the plaudits of the assemblage, the honours they had won—Messrs. Dipper, Needs, Crane, Brown, Rowberry, Neal, and others—certificates, medals, cups (no money), it would have gladdened the heart of that Puritanical "Scottish Gardener" who sounded his alarm last week; listen to the rousing speeches, feel the enthusiasm that pervaded the meeting, and then be satisfied that there is nothing to fear for the future of gardening in this country. We mean to do all we can, with such help as may be given us, to keep the spirit active throughout 1896.

THE ROYAL HORTICULTURAL SOCIETY.

PROVINCIAL OPINION.

As is indicated in the following communications a considerable amount of interest is manifested in the Royal Horticultural Society in the provinces, and that a desire exists to see the Society extend the scope of its operations in some practical and tangible way. This desire is in itself commendable, and the real question is to find a way that is workable of meeting the wishes of earnest horticulturists in various parts of the country. We publish what we have received without comment on any of the suggestions at present, and in the assurance that they will receive the best attention of the authorities in Westminster.

THE even-handed fairness with which the *Journal of Horticulture* has dealt with both sides in the impending change at Chiswick makes it particularly fitting that it should take up the larger question of general policy which a great many provincial horticulturists and well-wishers of the Society think the Council should pursue. And to this end many will welcome the leader (page 543, December 12th) as giving articulation to the strong feelings and desire which do undoubtedly exist to see the R.H.S. take up a position more trusty, national, and worthy of itself as the Royal Horticultural Society of Great Britain than can be claimed for it at present. These feelings are not born of jealousy or antipathy to the R.H.S., but of a sincere desire to see its influence extend and become a real live force in provincial horticulture; yet it is felt before this can take place and the R.H.S. hold its rightful position in the respect and confidence of many horticulturists there must be a decided change in the mode of electing the various Committees which now sit in London.

All praise may be and is readily granted to a number of the gentlemen who now sit on those Committees for the regularity of their attendance year in and year out, in some cases at pecuniary loss to themselves no doubt. The feeling, however, among provincial horticulturists is that in the composition of those Committees the metropolitan trade and horticultural interests are excessively represented for a Society whose aim and scope should be national, and there is a strong desire to see the various Com-

mittees more popularly elected than is now the case, the tenure of office to be limited, half of the members to be retired by rota every year, and a limit to be put on their eligibility for re-election.

Until the Council of the R.H.S. adopts some such course in the election of its various Committees, it certainly will not be welcomed with much heartiness by a number of leading nurserymen and horticulturists in the provinces, and its influence for good must consequently be much too limited, but it ought not to be very difficult for the wisdom of the Council to devise some plan for widening its sphere of influence, and to recognise and encourage provincial efforts. A departure of this kind must of necessity be the first step leading to the establishment of local or provincial Committees which your leader suggests. If by mutual co-operation and concession advantage be taken of the various Societies now established, and power given them each of sending a delegate to sit on the London Committees, it would not only invest the R.H.S. with the true claim of being national in its scope and operation, but would also bridge over the difficulty of getting Fellows living at a distance to sit on the London Committees. Each local body would see the necessary means provided for its delegate to attend at least a number of these meetings; and the Committees being made sufficiently large a quorum would always be guaranteed. Following in the departure from the now beaten track there would be a variety of subjects come up that a united national R.H.S. could alone deal effectively with, and as every garden is now more or less a trial ground, and all gardeners experimentalists, the amount of information that local Committees could place in the hands of the R.H.S. for distribution, would not be second to that obtained from Chiswick.

Such are in brief some of the opinions that are freely expressed among provincial horticulturists.—N. F. BARNES, *Eaton*.

I HAVE perused the article anent the R.H.S. (page 543), and generally agree with your suggestions, more particularly with the one in connection with provincial exhibitions. I see no reason why anything new should not be adjudicated locally by competent men, either selected from the immediate district, or in conjunction with a sub-Committee of the R.H.S., appointed for such purposes, and thereby settle the question of merits on the spot. I feel sure this mode of procedure would tend to give more confidence to exhibitors than that which exists at present.

The difficulty will be the *modus operandi*, whether a local Committee or the election of a certain number of leading provincial horticulturists on the Council representing the principal districts of the country. By the later mode you would give these men a standing in the estimation of the public, and although they might not be able to attend the meetings regularly in London, an "agenda" of each meeting could be sent a day or two before, and their opinions requested on any subject on which they may desire to express themselves. By this means you would get the feelings of the provinces, which would give much more confidence, and lead to a greater amount of friendly feeling and interest in horticulture generally.

There would necessarily be some expense in carrying out any scheme of this kind, but this could be met by the R.H.S. and any local Society taking advantage of these privileges by mutual arrangements.—ROBT. TAIT, *Manchester*.

I AM afraid the remark in the leading article of the *Journal* (page 543) "that there is a large volume of feeling in the country that the Royal Horticultural Society is too much localised and unduly metropolitan" is only too true, whereas it ought to be broadly national and its influence felt throughout the length and breadth of the land. This being so, the question arises, How is this change to be brought about? and on this point I have no doubt there are many and varied opinions. However, now that there appears to be great changes in the Royal Horticultural Society's procedure under consideration the present may be an appropriate time for horticulturists throughout the country to express their views upon the question. I hope, therefore, that I may be allowed the privilege of joining in such expression.

The consideration of this subject has revived in my mind an idea which occurred to me long ago as to the many and varied advantages that would accrue if a federation of all important horticultural societies and improvement associations could be brought about. As everyone knows, these local combinations established throughout the country are doing a vast amount of good, and if we could unite all in one common cause, having an annual moveable conference at which the whole of the federated societies should be represented in proportion to their numbers, I believe greater good would result.

We find that the great majority of other important societies have their annual moveable conferences; as examples, I may mention the British Association, the Medical Association, the

Teachers' Association, and many others too numerous to mention; and when I look round and think of all these conferences that are held, many of which have been going on for years and are looked forward to by those concerned with an enthusiasm which is a credit to the cause they represent; when we see other societies and associations flourishing and benefiting by the advice given and information gained at these annual gatherings, and the ever increasing sympathy and support they receive from without—"the latter being a result which generally follows the efforts of those who try to help themselves"—I say, when I see all these things going on, I begin to think that we horticulturists as a body have been slumbering, or otherwise blind to the best interest of our cause, and that it is high time we should be aroused from our lethargy, and be made to see the importance of greater activity in the matter of horticultural education; therefore, being as I am convinced of the necessity of more unity of purpose and more unity of action amongst the horticulturists of this country, I do hope that the Council of the Royal Horticultural Society, when considering any proposed changes, will be able to devise some plan by which they will in future be more in touch with the various other horticultural societies of the country.

The suggestion that a deputation of the Council should attend some of the great shows in the country, and award certificates to anything new and meritorious, or any noble example of high culture, is a good one, and well worthy of consideration, inasmuch as it would enlist the sympathy and good will of those who at the present time do not entertain a very high opinion of the usefulness of the Royal Horticultural Society outside of London. As a nation, I believe we are somewhat behind our continental friends as regards facilities for the acquisition of horticultural knowledge, and therefore I think the time has arrived when it will be well for us to bestir ourselves, and by our activity and energy prove that we are at last fully alive to the interest of our profession, also that we intend to make good the ground we have lost in past years, and to leave no stone unturned that shall better enable us to maintain and improve our position, and meet the necessities of the times in which we live.

I believe that its only by a great national movement inaugurated by the Royal Horticultural Society that this important object can be obtained. Local organisations, as already proved, are of great advantage in the localities in which they are established. This being so, I believe if we can concentrate the power and influence of these various associations into one channel, all being animated by the same desire, and all having the one same object in view—namely, the advancement of education in the principles of practical and scientific horticulture; then, and only then, shall we be able to make our voices heard, our just aspirations respected, and our claims to receive that consideration which the national importance of professional horticulture demands. I say national importance, because there are few professions which contribute so much to the necessities, comforts, and pleasures of mankind as gardening.

For those reasons I am sure the Council of the Royal Horticultural Society will pardon me if I venture to suggest the following as a subject worthy of consideration—namely, the question of inviting the co-operation of other societies throughout the country, and the advisability of holding a Conference in some great horticultural centre outside of London during the summer of 1896. I believe if a Conference could be arranged to be held in Birmingham, Manchester, or any other large centre, the whole body would be welcomed, and accommodation provided by the municipal authorities, and one of the largest gatherings of gardeners ever held would be the result.—J. HUGHES, *Birmingham*.

As I take great interest in the R.H.S., and agree with you that its influence should be more extended to the provinces, I venture to make the following suggestions:—

- 1, That a code of rules should be settled by the R.H.S., in conjunction with managers of a few of the large provincial shows, to form a standard for the affiliated societies, and as a model for the guidance of large provincial shows having all England classes.

- 2, That the affiliated societies should have the power to grant certificates, medals, and cultural commendations of equal value to those issued by the R.H.S., provided—

- 3, That the judges of such shows be selected from a list sanctioned by the R.H.S. I think the formation of such a list would be by no means a very difficult matter, and would be of great use to the managers of provincial shows, and certificates granted by such judges would carry a weight that ordinary certificates at local shows do not.

I understand that a code of rules for judging is being prepared by the R.H.S., and this, when completed, should be embraced in the scheme.

I quite agree with the idea of forming local committees where a sufficient number of Fellows reside within an area to make an

efficient committee. Such committees would be enabled to make known the work and objects of the R.H.S., and might be made available to advise parish district and county councils upon such subjects as allotment gardens, school gardens, parks, open spaces, &c.—W. H. GREEN, F.R.H.S., *Wolverhampton*.

THE proposed changes in connection with the Royal Horticultural Society, and which formed the subject of your leader (page 543) are very important; and I was specially pleased to read the admirable suggestions, which I think may well be considered by this Society. To us in the country the R.H.S. is but a "name," and that "not one to conjure with;" whereas it might not only be a "reality," but of the greatest help to provincial shows, and consequently to horticulture over the length and breadth of the land.

There is no doubt that Societies in their districts know best how to cater for the wants of horticulturists, and how to secure admirable displays of plants, flowers, fruit, and vegetables. Many of these exhibitions would not be a disgrace to London, although held in the country without the prestige of an old valued National Society.

But why cannot help be given by the R.H.S.? I do not mean in a mere empty patronising sort of way, but practical help in the interests of horticulture generally. As you suggest, why should not the President of the Society—with, say, five of the Council—visit some of the principal country shows this next year, and acting as a body of judges, themselves give the certificates of merit of the R.H.S. to such exhibits as they may think worthy. I am sure such an arrangement would be cordially received by the managers of the shows visited, whilst the certificates would be valued by provincial cultivators who never exhibit in London. Besides, I venture to say these visits of the President and Council would be a source of pleasure, and I think profit even, to the visitors themselves, and I feel sure they would be surprised at the excellence of some of these "country" shows.

It would be impossible, in a short note, to give a tithe of the advantages which might accrue by a wide public-spirited policy adopted by the R.H.S. County Councils are sending their horticultural lecturers into every village in the country. Why should not the R.H.S. reach, in a practical way, every—yes, I write it advisedly—every show in the country, whether large or small, and lead the way in all horticultural matters, instead of being, as at present, I fear, practically unknown in many districts or ignored.

I can only say if the Society chose to visit the show I am officially connected with their visit would be cordially received.—H. W. ADNITT, *Shrewsbury*.

CLOSING THOUGHTS.

GOING! Going!! Gone!!! But a few days will elapse ere the inexorable hand strikes the final note, ere it passes, this 1895, into history. How do we view it—we who are interested in these pages—and how shall its character be summed up for reference in the years to come? Possibly the balance of opinion is favourable, and, overlooking some erratic flights in its character, will accord to it an average of merit. Such, I think, will be a fair estimate, though I am not qualified to analyse its parts, its inches of rain, hours of sunshine, degrees of heat or of cold. Individual opinion will qualify it by the degrees of good, bad, or indifferent, and it is from these diverse views I will endeavour to criticise, not the unalterable but the revocable; not the seasons, but ourselves, for ". . . in ourselves our safety lies."

There is neither time nor space nor is there special necessity for entering now into such details as are, obviously, fresh in reflective minds. The weather may be praised or blamed, and to some serve as a scapegoat for little sins, forming the dividing line between success or failure. There is a salve for every sore, but no cure only in applying the right remedy. Many pleasing examples are in evidence of healthy, vigorous action and its consequent rewards; yet do not these serve to throw in deeper shade the reverses of fortune (?) experienced by those who fight blindly or half-heartedly, who know not their own powers, who look for safety in circumstances and not in themselves.

The successful cultivator, or, indeed, the successful man in any phase of life, is always a medium for the transmission of the spirit of emulation to his fellow men, provided they are susceptible to the influence. On the other hand, instances are not wanting in which published failures act as deterrents to those engaged in the struggle of life. Never in the history of horticulture has the necessity been so keenly felt as in the past year, that work and thought must go hand in hand. Nor has there, I think, ever been stronger evidence adduced of the wisdom, of the vital necessity, of grasping every means to the end. These means are so many,

and so open to all, that, to my mind, they more than compensate for the various evils these later days have sprung upon us.

There is not, I suppose, one in the gardening world, from the humblest to the highest, who has done so well but what he hopes to do better; and there are, probably, but few who are not at the present time looking back in a general survey of their successes or failures for future guidance. Provided that this criticism is severely impartial, and that its consequent resolves are not vaguely defined, nought but salutary lessons can result. The bountiful Mother has sent each of us, her sons, into the gardening world with a packet of the seeds of success in our pocket, and as we sow so shall we reap.

Turning to other passing thoughts, a casual observer taking a broad look at one of our chief horticultural exhibitions, or noting the features of some eminent gardening establishment, may arrive at the conclusion that little remains to be done so far as improvement is concerned. He sees the best of its kind with a vision in which perspective possibilities have no place, nor is he troubled to look back on the devious paths by which gardening has been brought to its present stage. But the man whose life-study of the subject has strengthened his eye to look far beyond has glorious visions not bounded by the horizon of the present. The one views with pleasure what he takes to be the maturation of labour and thought; the other derives an infinitely greater satisfaction in watching and aiding the development of what he may not unreasonably regard as infinite.

That these thoughts may not be obscure, though only intended to be suggestive, I venture to ask, Have we yet attained the highest possible with any subjects under our hand? I think not; and the proof is not wanting in the ceaseless endeavour to reach higher points of excellence in size, colour, hardiness, variety, or what not. True, in some paths pursued we see in the distance a dead wall on which "No thoroughfare" is inscribed; but on nearer approach a way is found to the right or left, and man's ingenuity is provided with an outlet.

On, on, ever onwards! Doubtless we would, with this subject dear to our hearts, like to go back—back to the very cradle of life and trace by natural selection, or other means, the development of vegetable life till such time as man, the privileged animal, brought it subservient to his will. Some few might, indeed, like to throw aside a few more æons of ages and grapple with a subject (evolution) which is engaging the attention of the deepest thinkers of the age. Nor do I see those dangers in so doing which may suggest themselves, provided that the mind is able to leave the narrowness of present surroundings and measure immensity on the infinite scale. It is good to lose oneself for a little while in such sublime philosophy provided that we lose not sight of the great architectural plan, and reverently recognise the majesty of design, of law and order. Yet these things are, rather, for the chosen few selected by intellectual endowment and privileged by circumstances. That the spirit of such things is in the gardening body must be sufficient, and that it is there is evident, for even the boy who stokes the fires looks wonderingly on the print of a prehistoric leaf in the coal.

Yet, out of the depths of past years must the return be made to this unit of time—the passing year, and its teachings. Possibly to many, besides myself, the pithy verdicts of our "Reporters," "Inspectors," "Nomads," or whatsoever signatures the "Chiefs" employ, have come as a surprise, a pleasant surprise, in reverting to the somewhat peculiar season. "Very fine," "never better," "the best ever seen," has been frequently noticed in the recent reports of the Chrysanthemum shows. So with the fruit has high meed of praise been given. To what may we attribute this happy condition of things? Is it to the weather, which, for the nonce, has been dealt to us in alternate slices of heat and cold, shine and shade, rather than under the normal conditions of mixed?

To say that even our giants are independent of the weather would be a bold thing to do; but there are, I think, ample results testifying to the victories gained over adverse conditions. Periods of drought, spells of wet, untimely frosts, all enter into the prudent man's calculations; hence his hopes are neither parched, drowned, nor frozen. What ways or means he takes to cope with such contingencies are not for passing thoughts; those who seek them will find them faithfully depicted in the year's work of the *Journal of Horticulture*. Not a hundred miles from Inverary the sailings of a boat used to be proclaimed by sound of bell. The departure was contingent on weather; "weather permitting on Monday," failing that "on Tuesday," and, mark the sequel, "on Wednesday, weather or no." The moral, if far fetched, is, "Where there's a will there's a way," and that same indomitable will, for which there are no terrors in the torrid zone, and to which the frozen pole may ere this have revealed its secrets, can turn the many failures ever waiting on the gardener's work into success.

Perhaps, in the years to come, the present year may not be

inaptly referred to as the year of the great fruit agitation. In touching on this question, to some a vexed one, to all an important one, yet one in which a confusion of ideas, more or less, prevails, there can be but one opinion of its merits so far as the broad ethics of economy are concerned. If we can, for the time being, overlook these temporary gluts and wrong balances with their contingent evils, and see in the future the spasmodic reduced to a steady supply of the best (Britons want the best, and are willing to pay for it), then may it be admitted that the doctrines now preached are the solid foundation for future good work. Anyway, whether it is beef or Bramley's, Potatoes or Pearmain's, with milk and honey thrown in, these pages point the way—the practical way to extract the bounty from our old Earth.

We cannot ignore that even at this season of good cheer, of handshakings, and good wishes, there is a spectre at the feast. Young men, if conscious of its presence, have possibly not felt its grip. They are buoyed by hope and all that aids the freshness of life to relegate such things to the dim and distant future. Duty compels me to overcome diffidence and say, to you my young friend, a word in season. You are anxious—ambitious to be a gardener. Be that, and not only that, but a benevolent gardener—a Royal Benevolent Gardener. Doubtless the hint will be understood, but should the particulars of this brotherhood be unknown to you, then ask and you shall be told.

In the next number of this Journal we shall look for the greeting from that honoured pen that has so long adorned its pages; and one, too, we trustfully hope may be spared to do so for years to come. These closing thoughts of a passing year, all too vaguely expressed, must now conclude with the hope that in its successor we may

“ . . . by every action show
The happy fruits of what we know.”

—INVICTA.

SCHUBERTIA GRANDIFLORA.

THOUGH it is not a new plant, it is seldom seen in cultivation, and we are not therefore surprised “Young Gardener” has not seen it. It is a member of the Asclepias family, and a native of the Argentine Republic, whence it was introduced in 1837. The stems are long, slender, and twining, bearing the opposite leaves in pairs, elliptical in form, about 6 in. long by 3 broad. The flowers (fig. 90) are borne in axillary umbels of seven or eight, the pedicels covered with brownish hairs; the corolla five-lobed, 3 inches in diameter, white, with a few scattered hairs, and possessing a powerful odour, most agreeable at a short distance. This and the allied species, *S. graveolens*, with yellowish flowers, require a stove temperature and a compost of one-third light turfy loam, with two-thirds of peat and a little sand. Plenty of water is needed while they are growing, with occasional syringing, and attention to keeping them clear of insects, especially mealy bug. They can be propagated by cuttings of the young side shoots inserted in very sandy soil in strong bottom heat.

DRIED VEGETABLES—A DIRGE.

YOU, Mr. Editor, have put these vegetables under the head of “minor products;” but let that pass. The article at page 567 is a most important and very suggestive one. I live, as you know, in the midst of market gardens, and the growers near London find it more difficult every year to make ends meet. As a matter of fact, they have one way only of disposing of their produce, or two, if I may put it so—the Borough and Spitalfields Markets. Occasionally things go smoothly—the produce sells at a very moderate profit; but often, indeed very often, the market is glutted, and the English market grower stares vacantly with his hands and his empty purse in his pocket. I have seen waggon-loads of spring Cabbage brought home again and shot on the manure heap, or they have been sold for less than the cost of cutting them and carting to market. No one ever dreams of doing anything beyond Spitalfields and the Borough. It is a mere chance if any crop, from Potatoes, down to Parsley, will pay. The farmer cannot tell; he is never sure of anything. No one seems to have thought of drying vegetables; and even if it was thought of the results would be very problematical. A high rate of wages, tithes, rates and taxes, let alone rent, handicap the farmer and market grower.

It is a fact that our English florists are taking their business over to Belgium, because of the cheapness of labour there. The only chance for the market growers is to take their capital over too, and let the labourers fight it out amongst themselves. There does not seem to be enough now for the landlord, the tenant, and the labourer. I expect we could not compete with the cheap German labour. I picked up the “Daily News” after reading your paper,

and read a chapter on toys. What has toys to do with it? say you. I will tell you. The children's Christmas toys are made in America, and those not made by our “kindred beyond the seas” are made in Germany.

The wholesale dealer in toys informed the “Daily News” reporter that he had imported American toys for ten years. “These boats are all of American build; this one would sell for half a crown. You see it has got three chimneys, and mounts eight guns.” “Seems a pity we cannot make these things ourselves,” said the reporter. “’Tis a pity, and there's no doubt we could if we set about it, but *our people don't seem to have the enterprise and go.*” [Put that last portion in italics, Mr. Editor. Another department was all German toys; sold at half the price



FIG. 90.—SCHUBERTIA GRANDIFLORA.

of the American. To quote the toy salesman, “The people who make these German toys will live on about 7d. a day, and look sleek and comfortable.” Here you have the secret of the dried Cabbage.

The English labourer as a rule reminds me of a remark of poor Artemus Ward, “He never let his work interfere with his drinking.” Perhaps you will turn round on me and say, “Would you propose to feed our English labourers on 7d. a day, like these poor Germans?” You need not trouble to ask any questions. I do not propose anything, I merely place the facts before your readers. The tenant farmer and the market gardener may labour, but his capital slips through his fingers to satisfy the landlord (or the tithe owner, who is sometimes a horse jockey), the labourer, the School Board, and all the other Boards, for goodness knows how many Boards there are. I sometimes tell the poor persecuted man that it will be all right some day, things will find their level

&c., &c. I fancy he thinks "Grants in aid," "Bimetallism," and a duty on foreign produce are a long way off.—SIC VOS, NON VOBIS.

[It is right to add that the supplementary heading is ours, as it occurred to us that the author's heading, "Dried Vegetables," scarcely covered his theme, and besides, the tone of the communication reminded us of a line from Coleridge:—

"Soothed sadly by the dirgeful wind."

It will be admitted that our friend "soothes sadly." We have known him and esteemed him for years as ranking amongst the worthiest and most successful of British gardeners, and we are bound to say that he in himself affords the best rebutting evidence against the catastrophe he seems to fear of something like a general exodus to Belgium. We say this to his credit; his knowledge, sound judgment, prudence, and industry have placed him in what would be to many an enviable position. We are glad to believe that he is one of those who have made far more progress—and is still progressing—under the obstacles he so forcibly enumerates, than hundreds failed to do during the best period of the "good old times" of the long ago. Yet he conveys wholesome and needed lessons worthy of being studied, but we take the leading idea to be this—Success in life is not so much a question of "times" or "nations" as of *men*, and we suspect our friend will *not* "go to Belgium," but rest happy on his well-earned property amid pleasant surroundings in his poor old England.]

"SWINDLING AT FLOWER SHOWS."

YOUR correspondent, a Scotch—no, "Scottish Gardener" (page 574) adroitly skips away from "the danger of bringing a hornet's nest about his head" in the concluding sentence of his third paragraph, under the above heading, by stating that "facts are chieftains that winna ding, and darna be disputed." There is, in fact, from first to last of the "trenchant" article so conspicuous a tone of "Whaur dare meddle wi' me" that in claiming a little of the editorial space I wonder at my rashness in so doing. If those "faint suspicions" which appear to have suddenly ripened into convictions under the solar influence of "a leading Scotch paper" did not infer a deeper knowledge of the subject, we might, I think, pass it by—on the other side; but as he has so vigorously stirred the "nest" ere retreating behind a skilfully constructed barricade of dogmatic assertions that "darna be disputed" he is doubtless prepared, and well prepared, for a buzz.

It appears to be a plain, if disagreeable, duty by buzzing to find out in what part of the British body corporate of gardening this ulcer is located, to the end that due consideration of his measures, or more drastic ones, may be given. In justice to this "Gardener" I will duly allow for the difficulties, perhaps the dangers, he, as one of the craft, feels in putting his finger on the spot, but, as the matter is set forth, the charges are all too sweeping, yet all too vaguely defined. Let us, "Scottish Gardener," reason together; you from what you know, I from what I know; and here it is as well to briefly state that I modestly claim the qualifications gleaned in the varied career of a gardener's life to do so, with some study of my fellow men to boot.

This greed for gold I have not found to be the ruling passion in the gardening fraternity, though, *per contra*, I have known men carried into excesses for the good of others whereby they have satisfied their desires in buying plants, and paying for them, too, out of their own pockets—plants which, immediately they arrived home, became other people's property. One collection of Orchids, not ten miles from where I "buzz," was initiated in this way, and, what is more, yearly grew from the same source until it reached quite respectable dimensions. But it is not my present object to hold up the weaker brethren as a warning, nor shunt off the main question of exhibitors and their foibles, whom we may infer from the peculiar article are a bad lot, who "have taken prizes with other people's fruits, flowers, plants, and vegetables;" in fact whose practices are disreputable, and money is their god.

If such is the rule, and not the exception, and I have yet, after many years and many peeps behind the scenes, to learn from other sources than those quoted, ere believing it to be so; then, I say, we are past redemption, for the depraved will go for those certificates so vividly described, or they won't go at all. I cannot conceive any societies that are able to exist under the rotten conditions as set forth in the attack, and rather than prolong their miserable existence by any, so-called, remedy, I would revel in the throes of their dissolution. On the matter of public attendance, or rather the want of it, at some flower shows, possibly this is most keenly felt in those places where the British public have not obtained their shillingsworth, and "once bit twice shy." They might, of course, be precluded on the lines laid down by "A Scottish Gardener," and our exhibitions be turned solely into a feast of reason and flow of soul for the selfish enjoyment of growers and their patrons. How much more exhilarating is it to turn to those places where spirited discernment has catered for the public in some little additions which, if superfluous to the horticultural task, do not degrade it. Your public will not be put off with ninepennyworth of horticulture for their shilling, but make it up with threepennyworth of fireworks and they are content.

Is it possible to imagine that a successful show from all points of view—Shrewsbury, for instance—could be otherwise than a dismal

failure, save to a few enthusiasts of the unco' guid type, if there were no money in it? How much of the success, I venture to ask, in various places is dependent on a multitude of small growers who concentrate their energies on the six, the twelve, the brace, bunch, or dish of some favoured object of culture? And what percentage of these cheerfully pay the expenses out of their own pockets? "Scottish Gardener" may not, from position or circumstances, have brought these into his calculations, but they are nevertheless not to be despised, these little men, neither in their ability nor, I can honestly affirm, their integrity. Their incentive is the satisfaction, not rarely attained, in getting the prize, and I can within a dozen miles pick a out a dozen such men with whom the pleasures of showing are transcended in the pleasures of growing, and the spirit of healthy rivalry surpasses the love of lucre because they "love honour and virtue more."

With such men I sympathise, and rejoice in their successes. They would, I admit, perhaps do as much—some of them, at least—for a certificate, for that would mean much to them, but the few shillings of prize money, supposing such ever comes as clear profit, means more, for it probably means a pair of shoon for wee Sandy, and I would not deprive him of them. The tradesman, all honour to him, who is a tower of strength to more than one tottering fabric of a flower show, finds stimulus sufficient in the certificate, medal, or award of merit; or, as "A Scottish Gardener" says, "simply as a means of advertising." Ah! you see, my friend, it is not pure love in this case, and you "give yourself away," your "honour pure and simple." And what is advertising but prizes in prospective from the public pocket? The whole fabric, built on such an admittedly false foundation, falls; but if we could believe you to be serious in your sweeping condemnation of a craft of which you are a member, why do you remain in it? It cannot well be, in your view, from the honourable association (though it is from mine); is it, then, for those horrid bawbees?—VESPA.

OPEN AIR PEACH CULTURE.

(Continued from page 573.)

BEFORE commenting further on the manipulation of the growing shoots, I will take those important operations of cleansing, or precautions against insect pests, protecting the blossom, and also the setting of the fruit. Freedom from insects is most important, as without this open air Peach culture will be a complete failure. The grower must be at his trees both in the dormant and growing state.

Red spider, scale, and both the green and black aphids are the insects which are prone to attack Peach trees. Where any or all of these are known to be present the trees must be winter dressed, and especially is this necessary where the trees have an attack of scale or black aphids. Both of these, as any gardener is aware, are hard to do battle against while the trees are in a growing state, and the foliage young and tender. Where trees are badly attacked it is next to impossible to apply a remedy without injuring the foliage. When the trees are leafless there is not that risk in attempting to apply a remedy of some strength.

The best remedy I have found for Peach trees at this season is that of petroleum and warm water. What is known perhaps as soluble petroleum, or paraffin as it is often erroneously called, may be safer in inexperienced hands; but I have never yet met with any mishap by taking care that the solution is kept well agitated. As everyone who has practised with this simple but invaluable insecticide is aware, the oil quickly rises to the surface, and if ejected in its raw state on to the trees would cause injury, and perhaps death to many of the branches.

It must also be remembered that petroleum is more efficacious as an insecticide when the water used is warm, or not less than 120° or 130°. This may seem rather a high temperature to recommend, but it must be remembered that water used at this temperature will have lost much of its heat when drawn from the can and ejected over the branches in the form of a fine spray through a syringe. The petroleum should be used at the rate of about 4 ozs. to a 3-gallon can, which previously has had a piece of softsoap the size of a large Walnut dissolved in it. Trees that are known to have had bad attacks should have at least two dressings during the winter—one just as the leaves fall and another just as the buds are commencing to swell previous to bursting into colour. So much for the winter dressing.

I now come to the no less important early spring dressing. As all gardeners are aware who may have had the care of Peach trees on open walls, no sooner have the blooms set and the tender green shoots have commenced to unfurl green fly seem to spring into activity, and which if unchecked cause the foliage to curl, also turn yellow and drop. The trees, when allowed to come to this state, are undoubtedly seriously injured. It is important that the primary shoots are made secure from injury of any kind. The trees may, after being cleansed, form a clean growth; but it is too late to enable it to become well ripened.

The remedy I apply is the old-fashioned one of a decoction of quassia chips. How we manage this is in placing about a half-peck of chips in a bag with 1 lb. of softsoap, this being put into a boiler of soft water containing 20 gallons and boiled for half an hour or thereabouts. This, when cooled down, will make 60 gallons, and must be syringed over the trees in the evening or after the sun's rays have gone from the trees. These dressings should be given on alternate days, and if not sufficient in a week or ten days' time repeat the application. This quassia remedy must not be given after the fruit has advanced to the second swelling stage, or it will be bitter and unpleasant.—A. YOUNG.

(To be continued.)



WEATHER IN LONDON.—Though not being what is usually termed seasonable Christmas weather, there is little to complain of, as the dry healthy atmosphere which has chiefly prevailed during the past four days continues at the time of going to press, facilitating greatly the increased business of Christmas time, and also making it pleasant for holiday seekers. On several mornings the thermometer has fallen below freezing point, with slight fog, the latter, however, clearing as the days have advanced.

— **THE ROYAL HORTICULTURAL SOCIETY.**—The meetings for 1896 have been arranged to take place as follows:—At the Drill Hall, Westminster, on January 14th, February 11th, March 10th and 24th, April 7th and 21st, May 5th, June 9th and 23rd, July 14th and 28th, August 11th and 25th, September 8th, October 13th and 27th, November 10th and 24th, and December 15th. The annual general meeting will be held at the Society's offices, 117, Victoria Street, S.W., in the afternoon of February 11th. The Temple Show will take place on May 19th, 20th, and 21st. A great exhibition of British-grown fruit will be held at the Crystal Palace on October 1st, 2nd, and 3rd.

— **VEITCH MEMORIAL MEDALS AND PRIZES.**—At a meeting of the Trustees held on the 20th inst. it was resolved to present the Veitch silver medal to the following gentlemen in recognition of their eminent services to scientific horticulture, forestry, and arboriculture—viz., Mons. Henry Vilmorin of Paris; Professor Sargent, Director of the Arnold Arboretum, Boston, U.S.A.; Mr. F. W. Burbidge, M.A., Curator of Trinity College Botanic Gardens, Dublin, and Mr. Malcolm Dunn of the Palace Gardens, Dalkeith. It was also resolved to place at the disposal of the National Rose Society two medals and two prizes of £5 each, one to be competed for at the metropolitan show held at the Crystal Palace, and the other at the northern show to be held at Ulverston; also two medals and two prizes of £5 each at the disposal of the National Chrysanthemum Society, to be competed for at the Jubilee exhibition of the Society, and one medal and one prize of £5 to each of the following provincial horticultural societies—Ulster, Dundee, and Derbyshire.

— **CHESTER PAXTON SOCIETY.**—The annual general meeting of this Society was held in the Grosvenor Museum on Saturday, under the presidency of Mr. Thomas Weaver, Christleton Hall Gardens. The Honorary Secretary and Treasurer (Mr. G. P. Miln) submitted his report, which was of a very satisfactory nature, a substantial balance being carried forward to next year's account. He also pointed out that the membership had increased considerably of late, the roll at present showing that 105 members (the majority being practical gardeners) had paid their subscriptions for the past year. After this the Chairman expressed a wish to retire from the presidency, which he had held for the customary term of three years. This was accepted with regret, and Mr. Weaver was warmly thanked for the able manner in which he had discharged the duties allotted to him during his term of office. Mr. Nicholas F. Barnes, Eaton Gardens, was afterwards unanimously elected President, Mr. Miln promising to undertake the duties of Secretary and Treasurer for another year.

— **FRUIT CULTURE IN ENGLAND.**—The charges of middlemen and "commission agents" are in general so excessive that the cultivation of fruit in England frequently does not pay, especially in a prolific season such as that of the present year. In foreign countries large quantities of fruit are dried and preserved either by solar or artificial heat. Plums and Prunes are dried on the Continent by the sun and by artificial heat. In the United States vast quantities are dried, or desiccated, by means of stoves, and in sunny California by the sun and by evaporating machines, not only in seasons of abundant crops, but as a regular part of the fruit-grower's business. Apples, also, are dried in various forms upon stoves and evaporators in many other parts of America. Hitherto little or nothing has been done in this direction in Great Britain. There is a growing importation of dried fruit from other countries. An effort should be made by British fruit growers, says the Board of Agriculture to obtain part of this trade for themselves.

— **WOLVERHAMPTON AUXILIARY OF THE GARDENERS' ROYAL BENEVOLENT INSTITUTION.**—At the meeting of this Society Mr. G. A. Bishop, the Chairman, handed in his list of subscriptions, which amounted in the course of a few weeks to the sum of £70, including twenty-six annual subscribers of a guinea.

— **WOOLTON GARDENERS' IMPROVEMENT SOCIETY.**—On Thursday evening the first part of the session was brought to a close by Mr. Geo. Haigh, gardener to W. H. Tate, Esq., Highfield, Woolton, reading a concise and admirable paper on the "Cultivation of the Chrysanthemum." A discussion followed, the decided opinion of everyone present being that it was one of the best papers ever read before the Society. The usual votes closed the proceedings.

— **BOTANICAL DEPARTMENT OF THE BRITISH MUSEUM.**—The Report of the Department of Botany at the British Museum for 1894, by Mr. W. Carruthers, shows that many interesting additions were made to the Herbarium during the year, one of the most important being the collection of fresh-water Algae made by the late Dr. A. H. Hassall, which includes a number of type specimens. Collections of flowering and flowerless plants have also been obtained, by donation, exchange, or purchase, from all parts of the world, especially from British India and from our other colonies.

— **THE SUTTON COLDFIELD BRANCH OF THE BIRMINGHAM AND MIDLAND COUNTIES GARDENERS' MUTUAL IMPROVEMENT ASSOCIATION.**—At a meeting of the members and friends of this Society at the Town Hall, Sutton Coldfield, Mr. S. T. Wright read an essay on "The Commercial Aspects of Fruit Culture." Dr. Evans, the President of the Association, occupied the chair. The essay proved to be the same with which Mr. Wright gained the silver medal in the recent Fruit Essay competition. It is needless to remark that the essayist was listened to with marked attention, and that he also suitably replied to the various questions put by members interested in fruit culture.

— **THE HESSLE GARDENERS' MUTUAL IMPROVEMENT SOCIETY.**—At a meeting of the above Society, held in the Parish Schoolroom, December 17th, a paper was read by Mr. G. C. Coates, gardener to W. Wheateley, Esq., Hull, on "Chrysanthemums." The essayist in commencing remarked on the great advantage the southern growers have over ourselves in Chrysanthemum culture, the climate being so much more suitable for perfect growth. He advises taking cuttings early, and considers that the timing of the bud has a great deal to do with success. Mr. Coates does not agree with excessive feeding. For final potting he uses only fresh loam and builder's sand, with pots of a good size, feeding slightly after the buds are set. Housing is done at the end of September, shading if necessary, and ventilating freely, especially at the bottom.—F. L. T.

— **ROYAL METEOROLOGICAL SOCIETY.**—The monthly meeting of this Society was held on Wednesday evening, the 18th inst., Mr. R. Inwards, F.R.A.S., President, in the chair. Mr. R. H. Scott, F.R.S., read a paper "On some of the differences between Fogs, as related to the weather systems which accompany them." In this it was shown that there are at least two distinct classes of phenomena described under the generic name of "fog." In the case of anticyclonic fogs no rainfall takes place, the temperature is low in the morning, and there is a considerable rise during the day; while in the case of cyclonic fogs, rainfall does take place, and the temperature is high in the morning, frequently approaching or even equalling the maximum for the day. Mr. Scott also investigated the cases of several well-marked fogs in London, and found that there was no direct relation traceable between the temperature accompanying them and the death rate.

— **PICTURES OF THE KEW LAKE.**—The lake at the southern end of the Royal Gardens is an entirely artificial creation. It was commenced about forty years ago by the late Sir William Hooker, the then Director, who had nothing more than an old gravel pit to work upon. It was further developed by Sir Joseph Hooker, and no pains have since been spared to improve its scenic beauty. The Pinetum skirts it on its east side, and the collections of Alders and Willows fringe it on the north and west. These, apart from their botanical interest, have been as far as possible arranged to produce a pictorial effect. This has attracted the attention of M. and Madame de l'Aubinière, who for the last two years have been employed in painting a series of studies and pictures from different points of view. As an inspection of a selection of these would be of interest to many visitors to the Royal Gardens, the private room in the north gallery has been utilised for the purpose.—("Kew Bulletin.")

— **CLEMATIS PANICULATA.**—A transatlantic contemporary says that this has come to be recognised as one of the very best of ornamental climbers when in flower, but it is worth noting that the grey feathery tails of its red fruit are very interesting at this season, while the late persisting leaves turn to rich bronze and chocolate colours.

— **BERLIN INDUSTRIAL EXHIBITION, 1896.**—We are informed that horticulture is to be one of the special features of this exhibition. A large tract of land is set apart for the sole purpose, and the arrangements are entrusted to Herr L. Spath. Some eighty firms in Berlin and environs will, it is said, be represented. A park of 1900 square metres has also been arranged, a portion of which will be devoted to landscape gardens, while flower and fruit culture will be represented.

— **BEGONIA SAUNDERSI.**—According to an American contemporary none of the shrubby Begonias surpasses this species in grace of form. It is tall, with slender stems and obliquely cordate leaves of a deep glossy green on slender petioles an inch long. The flowers are borne in immense cymes on very long and slender peduncles from the axils of the upper leaves. Male and female flowers are produced on separate cymes. The former have six petals, almost obovate in outline, half an inch or more in length; the male flowers have only four petals and are rather smaller. The colour is a very bright rose, and the effect of a good specimen in full flower is exceedingly pleasing. It flowers late in the summer and continues in bloom during autumn and early winter.

— **COLD STORAGE FOR APPLES.**—Anent the recent progress in the matter of prolonging the season of fruits by means of cold storage, Prof. Craig, of the Experiment Farm at Ottawa, Canada, thinks that the time may soon come when winter Apples may not be a necessity, as autumn Apples can be kept in perfect condition until the next summer. This is entirely practicable, but as winter Apples are quite as easily grown as summer or autumn Apples, there seems no need of dispensing with either. At the Columbian Exposition, in the New York fruit exhibit, there were shown at the opening of the exhibition, and for some weeks after, perfect specimens of the Sweet Bough, Sour Bough, Fall Pippin, Pound Sweet, and others, and they kept as long after being removed from the cold storage as they would have kept in the summer or autumn without having been thus stored; in other words, contrary to the generally accepted idea, the cold storage in no way impaired their keeping qualities. It would certainly be very pleasant to be able to have a supply of Primate, Chenango Strawberry, Gravenstein, and Fall Pippin through the winter. The problem to solve is to make central cold storage plants in fruit-growing neighbourhoods, where business enough can be secured to make them profitable, operated by the ammonia process. Ice methods will not answer. To fill the modern demand they must be able to freeze fresh meats, fish, and poultry in one room, while keeping fruit at 30° Fahrenheit in another.—("American Agriculturist.")

— **WALNUT CULTIVATION IN FRANCE.**—This industry has, according to a contemporary, advanced considerably during recent years, as the Walnut is a good fruit for commerce, as it keeps well, is easily managed, carries well. In 1885 France produced 1,590,182 cwts. of Walnuts, representing a value of 25,028,462 francs after deducting commissions. The Drôme Department occupies the first place, and then come those of Corrèze and Lot. Isère and Dordogne might also be named as producing nuts valued at 33 francs and 20 francs per cwt., whilst the three more productive departments are classed at 10 francs, 13 francs 30 cents., and 17 francs per cwt. In 1880 the Ganceline station forwarded 100,000 kilos. of nuts. In the valley of Isère, around Saint-Marcellin (said M. Charles Baltet in his lecture before the R.H.S.), you may see trees bearing 5 to 8 hectolitres of Walnuts, selling at 20 francs per hectolitre. But even by averaging the produce at only 50 francs per tree there is still a good profit, there being here no expenses of cultivation to consider. This neighbourhood is one of the richest in Walnut trees, yielding annually 30,000 hectolitres of the Mayette and 50,000 of the Chaberte varieties, the first named being sold at 15 francs per hectolitre for direct consumption, and the latter to the oil manufactories at 3 francs. The gathering costs about 1 franc per hectolitre. The Vinay and Tullins cantons export the Mayette variety to St. Petersburg to the number of 2,000,000 nuts. The proprietors in these cantons make 2000 francs by their Walnut trees. The fruit is sent to Marseilles on willow rafts, which are floated down the Rhône, the whole, both raft and fruit, being sold upon landing. Everywhere the Walnuts from Isère are the best in the market. They are sometimes called by the local name "Archiduchesse." The 1885 crop was estimated at 2,000,000 francs.

— **THE FLOWERING DOGWOOD.**—Very rarely does the Flowering Dogwood develop such an abundance of fruit as it has this year in the neighbourhood of New York. In Central Park, and more especially in the wild woods in the upper end of Manhattan Island, where these trees are abundant, the bright scarlet berries—three or four of them together at the extremity of every branchlet—make them the most conspicuous feature in the foreground of every landscape.

— **WASPS BY RAIL.**—A correspondent writes to "Nature,"—"On November 19th of this year some yardmen were turning over some English Oak planks, prior to stacking them, at Exeter, when one of the men put his hand in a knot-hole that occurred in a 6-inch thick plank. He instantly withdrew it with a cry, and some wasps flew out. On examination the hole was found to contain a large nest with sixty or seventy wasps in it. The plank and its living contents had come, with a number of others, from Lincolnshire by rail a few days before. Probably this long ride for a wasps' nest beats the record!"

— **RHAMNUS HYBRIDA.**—In the botanic garden at Vienna there has been for many years a Buckthorn shrub named *Rhamnus hybrida* which sprang from a cross between *R. alpina* and *R. alaternus*. One of the parent species, *R. alpina*, has deciduous leaves, which are green in the summer and wither and drop in the autumn. The other has evergreen leaves, which last through the winter and remain on the branches for two years. The hybrid, says a contemporary, possesses leaves which do not fall off in the autumn, nor do they last fresh and green for two years, but they maintain their verdure through one winter and fall in the spring when the new shoots are sprouting from the buds.

— **THE EDITOR OF THE "GARDEN AND FOREST."**—We learn from "American Gardening" that Mr. W. A. Stiles, editor of "Garden and Forest," has been appointed one of the Commissioners of Parks in the city of New York for five years. This is a happy selection, and made because of the man's fitness for the position, and entirely beyond the pale of politics. Mr. Stiles is a gentleman of practical and refined horticultural taste, and he has always been deeply interested in the preservation and improvement of our parks and in making them attractive to the multitude without in the least degree infringing upon their artistic landscape effect and beauty. Just now, when the Botanical Garden is under weigh, and a large acreage of new park grounds has to be designed and improved, to have men of the efficiency and calibre of Mr. Stiles at the head of the Park Department is a credit and an honour to the city of New York.

PRESENTATION TO MR. WILLIAM SHERWOOD.

ONE of the most pleasant gatherings, illustrative of the happy relationship existing between the head of a great firm and the nearly 300 workers in it, that we have witnessed for a long time appropriately assembled on the eve of Christmas in the grand banqueting hall, or Royal Venetian Chamber of the Holborn Restaurant on Saturday evening last.

The occasion was a dinner given by Mr. N. N. Sherwood, head of the great wholesale seed house of Messrs. Hurst & Son, Houndsditch, to the staff of the firm and friends, to celebrate the majority of his son, Mr. William Sherwood. The whole of the persons employed could not attend, for over 150 of them may be indicated by a slip of the tongue of one of the speakers, who had presumably been accustomed to address mixed audiences, and who evoked a ripple of laughter by addressing the audience as "ladies and gentlemen." There were no ladies present, but 120 of the sterner sex; and it may be safely said that all were satisfied equally with the sumptuous repast and the splendid evidence of goodwill that abounded between the founder of the feast and those, old and young, who worked heartily in co-operation with him in carrying out the world-wide business of which they have reason to be proud.

Mr. N. N. Sherwood presided, and received an ovation, testifying to the esteem in which he is held by those who are in the closest connection with him, and who know him the best; and his references to them were couched in the kindest possible terms as sincere as they were just and appreciated.

An event of the evening—indeed, the chief event—was the presentation to Mr. William Sherwood of a valuable and completely equipped travelling case, to which every worker in the firm had promptly contributed. It was chosen as being at once useful for his projected journeyings in distant lands, and as at the same time likely to link him in thought with the old and young folk at home. The presentation was jointly made by Mr. Johnson, who had been fifty years in the firm, and another old head of a department. It was accepted by the recipient in graceful terms, who assured his hearers, amidst loud plaudits, that it was his great desire to follow in the footsteps of his father, and take his example as his rule of conduct in life. Socially and intellectually, musically and oratorically, the proceedings were alike successful and enjoyable, but having to prepare for press two days before the usual time we have to be reluctantly content (or otherwise) with this brief reference.



ANGRÆCUM SANDERIANUM.

A CHARMING little Orchid for winter and early spring flowering is *Angræcum Sanderianum*, of which the woodcut (fig. 91) is a faithful representation. Though it was introduced into this

long-lasting properties making them almost indispensable in choice wreaths, bouquets, and dress sprays; and largely as they are used at present there is no doubt their popularity will still further increase. The soft and pleasing tints of *Cattleyas*, the golden yellow *Dendrobies*, and the glowing colour of such as *Sophranitis* and *Disas* find many admirers, but, as in every other description of flowers, white is principally in demand. Fortunately there is no lack of cheap and easily grown kinds that bear white flowers, and these are now being largely grown by nurserymen for the purposes indicated.

One of the best known and most suitable is the useful *Cœlogyne cristata*, an easily grown winter and spring flowering Orchid that it would be very difficult to beat, the graceful racemes having a



FIG. 91.—ANGRÆCUM SANDERIANUM.

country from Madagascar many years ago, it does not appear to be very largely cultivated at the present time, but perhaps it will be accorded more prominence in the future. Mr. W. Watson of Kew in his Orchid book says, "A beautiful little plant, with shining green, tongue-shaped leaves, the margins tinged with red; length about 6 inches. Flower spikes 1 foot long, drooping, and bearing two rows of snow-white flowers $1\frac{1}{2}$ inch across, the sepals and petals spreading, the lip triangular, and the spur 3 inches to 4 inches long. This is a delightful plant, very free-flowering, the spikes graceful, and the flowers lasting. It grows perfectly if placed along with *Phalænopsis*."

WHITE FLOWERED ORCHIDS.

THE demand for Orchids as cut flowers has very greatly increased during the last few years, with the inevitable result of their having become much cheaper and easier to obtain. Floral decorators have long ago found out their value, their elegance and

charm quite their own. This may be used for all and every purpose that cut flowers are required, and is unequalled for dress or coat sprays. Large plants are the best to give abundance of cut flowers and as an instance of what may be grown on them a plant here has annually produced upwards of 100 spikes. Last year the number produced was 126, but these were reduced to ninety in order to ease the plant a little.

A frequent mistake made with this Orchid is to disturb it at the root oftener than necessary. At the same time the rhizomes must not be allowed to ramble on and get away from the compost, as this is equally as bad, but an annual top dressing should be given, cutting away all spent pseudo-bulbs in order to make room for the new growth and bring the latter in juxtaposition to the new compost. This latter if often made too heavy, and consequently settles into a close inert mass through which air cannot possibly circulate. A little partly decayed leaf mould is a capital addition to the usual mixture for several kinds, and *C. cristata* among the number.

Where a strong heat and ample atmospheric moisture can be maintained, *Dendrobium Deari* is a useful Orchid for cutting, but is not usually so cheap or readily obtainable as the last named. It has the recommendation of flowering in the autumn at a time when Orchid flowers are scarce, and it is not unusual for a second lot, or even a third, to be produced from the same set of pseudo-bulbs or stems. The racemes occur principally near the tops of the latter, and each carries from four to eight flowers, pure white with the exception of a light green centre.

Turning to the cool house there are several of the *Odontoglossums* that rank among the finest of white-flowering Orchids for cutting, notably *O. crispum* and *O. Pescatorei*. While not quite so easily grown as those mentioned above, there is nothing to prevent anyone who has had a little experience in Orchid culture to take them up with every prospect of success. One important point in their management is to see that they are not overpotted, this being probably a more frequent cause of failure than any other. A low temperature in the winter, combined with a dry and draughty atmosphere, is another, for it must be borne in mind that these beautiful plants grow naturally in regions where the winter and summer temperature vary but little, and where they are often enveloped in mist for weeks together.

Masdevallia towarensis, with its many flowered panicles of snow-white blossoms, at once suggests itself in this category, and as a free-blooming, constant kind, ranks as first-rate. A constant and unvarying temperature the whole year through is what this species delights in, with comfortable shade in the summer, ample light in winter, and copious supplies of atmospheric moisture. The roots need special attention, a thin layer of sweet compost over abundant drainage suiting them well.

Calanthe vestita is another very useful species, the yellow-eyed variety "*luteo oculata*" being generally preferred to the red. Both are, however, of great utility to anyone having much table or other decoration during the dull days of early winter. Plenty of room must be afforded the plants while growing, the leaves must be kept free of insects, and the pseudo-bulbs when at rest must never be in a lower temperature than 55°; then with ordinary care and attention to the usual cultural details they are as easily grown as a Zonal *Pelargoniums*. Many others could be named, such as *Pilumna fragrans*, *Dendrobium formosum*, *infundibulum album*, and others; also several of the *Angræcums*.

These may all be termed white-flowering Orchids, though the majority have a little colour, usually on the lips. White varieties of well-known coloured species are oftentimes rare, and high in price, and frequently fetch more than a dozen times as much as the typical form. *Lælia anceps*, *Lycaste Skinneri*, *Cattleya Trianae*, *C. Percivaliana* and *C. Eldorado* are among the better known instances of this, and yet these are not a whit more beautiful than the cheap and popular kinds mentioned above.

Those who can afford to pay these high prices will doubtless continue to do so, and rightly, for they are recompensed from the point of view of the connoisseur, but those of more slender means may well feel content, knowing as they do that some of the most chaste kinds in the whole Orchid family are within their grasp.—H. R. R.

MILTONIA CLOWESI.

AMONG the dainty Orchids known as *Miltonias*, this is, perhaps, the most picturesquely beautiful. It is a tropical Brazilian plant, and should be grown in the warmest section of the Orchid house in a half-shady position. During the growing season, like all other *Miltonias*, it requires plenty of water, and it does not resent a little manure water now and then. It is generally grown in shallow pans or pots in peat and sphagnum, preferably with an addition of charcoal. The flowers are borne on long nodding peduncles in loose racemes. They measure 3 inches or more across. The petals and sepals are spreading, long, linear or slightly lanceolate, with the edges turned back in the middle; yellow, barred with rich brown, well-marked blotches. The lip is entire, cordate; purple, with a conspicuous white apex. The leaves are long and graceful, produced from ovate, smooth pseudo-bulbs, from the base of which a number of white, thread-like aerial roots add, in their way, to the beauty of the plant. It flowers during the autumn months.—("GARDEN AND FOREST.")

POETRY AND TRUTH.

My auld acquaintance, "A. D.," must kindly allow me to disclaim anything which "looks like anger" or anything at all like "a bitter attack" on his really very mild and harmless criticism. In my remarks on page 560 I was really fighting for a principle, and had no idea of saying one word personally offensive to "A. D.," though, of course, I

totally disagreed with his opinions, and still do so, for reasons I have already stated.

It is very satisfying to hear "A. D." confess that he is one of the "severely practical sort," but if so why did he go out of his severely practical sort of a way in order to criticise Mr. D. T. Fish's true and beautiful, and poetical paper? By what authority is "A. D." appointed critic in ordinary and irresponsible scrutineer of the literary labours of men who use language which "A. D." himself professes he does not understand? Were it a case of Potatoes, or even a question of the "severely practical sort," of course I should be one of the first to give credence to our friend, and pay all due respect to his opinions; but when he speaks of poetry and chemistry, of which it is quite evident from the context he knows but little, then is one's good faith shaken indeed. A man who talks of "the generation of water through leafage" is not to be trusted as knowing much of vegetable physics or of physiology in these latter days. Transpiration or evaporation, or even regeneration or purification, are all and each true as the Scriptures; but generation itself is a thing quite apart from all these.

Coal is coal, *per se*, of course; that is true in part, but coal is carbon, &c. Coal is sun energy transformed into carbon; coal is in fact a sort of confined or "fixed" or bottled sunshine, so that when "A. D." calls coal simply coal he states the name only, or a mere fragment of the whole knowledge we name concerning its life history and character; in fact "the severely practical man" who says, "coal is merely coal," states a portion of the nominal portion of the argument, and neglects higher and wider and more important matters connected with the product. No one of course ever denies that coal is coal, but most of us know of it in other phases of the English language as well. I agree with "A. D." about the coal being coal just as I am sure "A. D." is "A. D."—F. W. BURBIDGE.

APPLES ON THE PARADISE STOCK.*

MY experience leads me to the conclusion that the Apple on the Paradise stock is the most profitable, and I think it will be readily admitted that such fruits are larger and more regular in size than those from trees on other stocks. The trees, too, come into bearing more quickly and offer greater facilities for gathering the fruit, a combination which means a great deal. The numerous fibrous roots of this stock work near the surface and receive the benefit of sun heat, which is of much assistance in having thoroughly matured wood. It is adapted to stiff soils. It is an undoubted fact that we do not afford half enough manure nor produce as much fruit of the finest quality as we are capable of doing; a mixture of farmyard and artificial manure being better than either singly. When the pruning is finished we lay on perhaps half the usual quantity of ordinary stable manure and decayed leaves, and from 5 to 7 lbs. of chemical manure to the rod. We do not dig much among trees, as the roots require to be kept near the surface, and digging would consequently do much injury.

Apples on the Paradise stock should be planted 10 to 12 feet apart. Lime I use freely, and find it does a great deal of good in rendering other foods available. Trees coming into bloom require a thorough soaking with clear water, the omission of which causes many failures and disappointments. Trees on the Paradise stock need less pruning than those worked on the Crab. It is sometimes beneficial to take off a few of the strongest roots to induce more fibrous ones round the stems, which, as the feeders, supply nutrition to the top growth. According to my experience fruit ought not to be thinned before July. In hush-shaped trees keep the centres quite open, and the branches of a sufficient distance apart for the admission of light and air.

The names of Apples are legion, some seeming local in their fruitfulness, while others appear universal. I put down Lord Suffield as the best Apple; Lord Grosvenor and Dumelow's Seedling are good; Ecklinville is not always satisfactory; Stirling Castle is an exception, as it does not do well on the Paradise stock; Grenadier does remarkably well; Frogmore Prolific does not grow freely; Duchess of Oldenburg rarely fails; Red Calville is a valuable Apple; Warner's King does not bear early; Bismarck is a modern Apple of merit; Small's Admirable bears freely; Rosehill begins to fruit at once; Pioneer and Bramley's Seedling are good Apples; Ribston Pippin and Cox's Orange do splendidly; Worcester Pearmain, Lemon Pippin, and Irish Peach are all good.

So far as I am aware, no one has solved the problem of canker. It often appears if the organic system of the tree is damaged by frost; but also comes from other, and sometimes unexplainable causes. American blight is one of the worst pests to destroy, as it seems to get into every corner. Softsoap and tobacco water are useful for stopping it, while scattering lime and soot just beneath the surface soil is also of benefit. Caterpillars sometimes defoliate the trees, and to prevent this Paris green in the form of a solution should be syringed on before the trees come into bloom. Scale may be extirpated by washing and scrubbing with soap and paraffin before the swelling of the buds.

A discussion followed the reading of the paper, and the Paradise stock was not recommended for the locality, having been tried without success, the climate and soil being each wet and cold, especially in the autumn and spring. A vote of thanks was given Mr. Harris for his valuable paper, and the meeting terminated.

* [Abridged from a paper read by Mr. G. HARRIS, Alnwick Castle, at a meeting of the Sunderland Gardeners' Mutual Improvement Society.]



THE N.C.S. RULES AND AWARDS OF THE FLORAL COMMITTEE.

I FEAR I have unintentionally misled you into perhaps assuming that a silver medal sent me the other day by the Secretary of the N.C.S. was the silver medal in question. The Editor's note on page 557 might give that interpretation. The medal I have received was for quite another exhibit, and I sent you the secretary's note to show the unnecessarily "polite" communication accompanying it.

On the occasion in question I staged some three or four dozen cut blooms of various sections (a dozen being shown in my patent stand), besides several bunches of decoratives, the whole being my own seedlings. I may incidentally observe that I live some forty miles from London—two hours more or less by train. In point of numbers and varieties it was the largest exhibit staged that day. I did not secure a certificate, although the Committee asked to see one or two varieties again.

I, of course, accept the official statement that no award was made; but considering the fact that a vote of thanks was very properly accorded at that meeting to a member of the Floral Committee for exhibiting two flowers of a variety already in commerce, surely it is not unreasonable to have expected a similar compliment paid to my exhibit. I cannot, of course, help observing the evident feeling displayed in the secretary's letter when he says that he supposes that no vote of thanks was proposed in face of the opposition to the silver medal admittedly won, and then lost by one vote, and reported as won in the horticultural papers.

As to the Regulation, you will see by referring to the schedule of the N.C.S. (page 14, Reg. 4) that a majority of those "present" is required before a certificate can be granted. The application of this Regulation has not, I learn, been enforced until the present season, and has now been made to apply generally. The Regulation has been considerably discussed at the last few meetings, and there can be no denying the fact of the "eccentricity" to which I have referred, and I should not be surprised to hear that the meeting to consider the rules for the Floral Committee, mentioned in the Secretary's letter to me and published in your Journal on page 557 was convened to alter that rule.

Please do not waste the space of your Journal if you think the matter can terminate, as I shall be quite satisfied by you alone reading this letter, feeling sure that in the end I shall have done both the N.C.S. and amateur Chrysanthemum growers a good turn.—HENRY BRISCOE-IRONSIDE.

[If we have been misled into publishing what is wrong it is necessary to publish this letter in putting the matter right. We had absolutely no material for any other interpretation than that conveyed. The Secretary's letter in conveying the medal we simply regarded as a model in laconics, and his brass-farthing reference a not unnatural rejoinder to what had gone before. The opportunity was too tempting to be resisted by an emotional official who himself sometimes invites retorts, and presumably enjoys them.]

MR. W. H. LEES.

I WAS very pleased to see the old champion, Mr. Molyneux, seconding as it were your just notice of the present champion, Mr. Lees. I had not had the pleasure of meeting Mr. Lees until last war time (1894), but this year staged by the side of him at two of the shows, and I do not think I ever saw anyone so quiet and cool over the work before. Certainly he had blooms to be proud of, but his manner was an object lesson. Good men are generally written up after they are dead, but I am sure there are thousands who will join me in wishing Mr. Lees a very happy Christmas, and many of them. Also to the one who instructed him in disbudding the few Chrysanthemums.—W. WELLS.

CHRYSANTHEMUM "MISS RITA SCHROETER."

IN his very useful notice which appeared on page 557 Mr. E. Molyneux speaks of this variety as having been raised "some two years since," but that it "has not justified itself until this season." The variety in question was certificated in November, 1894, and brought out last winter for the first time.—C. E. SHEA, *Foots Cray*.

YELLOW BOUQUET DES DAMES.

I SHALL be pleased to learn if there is a yellow form of Bouquet des Dames in existence. If I remember rightly Mr. Molyneux mentioned it last year about this time, but all the same I do not see it advertised or offered in any catalogue. We value the white form for early work; cutting it down about the first week in June it comes in with Madame Desgranges, and I think the yellow form would be a fine companion.—ANOTHER MUMMER.

DISQUALIFICATION AT GLASGOW.

I BELIEVE Messrs. Pearson & Sons are correct in saying (page 510) their show board had holes $6\frac{1}{2}$ inches apart instead of 7 inches, but they

forget to state that only twenty-four blooms were on boards of that size. The third board was only 24 inches by 18 inches. This gave the exhibit the appearance of a stand of twenty-four with some other small exhibit beside it. "Sadoc" (page 534) dreams of disappointed exhibitors. These, happily, were conspicuous by their absence. No judge would be doing his duty to encourage competing on such lines.—WM. ELTON.

AFTER THE WARS.

AS one of the young warriors spoken of by "Staff Officer" (page 544), I beg, on behalf of myself and those under me, to thank your correspondent for his kind, cheering, and encouraging remarks. I feel sure that no one who has been engaged in the late war of the "mums" can read the advice of "Staff Officer" without feeling stimulated and encouraged, whatever defeats they may have had in the past. If our worthy friend and champion of 1895, Mr. W. H. Lees, were to give us some of his past experience, I feel sure it would prove that he has not obtained his present proud position without having sustained some honourable scars, though not enough to cripple him and his position to day.

He would be a bold man who would venture to say who would conquer and win in 1896. Certainly it will not be the warrior who is downhearted or discouraged because of past defeats, but to him who profits by past experience, and takes the advice of "Staff Officer" in looking after the thumbs.—THOS. ROBINSON, *Elsfield Gardens, Hollingbourne, Kent*.

RUSTIC ADORNMENTS FOR HOMES OF TASTE.

MESSRS. W. H. & L. COLLINGRIDGE have sent us a copy of a new and very beautiful edition of the late Mr. Shirley Hibberd's work bearing the above title. We cannot imagine a more appropriate presentation book than this to persons who delight in flower and attractive home surroundings. It is suitable as a Christmas gift, a New Year's gift, as a gift at any time, and is worthy of a place in any "home of taste." Moreover, it abounds in useful, practical hints, and is eminently readable from end to end. We take a sample at random on a subject that is never unseasonable, and least of all at the present time:—

FLORAL DECORATIONS.

"Bring flowers, young flowers, for the festal board,
To wreath the cup ere the wine be poured.
Bring flowers! They are springing in wood and vale,
Their breath floats out on the southern gale,
And the touch of the sunbeam hath waked the Rose,
To deck the hall where the bright wine flows."

MRS. HEMANS.

So many are the social qualities of flowers that it would be a difficult task to enumerate them. We always feel welcome when, on entering a room, we find a display of flowers on the table. Where there are flowers about, the hostess appears glad, the children pleased, the very dog and cat grateful for our arrival, the whole scene and all the personages seem more hearty, homely, and beautiful, because of those bewitching Roses, and Orchids, and Lilies, and Mignonette! Assuredly, of all simple domestic ornaments flowers must have the first place.

"Better hang a wild Rose over the toilette than nothing," says Leigh Hunt; "the eye that looks in the glass will see there something besides itself, and acquire something of a religious right to respect itself, in thinking by how many objects in the creation the bloom of beauty is shared."

Speaking of breakfast in summer, the same prince of essayists says, "Set flowers on your table, a whole nosegay, if you can get it, or but two or three, or a single flower;—a Rose, a Pink, nay, a Daisy. Bring a few Daisies and Buttercups from your last field walk, and keep them alive in water; and preserve but a bunch of Clover, or a handful of flowering grass—one of the most elegant as well as cheap of Nature's productions—and you have something on your table that reminds you of the beauty of God's creation, and gives you a link with the poets and sages that have done it most honour. Put but a Rose, or a Lily, or a Violet on your table, and you and Lord Bacon have a custom in common; for that great and wise man was in the habit of having the flowers in season set upon his table—morning, and, we believe, noon, and night; that is to say, at all his meals; for dinner, in his time, was taken at noon; and why should he not have flowers at all his meals, seeing that they were growing all day? Now, here is a fashion that shall last you for ever, if you please; never changing with silks and velvets, nor dependent upon the caprice of some fine gentleman or lady. The fashion of the garments of heaven and earth endures for ever, and you may adorn your table with specimens of their drapery—with flowers out of the fields, and golden beams out of the blue ether."

"You who have gardens may multiply your enjoyments of them a hundred-fold by keeping in mind the genial suggestion of Leigh Hunt. Make the most of every ray of light that falls out of heaven to bless you at the window; there you may woo beauty, and have it nod to you in a hundred forms: with a pair of scissors you may, every morning, cull a posy for the breakfast-table; you may make the tables, and the mantel-pieces, and the quiet recesses of your rooms gay at all times and the whole atmosphere of the house as odorous of flowers, as we

will hope it is already morally sweet with the interchange of love's language and the expressions of high emotions of the heart."

The book is copiously illustrated, and each page margined with a scroll of gold. It has been carefully revised by Mr. T. W. Sanders, who has admirably maintained the tone and touch of the talented author throughout.

POTENTILLA FRUTICOSA.

A VERY distinct form of *Potentilla* is the one shown by the engraving 92, as it departs from the usual low rambling or creeping types of the genus in its shrubby habit. On rockeries it succeeds admirably, forming compact little bushes 1 to 2 feet high, and covered with its neat bright yellow flowers, which are produced in great numbers throughout the summer months. It is occasionally found in mountainous districts of Great Britain, but is not common; and it is also



FIG. 92.—POTENTILLA FRUTICOSA.

found in various parts of Europe, especially in the Pyrenees. In well-drained borders it grows strongly, but much the best position is the rockery, on which it is soon established, and can be readily increased by division or by seeds. *P. fruticosa* is also found in various parts of Asia, and even in America. In the latter country, however, several shrubby forms have been noted, which by some botanists have been regarded as varieties of this one, and by others as distinct species. Examples of these are found in *P. floribunda*, a North American plant; *P. parvifolia*, from the Soongarian Desert; *P. dahurica*, from Dahuria; *P. arbuscula*, *P. rigida*, *P. lignosa*, and *P. Salesovi*. The last-named is somewhat of the habit of *P. fruticosa*, but is easily recognised in the leaves of *P. Salesovi*, not having the same silvery appearance, and the leaflets are more sharply serrated.

GARDENERS' CHARITABLE AND PROVIDENT INSTITUTIONS.

THE GARDENERS' ROYAL BENEVOLENT INSTITUTION.—*Secretary*, Mr. G. J. Ingram, 50, Parliament Street, London, W.C.

UNITED HORTICULTURAL BENEFIT AND PROVIDENT SOCIETY.—*Secretary*, Mr. W. Collins, 9, Martindale Road, Balham, London, S.W.

ROYAL GARDENERS' ORPHAN FUND.—*Secretary*, Mr. A. F. Barron, Royal Horticultural Society's Gardens, Chiswick, London, W.



FRUIT FORCING.

Peaches and Nectarines.—*Earliest House.*—The trees in the structure closed early in December, and having been started at an early period the previous season, will now have the blossom buds well advanced towards flowering, and when this takes place syringing the trees must cease, but maintain a genial condition of the atmosphere by damping floors and borders on bright mornings and in the early part of fine afternoons. Trees not previously forced will be several days later in showing colour in the flower buds, but when that occurs cease sprinkling, as the petals are liable to become spotted and discoloured if moisture lodges on them. If the inside borders are found on examination at all dry, give a thorough supply of water at a temperature about that of the mean of the house, or slightly in advance of it.

Weakly trees may have tepid liquid manure, supplying it rather thick after the soil has been made properly moist with water. Avoid, however, making the soil sodden by needless or over-supplies of water or liquid manure, as this promotes wood-bud rather than blossom-bud development, besides inducing ill-health and attendant diseases from both fungal and insect parasites. Where there is a redundancy of blossoms remove those on the under-side or back of the shoots by drawing a gloved hand contrary way of the growth, and thin them elsewhere where too crowded.

Admit a little air at the top of the house constantly, and this, with the warmth in the hot-water pipes, will keep the atmosphere in motion, and moisture will be deposited on the glass instead of on the blossoms, as frequently occurs in a close atmosphere to the prejudice of their setting fruit. The temperature may be maintained at 55° by day and 50° at night in mild weather, but 5° less in cold weather is more favourable to the trees than the higher temperature, and the setting is not prejudiced if the heat falls to 45° at night, or even 40° in severe frosty weather. For the trees to do good work they must have time, and it is necessary when the flowers show the anthers clear of the petals that the structure be freely ventilated, avoiding cold draughts, and not exciting the trees by too much fire heat. To keep them, however, in steady progress the temperature must be raised early in the day to 50°, and kept between that and 55° through the day with a little ventilation at the top of the house, not allowing an advance from sun heat without a corresponding increase of ventilation, and having it full between 60° and 65°.

The aim should be to have stout blossoms, sturdy stamens well raised above the pistil and loaded with abundance of vivifying pollen, well-developed pistil and perfectly formed ovule. These all require to develop, and aëration for their perfecting, then recourse can be had to fertilisation by shaking the trellis, or brushing the flowers with a camel-hair brush on fine days after the house has been ventilated some little time. The pollen, when ripe, by either of these processes is distributed in a golden shower visible in the sunlight, and when this is the case the set is generally a good one, even without artificial impregnation, and sometimes the disturbance of the air by that entering by the ventilators, or even the slight disturbance caused by damping the floor and border serves to effect the setting in a satisfactory manner. Under arid condition lightly syringing the trees has proved beneficial, but it is a practice to be avoided rather than advised.

Second Early House.—To have fruit ripe of the choice second early, as Hales' Early and A Bec (one of the best), and midseason Peaches, as Dymond, Royal George, and Bellegarde, ripe at the close of May or early in June, the trees must be started without delay, but it is desirable to merely close the house and only employ fire heat to exclude frost up to the new year, ventilating freely at 50°. This will gently incite the sap and then the buds. Then, at the time named, fire heat should be employed to maintain a night temperature of 40°, and to insure 50° by day, above which ventilate freely. This will bring the trees on sufficiently to insure a sturdy blossoming, and once the flowers make a move it is necessary to keep them in steady progress. Sprinkle the house and trees on fine mornings, and early in the afternoon of bright days, but in dull weather omit the second syringing, as keeping the trees dripping with water has a weakening tendency, inducing wood rather than blossom development. If the house has had the roof lights removed the inside borders will have been thoroughly moistened through to the drainage, and not need water for some weeks, but where the roof lights are fixed the border may need watering, and if dry a repeated supply, so as to thoroughly moisten the soil through to the drainage. This is imperatively necessary to secure satisfactory results, but the dryness usually results in many buds being cast; indeed, failures often follow a too parched condition of the soil during the rest season. Outside borders should be protected with dry leaves and fern, a few inches thickness sufficing to exclude frost.

Succession Houses.—The trees are best pruned, dressed, and the house cleansed whilst the buds are quite dormant; indeed, it is desirable to attend to these matters as soon as the leaves have fallen, as then the insect pests are not given time to hibernate. Loosen the trees from the trellis, cut out weak attenuated branches, and where crowded thin well,

leaving sufficient of last season's growth for bearing, with space between them for training in those intended to displace them. Thoroughly wash the house and the trees with soapy water, following with an insecticide, for aphides, red spider, thrips and scale lurk about the trees in some form, ready to become active and multiply when forcing operations are commenced.

Secure the branches at once to the trellis, leaving sufficient room in the respective ligatures for the swelling of the branches and shoots. Tight tying often is a prolific source of gumming. Remove the loose surface soil down to the roots without disturbing them, and supply good turfy loam in lumps from the size of a nut to an egg, with an admixture of about one-fifth of well decayed manure, not covering the roots more than 2 or 3 inches. If the trees are disposed to make long-jointed wood it is advisable to avoid nitrogenous manures, especially those of a quick acting nature, as nitrate of soda and sulphate of ammonia, also potassic, such as muriate of potash, supplying bonemeal or basic slag phosphate, which furnishes phosphoric acid and lime. Potash, if given at all, should be in the form that will hinder its softening tendency, such as kainit, using about equal parts of dissolved bone (or of basic slag two parts) and kainit, and supplying 4 ozs. per square yard, pointing in lightly. It should be supplied now, as neither contains anything (except the superphosphate a little ammonia) likely to be washed out of the soil or to volatilise, but to get them ready for the use of the trees is a point of some consequence.

On the other hand, where trees make too little wood and are more prolific of fruit than desirable for attaining a first-class size, the border may be dressed with a combined phosphate, potassic, and sulphatic manure, say, dissolved bones two parts, nitrate of potash one part, sulphate of lime two parts, mixed, using half lb. per square yard. If a limey soil, use bone superphosphate three and a half parts, muriate of potash one and a half part, and nitrate of soda one and a half part, mixed, but not more than 4 ozs. per square yard, and that when the trees commence swelling the buds, washing in moderately, repeating when the stoning is completed. These elements only benefit the trees in the year of application, therefore to be of service they must be applied when they can be appropriated and transformed into plant-constituents. This is when the trees are in growth, and to benefit the fruits the manure must be available whilst they are swelling. Carefully examine inside borders, and supply a thorough watering if dry, as lack of moisture at the roots will cause the buds to fall later on. Keep the houses as cool as possible so as to insure complete rest.

Cucumbers.—The time is near when fruit is scarce and the prices run highest. Winter fruited are often planted so soon, and fruit so early, as to be incapable of doing much when the days turn in their favour. Nevertheless, a good plant is of importance, and unless there is command of plenty of heat young plants have little chance against those that have got a good hold of the soil, and covered a considerable amount of trellis before the dull season commences. Circumstances often make all the difference in culture. Those having light and well-heated structures make little account of the weather, and always prefer young to old plants, whilst strugglers against frost and sunless sky, with barely enough heating means for mild weather, and dark-roofed structures from small panes and many laps, are ever on the tip-toe of anxiety, and pin their faith to old plants, which have little "go" in them at five months from the seed.

Light is very important for young plants, which from a September sowing are laden with fruit about the thickness, and half the length, of a single-barrel gun, green as grass, and carrying a blue bloom, which are all bespoke for Christmas and the new year at exactly double the price of the older plants—only a month (August rearing). The glass is clean both inside and out, and coverings are used over the roof lights (there are no other) at night, which saves 25 per cent. in fuel, and the produce is 50 per cent. better. Even mats are used over the doorways in cold weather, so as to prevent the influx of cold air when the doors are opened. Feeding is practised on the principle of root-production, earthing or surface dressing with sweet, warm, lumpy loam, and encouraging with top-dressings of superphosphate (a great root multiplier), and then follows the potash and nitrogen (muriate of potash and nitrate of soda, or sulphate of ammonia, in equal parts), with superphosphate to keep up the root action and supply of phosphorus (the life giver). Fresh loam, a sprinkling of superphosphate, when roots are plentiful, a dusting of the potash and nitrate or sulphate, is the order of the day, and with that, according to the judgment of the grower, Cucumbers "come and go" in from ten to twenty-one days, just as the weather permits.

Where Cucumbers or Melons are obtained from frames or pits heated by fermenting materials, some fresh Oak or Beach leaves should be thrown together, with one-third of stable litter, and if necessary moistened so as to induce fermentation. The heap must be turned when warmed through, turning outside to inside, thoroughly incorporating, alike to induce a genial warmth of the materials and to sweeten them.

THE KITCHEN GARDEN.

Broccoli.—Owing to the mildness of the autumn and early part of the winter Broccoli have continued growing, and many are in such a soft state, that an ordinarily severe frost will destroy them wholesale. Something, therefore, should be done towards preventing the loss of such an important crop. What are left of Veitch's Autumn Protecting or other early varieties ought, if the weather still keeps mild and open, to be lifted and replanted under glass, deep frames, brick pits, and the floors

or beds in late or mid-season vineries answering well for the purpose. Snow's Winter White is fairly hardy, but if plentiful, a portion of the plants ought to be placed where they can be protected, this also forwarding them considerably. Lift with a ball of soil about the roots, remove lower old leaves, and replant closely and firmly in rich moist soil. Seeing that small hearts are better than no Broccoli at all, some of the plants of successional and late varieties ought likewise to be lifted, only in this case they should be laid in on a cool border, sloping westward, burying the whole of the stems, and firmly surround the roots with manure and soil. Thus treated, the plants may easily be further protected with mats. It is only on dry days that such work should be attempted.

Lettuces for Cutting.—Just now good salading is plentiful enough, but the case may be very different in February and March. It is then when a few boxes or pans of somewhat thickly raised plants of Lettuces would be found of good service for cutting. Give the preference to Green Cos varieties and new seed to old seed. Fill the boxes or pans with moderately good soil and sow the seeds rather more thickly than is desirable when plants are wanted for pricking out. Place in gentle heat to germinate and transfer to shelves and a warm greenhouse temperature before the seedlings become spindly and commence damping. In this way crisp and partially blanched leaves can be had early for salad purposes, a succession being easily kept up till such times as any Lettuces grown in frames or on warm borders are ready to cut.

Chicory.—With good Endive abundant there is not much demand for Chicory. If, therefore, roots of the latter are none too plentiful retard them as much as possible with a view to having abundance of well blanched leaves for mixing with Lettuce leaves or hearts, the appearance as well as the quality of the salad mixture being improved thereby. If the roots are still in the open lift, twist off old leaves, and store thickly in good soil in a cool place. About a fortnight or so before blanched produce is required place a few roots in pots filled with rich soil and start them in a warm dark place, following with more every fortnight. If kept properly moist at the roots the growth will be strong, and second or even third cuttings of leaves may be had from them.

Mustard and Cress.—This ought to be quickly grown and young when sent to the table. Sowings should, therefore, be made frequently, or every three or four days. Always use fresh soil, old Mushroom bed manure, and light loam answering well. New seed is always the best, and this should be sown thickly on the surface and pressed in. Place in a forcing house, and if the soil is moist no water is required. Mat over or cover with brown paper, the seed germinating more quickly in the dark. Do not expose to the light till the stems are $1\frac{1}{2}$ inch to 2 inches in length, and then transfer to somewhat cooler quarters.

Preparing for Forcing.—Where there is much forcing of vegetables to be done a plentiful supply of leaves will always be found of great service, these, mixed or not with stable manure, keeping up a gentle heat for several weeks together. Unfortunately the autumn has been unfavourable to the work of collecting. Dry winds are needed, or otherwise the more sodden leaves will soon become useless for heating purposes. Those already collected should be kept as dry as possible, or fermentation will set up too soon, and be so much wasted heat. If stable manure is also used, and there is every likelihood of the leaves alone failing to give much heat, this ought to be sweetened and rank heat got rid of prior to mixing with leaves. Shake it out and throw into heaps to ferment, taking care to turn the heaps inside out before the centres become excessively hot, a "white heat" quite spoiling the manure. Two or three turnings will be sufficient.

Garden Refuse.—Where Vegetable Marrows are still grown on heaps of decaying vegetable refuse—manure, leaves, road trimmings, and such-like—all that need be done at present is to collect these materials ready for mixing and making into a square heap next spring. In not a few gardens the accumulations of decayed garden refuse are wheeled on to the vegetable quarters, where it proves an excellent fertiliser. It would in all cases be considerably improved in value as a manure if either quick or gas lime were added to it at the rate of one cartload to five cartloads of the decaying refuse. Frosty weather is the best time for wheeling or carting on to the ground, but the heap ought first to be turned, all sticks and stones thrown out, and the lime be then mixed with the bulk. Sticks and other rubbish that will burn should be burnt in a slow fire or "smother," reducing all to "burn bake," in which form it will be most beneficial when mixed with soil intended for either fruit trees or vegetables. If gas lime is used it ought not to be dug in for a time, but be spread over the surface and there left for a month or six weeks. This will get rid of any injurious properties. On no account wheel over ground, especially that of a clayey nature, while in a wet state. Either do the necessary wheeling when the surface is frosted over or else wait for a dry time.

TRADE CATALOGUES RECEIVED.

Andrews & Co., 21, Winchcombe Street, Cheltenham.—Seed List.
H. Cannell & Sons, Swanley.—Seeds.
Cooper, Taber & Co., Ltd., 90, Southwark Street, S.E.—Wholesale Seed Catalogue.
Dicksons, Ltd., Chester.—Vegetable and Flower Seeds.
Dickson & Robinson, Manchester.—Seeds.
J. R. Pearson & Sons, Chester.—Chrysanthemums.

THE BEE-KEEPER.

ENEMIES OF BEES.

At this season a sharp look out should be kept for birds and mice, whose natural instinct leads them to the apiary. In isolated country districts, more particularly in the neighbourhood of plantations, the blue tit is, in my opinion, the most troublesome. The persistent manner in which they will dart on to the alighting board and as quickly fly off with bee after bee to a neighbouring bush or tree, to be devoured, is almost beyond comprehension. They will also take them whilst on the wing, and it is surprising the number of bees a pair of tits will destroy and consume in the course of a few hours.

It is interesting to watch them. How quick they are in their movements, and the ready way in which they manipulate and dissect them. The head and sting are quickly removed, and only the abdomen is consumed. If no bees are visible they tap at the entrance to the hive with their beaks, hopping quickly from one hive to the other, knowing from instinct, if the temperature is high enough, that some of the bees will leave the cluster on hearing the tapping at the entrance. These will be at once seized and taken to the nearest bush to be dissected. This shows the amount of injury a few pairs of these birds will do in an apiary. When the ground is covered with snow, the most casual observer may often see the surface under neighbouring bushes literally covered with the remains of the dissected bees.

During the past few days the weather has been very favourable for these pests, being mild, with a little sun, and I have caught upwards of a score of this species alone in my apiary. This may be an exceptional case, but other bee-keepers are similarly situated, by having their bees in close proximity to woods, and would probably not notice the mischief that is being done until a fall of snow came and revealed it by showing the remains of a number of dead bees. The common house sparrows are sometimes troublesome, but usually take the bees whilst on the wing, and are not nearly as great a nuisance as the tits.

Mice, too, will soon play havoc with a colony if they once gain an entrance, consuming the stores and destroying the combs. But it is only during the winter months that damage is done by them, when all is quiet in the hive. A strong colony in the summer would not allow them to remain many minutes. Mice may be kept out of the hive if the entrance is only three-eighths of an inch in depth. The best form of trap for both birds and mice is the ordinary V-shaped mouse trap, baited with bread. They have the advantage, too, of being cheap, and it is advisable to keep a few of them constantly set near the hives throughout the winter. —AN ENGLISH BEE-KEEPER.

VENTILATING FLOORS.

I HAVE altered my hives with solid floors for perforated zinc floors and have only one more to alter, which will be done this winter. The reason for so doing will be clear to anyone after once trying zinc floors. A hive with solid floors will do for one or two years, but will succumb after owing to dust, debris and damp collecting, especially if they are covered with unsuitable material. I find bees do not clear out all debris from floors, and unless they are scraped and cleaned the stock is doomed. But with perforated zinc floors three minutes will set them right. A case of the above came under my notice last spring which caused dysentery. But the owner took it for foul brood. He followed the advice in this Journal for three years and has done well. For the last two seasons he has followed another journal, has lost three stocks, and he will lose the remaining one if he does not take a different course. He is a believer in wide entrances yet each spring his floors are damp, combs mouldy, and how is that to be accounted for? I have learnt my lesson upon it, and will not go back to the old state of things.

CARBOLIC ACID *versus* SMOKE.

In the Journal, 12th December, an "E. B.-K." recommends the smoker. But it being, as I believe, the cause of my first disaster in bee-keeping, I feel I must say a word. In 1885 I purchased my first box hive (the Standard) from a man who was looked on as thoroughly practical, and he put everything in order that autumn. There were two lots of bees joined together with a young queen fed up, and were to give a good account of themselves in 1886. But such was not the case, and at last he said he did not know what was the matter unless they had got foul brood. I thought he was not so practical as he professed, so cut out comb and sent to the Journal. The reply is in Nos. 322, August 26th, and 323, September 2, 1886.

I came to the conclusion the cause was smoke, although I never used the smoker more than on three occasions, and then at the entrance.

Since then I have never used anything but acid; it is clean to handle, healthful to bees—in fact, one can do anything with them by spreading it on brown paper with a feather and applying where required, and as for robbing it is the only remedy, whereas the smoker is dirty from beginning to end, and unnatural. A weak hive is easily handled, but get a strong one, and you will have to almost stupefy the bees before they can be successfully manipulated. I have not had the pleasure of seeing a strong hive manipulated at bee shows yet; what I have seen has been what I call a dull, weak lot, and I should not like to put into practice all they preach.

I advise all bee-keepers, especially young beginners, to use carbolic acid as above described, and they will not be so nervous in handling bees as they are with smoke. I could give three cases round me where the smoker has been the cause of disaster. In one case the lady could do nothing with the bees, so shut down the hive, leaving the bars uncovered. They were left for two seasons, when the bees had to be destroyed to get honey, the hive being a mass of comb from roof to floor. I fear I have taken up too much space, but could not let the smoker pass unnoticed. —R. A. CLARK, *Flaneswood*.

TO CORRESPONDENTS

•• All correspondence should be directed either to "THE EDITOR" or to "THE PUBLISHER." Letters addressed to Dr. Hogg or members of the staff often remain unopened unavoidably. We request that no one will write privately to any of our correspondents, as doing so subjects them to unjustifiable trouble and expense.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Bee subjects, and should never send more than two or three questions at once. All articles intended for insertion should be written on one side of the paper only. We cannot reply to questions through the post, and we do not undertake to return rejected communications.

Orchids from Madagascar (*Inquirer*).—By your description of the Orchids referred to, as imported from Madagascar, they have evidently suffered badly in transit, and you will probably have a difficulty in bringing them round. You had better lay them out thinly, and in the moist atmosphere required by Cucumbers not much syringing will be needed, a light dewing daily being ample. You will soon see whether the plants are likely to recover, and as soon as they show signs of life place them in as small pots as possible, using only clean crocks about the roots, if any. Water the crocks daily, but avoid wetting the plants, and do not put any moss near them until they begin to root, when a surfacing will be beneficial. We cannot advise you more fully without knowing what the species are.

Potatoes or Potatos (*Student*).—By all means enter for the R.H.S. examination. You have nothing to lose, and the exercise will be beneficial, whether you succeed or not in winning a certificate. We think you may succeed. Whether you adopt the old English method of spelling Potatoes or Tomatoes as we do, or resort to the more novel form of Potatos or Tomatos, will, we are satisfied, make not the slightest difference in your merit marks. The established rule is, that when a vowel precedes the final "o" in nouns, as in cameo, folio, and any other such words, the addition of "s" only forms the plural; but where the final "o" is preceded by a consonant, as in hero, mango, buffalo, calico, musquito, domino, and such like words, the plural is formed by adding "es." The Potato and Tomato come into this section, but it is held by some persons, for some reason or other which we have not seen fully explained, that "s" only should be added to form the plural. We had, prior to the receipt of your letter, been discussing the point with gentlemen who are, we believe, investigating the matter; and as we had occasion to write to one of the most competent National schoolmasters in Surrey on another subject, we at the same time put the question to him. His reply is as follows:—"With regard to the plural of Potato and Tomato, I fancy if our school children were to omit the 'e' in either case, nine out of every ten of the Government Inspectors would mark the omission as a grave error, and hold their hands up in holy horror." The schoolmaster referred to has been successful in the Royal Horticultural Society's examination. In Webster's large new International Dictionary the generally recognised old English method that we follow is adhered to. Do as you like.

The Waas Fruit and Vegetable Drying Machine (C).—We have endeavoured to obtain the address of the London agent for this appliance, but failed to do so. The best authority to whom we could apply informed us that so far as he could ascertain the agent had gone away (from England) and left no address. If any of our readers can supply information relative to manufacturers of the "Waas" we shall be obliged. We do not consider that the appliance, whatever may be its merits, has been properly brought to the notice of fruit and vegetable growers in this country.

Gardenias in Winter (Nemo).—If the plants are swelling their flower buds they must not be kept in a lower temperature than 65°. Be careful not to give too much water, this will bring about deformity of the flower buds. If carefully supplied with water the same temperature as the house, and chemical manure is applied in small quantities to the surface of the soil at intervals of two or three weeks, the roots will continue active, and the flower buds develop naturally. Those that are first showing their flower buds and intended for spring flowering will do very well in a temperature 5° lower, provided they are not kept too wet at their roots. Young plants in 2-inch pots intended for growing on early in the year should be placed in the first-named temperature so that they can be kept slowly advancing. Pinch out the points of the plants to prevent their running up tall. Keep these plants close to the glass, but be careful that the soil does not become dry about their roots.

Rooting Carnation Cuttings (G. F.).—A temperature of 60° is liable to cause a weedy growth of plant, and this produces spindly cuttings. Keep the plants in a light position, clear of all other kinds of plants, and in a temperature ranging from 50° to 55°. It is the side shoots that you want, and these, when about 4 inches long, should be slipped or drawn away from the main growths. They will require no further preparation, but should be dibbled in thinly in either boxes, pans, or well drained pots filled with fine loam, with a little leaf soil and sharp sand added. Place in close frame with a bottom heat of 70°, or rather more. Dry the glass covering the frame every morning; shade from bright sunshine. Take care that the soil does not become very dry, and give air freely as soon as it is found the cuttings are rooted. Harden, and before the roots become matted together place the plants singly in 2½-inch pots. Carnations are preferred with long stems; but it does not pay to disbud other than the Malmaisons very severely. Strong flowering growths branch freely, and the breaks from these should each have the terminal bud only left on them.

Chrysanthemums for Exhibition (T. S. F.).—The varieties numbered 1, 3, 4, 5, 6, 7, 13, 15, 16, 17, and 19, when cultivated on the principle of allowing the plants to make their first bud before endeavouring to obtain extra shoots, grow a trifle above 5 feet high. The remainder are all below that height. Of course circumstances, such as good and bad culture, make all the difference in the manner of growth, especially when cultivated to produce large blooms. If the plants are raised in a warm house, grown for two months longer than they should be in this structure, instead of being in a cold frame from the time they are 6 inches high, then there is no fixing the height of certain varieties, even approximately. We should not advise the retention of Nos. 6 and 16, as they give blooms much too coarse in the floret to be effective on the exhibition table. With the exception of No. 14 all the varieties will succeed on the natural system. Of course, you will know that it is somewhat difficult to give precise instructions for Guernsey, but assuming the climate is a trifle warmer and the seasons earlier, the varieties should succeed by taking the third bud. If the blooms are developed from early buds, say those formed the first week in August, the florets are coarse, and do not contain the right colour or shape. Should any variety, however, show its second bud as late as the 20th of August, this bud must not be removed, as it would be too late then to wait for the next. No. 14 ought to be pinched the second week in April, securing then the first bud that forms on each shoot.

Fungus and Eelworms in Tomatoes (F. W.).—We also noticed what "a correspondent who had visited Wye College wrote in the *Journal of Horticulture*, stating that experiments had gone to show that eelworms in the soil in Hop gardens had proved incurable by disinfectants." This did not strike us as remarkable, for the information was obtained under conditions where the treatment advised by Mr. Abbey would not have a chance. We agree with you that "it would prove instructive to our readers if a few only of the many sufferers from eelworms in Tomatoes and Cucumbers who were advised by Mr. Abbey to use soluble phenyle and other disinfectants would state their experience of the effect thereof upon the pest, and the fungoid ones also." We are also obliged by the statement that you found "gas liquor very useful," because, as you assume, it contains the active principle of phenyle. The "active principle" of gas liquor is not phenyle, but *cyanogen*, as regards destroying slime fungus or clubroot, sleepy or drooping disease fungus, or grubs. It should be used diluted with five times its bulk of water. Corrosive sublimate (mercuric chloride) is far more potent than gas liquor, and it acts by the *chloride*. A quarter of an ounce to 7½ gallons of water is a proper solution to use. It is a virulent poison. Soluble phenyle has the formula C_6H_5 , and contains the active properties of carbonic acid (C_6H_6O) without its disadvantages, being both a disinfectant and, as regards the higher plants, a fertiliser. The three substances have different principles. Gas liquor that of *cyanogen*— C_2N_2 ; soluble phenyle that of *phenol*— C_6H_5OH ; and corrosive sublimate that of *chlorine*— Cl , the formula of mercuric chloride or corrosive sublimate being $HgCl_2$. In a severe attack of eelworm on Cucumber in the west of England, which rendered

the plants useless, nothing had any effect in their restoration until phenyle was applied, and this brought them into a bearing state. The roots of Cucumbers or Tomatoes as confined in a comparatively small hulk of soil can be reached by solution, but the fibrous roots of Hops in a field, penetrating no one knows where, cannot, with any approach to certainty, as has been proved by careful and persistent experiments.

Eelworms—Mildew Remedies (W. E. H.).—You ask, "1, Are eelworms visible to the naked eye, and if so, what are they like?" As to "visibility," as there is a difference in eyes, you will be able to judge for yourself when we inform you that specimens found in a Cucumber root by Mr. W. G. Smith were just over a hundredth part of an inch in length. As to "resemblance," we will reproduce an illustration of the same specimens enlarged 160 diameters, and you will see exactly "what they are like." We cannot do so this week. You ask, "2, If there is any remedy for mildew among Tomatoes other than sulphur, and what is the best remedy in a large house?" Some persons have found one "remedy" the best, some another. We know as a positive fact that *prevention* is better than any "remedy" in the world, and have so stated a hundred times. If the mycelium of the fungus is allowed to permeate the tissues of the leaves, or, in other words, the mildew is permitted to become firmly established the parasite cannot then be destroyed without destroying those leaves. It can be prevented taking possession of them by timely and occasional sprayings with carbonate of copper solution, properly prepared Bordeaux mixture, or early and occasional dustings with anti-blight powder, because the germinal tubes of the spores are destroyed by contact with the protective substances. The liability of plants to attack is enormously lessened by the good cultural routine in respect to soil, temperature, and methods, of ventilation; but at the same time mildew is more prevalent in some localities than others. On the very first appearance of "mildew specks" on any kind of plants the growth of the parasite may be arrested by dusting with black or white sulphur, or spraying with sulphide of potassium, half ounce in a gallon of water. With sound culture, sharp eyes, and prompt action, mildew may be mastered, but it is better to prevent the appearance of "first speck." If the parasite is allowed to increase until it becomes a scourge, then mildew is the master, and the leaves must succumb, apply to them whatever you may.

Names of Fruits.—Notice.—We have pleasure in naming good typical fruits (when the names are discoverable) for the convenience of regular subscribers, who are the growers of such fruit, and not collectors of specimens from non-subscribers. This latter procedure is wholly irregular, and we trust that none of our readers will allow themselves to be made the mediums in infringing our rules. Special attention is directed to the following decision, the object of which is to discourage the growth of inferior and promote the culture of superior varieties. *In consequence of the large number of worthless Apples and Pears sent to this office to be named, it has been decided to name only specimens and varieties of approved merit, and to reject the inferior, which are not worth sending or growing.* The names and addresses of senders of fruit or flowers to be named must in all cases be enclosed with the specimens, whether letters referring to the fruit are sent by post or not. The names are not necessarily required for publication, initials sufficing for that. Only six specimens can be named at once, and any beyond that number cannot be preserved. *They should be sent on the first indication of change towards ripening. Dessert Pears cannot be named in a hard green state.* (C. H. S. P.).—1, If all the fruits are like the specimen sent the variety is not the Blenheim Pippin, but more resembles Tower of Glamis, of which you will find a description in Dr. Hogg's "Fruit Manual;" 2, possibly a seedling from No. 1. With Chaplin's Pippin we are unacquainted; it is not mentioned in the above work.

COVENT GARDEN MARKET.—DECEMBER 23RD.

No alteration in the character of the trade.

FRUIT.			
	s. d.	s. d.	s. d.
Apples, per bushel	2 0	to 3 6	
" Nova Scotia, per barrel	13 0	17 0	
Grapes, per lb.	0 6	1 6	
Lemons, case	11 0	to 14 0	
Pears, Californian, per case	13 0	14 0	
Plums, per half sieve	0 0	0 0	
St. Michael Pines, each	2 0	6 0	

VEGETABLES.			
	s. d.	s. d.	s. d.
Beans, per lb.	0 4	to 0 6	
Beet, Red, dozen	1 0	0 0	
Carrots, bunch	0 3	0 4	
Cauliflowers, dozen	2 0	3 0	
Celery, bundle	1 0	0 0	
Coleworts, dozen bunches	2 0	4 0	
Cucumbers, dozen	4 0	9 0	
Endive, dozen	1 3	1 6	
Herbs, bunch	0 3	0 0	
Leeks, bunch	0 2	0 0	
Lettuce, dozen	1 3	0 0	
Mushrooms, punnet	1 0	1 6	
Mustard and Cress, punnet	0 2	to 0 0	
Onions, bushel	3 6	4 0	
Parsley, dozen bunches	2 0	3 0	
Parsnips, dozen	1 0	0 0	
Potatoes, per cwt.	2 0	4 0	
Salsafy, bundle	1 0	1 6	
Seakale, per basket	1 6	1 9	
Scorzonera, bundle	1 6	0 0	
Shallots, per lb.	0 3	0 0	
Spinach, bushel	2 0	2 3	
Sprouts, half sieve	2 6	0 0	
Tomatoes, per lb.	0 3	0 6	
Turnips, bunch	0 3	0 0	

PLANTS IN POTS.			
	s. d.	s. d.	s. d.
Arbor Vitæ (golden) dozen	6 0	to 12 0	
Aspidistra, dozen	18 0	36 0	
Aspidistra, specimen plant	5 0	10 6	
Chrysanthemums, per doz	6 0	13 0	
Dracæna, various, dozen ..	12 0	30 0	
Dracæna viridis, dozen ..	9 0	18 0	
Ericas, various, per dozen ..	9 0	24 0	
Euonymus, var., dozen ..	6 0	13 0	
Evergreens, in var., dozen	6 0	24 0	
Ferns in variety, dozen ..	4 0	18 0	
Ferns (small) per hundred	4 0	to 6 0	
Ficus elastica, each	1 0	7 0	
Foliage plants, var. each	2 0	10 0	
Lycopodiums, dozen	3 0	4 0	
Marguerite Daisy, dozen ..	6 0	9 0	
Myrtles, dozen	6 0	9 0	
Narciss (French) doz. bchs.	2 6	4 0	
Palms, in var., each	1 0	15 0	
" (specimens)	21 0	53 0	
Solanums, per dozen	8 0	12 0	

AVERAGE WHOLESALE PRICES.—OUT FLOWERS.—Orchid Blooms in variety.

	s.	d.	s.	d.		s.	d.	s.	d.
Acacia or Mimosa (French)					Pelargoniums, 12 bunches	4	0	9	0
per bunch	1	0	to	2	Primula (double), dozen				
Arum Lilies, 12 blooms ..	4	0		6	sprays	0	6	1	0
Asparagus Fern, per bunch	2	0		4	Roses (indoor), dozen ..	1	0	2	0
Bouvardias, bunch	0	6		1	„ Tea, white, dozen ..	1	6	2	6
Carnations, 12 blooms ..	1	0		3	„ Yellow, dozen (Niels)	3	0	6	0
Chrysanthemum, doz. blms.	1	0		4	„ Red, dozen blooms ..	1	0	1	6
„ doz. bunches	3	0		6	„ Safrano (English),				
Eucharis, dozen	4	0		6	dozen	1	6	3	0
Gardenias, dozen	2	0		4	„ Safrano (French), per				
Geranium, scarlet, doz.					dozen	1	3	2	0
bunches	4	0		6	„ Pink (French), per				
Hyacinth (Roman) dozen					dozen	3	0	4	0
sprays	0	6		1	Smilax, per bunch	5	0	0	0
Lilac (French) per bunch	5	0		5	Stephanotis, dozen sprays	4	0	6	0
Lilium lancifolium, twelve					Tuberoses, 12 blooms ..	0	4	0	6
blooms	2	0		4	Violets Parme (French),				
„ longiflorum, 12 blooms	4	0		8	per bunch	4	6	0	0
Lily of the Valley, dozen					„ Czar (French), per				
sprays	1	0		2	bunch	2	0	3	0
Maidenhair Fern, doz. bchs.	4	0		6	„ Victoria (French),				
Marguerites, 12 bunches ..	2	6		4	12 bunches	2	6	0	0
Orchids, various, dozen					„ English, 12 bunches	2	6	0	0
blooms	1	6		12					



CHRISTMAS BEEF.

BOTH at the Cattle Show at the Agricultural Hall, Islington, and the great Christmas market held at Islington on the Monday following the show, lessons of the highest value to farmers were to be had. We purpose in our Christmas article drawing attention to some of them.

Perhaps the most remarkable, as well as most useful, feature of the Cattle Show, was the class for cross-bred beasts. It was decidedly the largest and finest section of the show, pointing the way to one branch of profitable farming in the future most clearly, showing how admirably systematic cross-breeding answers, how Border farmers are rendering their Galloways more valuable by judicious crossings with Shorthorns, and what an important factor to success is careful selection combined with intelligent management. It is admitted that the Border men have not thus far passed scatheless through the depression, but they have acted well up to their motto of facing a steep brae with a stout breast, and are holding their own right manfully under stress of foreign competition. The keynote to the position is high quality and early maturity. Again has it been proved to demonstration at Islington that it does not answer to keep cattle over three years, and that it is far better to ripen them at two years.

Among the cross breeds the blue-greys stood pre-eminent, the yearling steers being wonderfully good, the best of them weighing 13 cwt. 2 qrs. 10 lbs., the average daily gain being 2.39 lbs. Of the eighteen competitors in the two-year-old steer class not one equalled this marvellous average, and yet the total weight of some of them was extraordinary, as witness Mr. Colman's red roan "Norwich Wonder" weighing 17 cwt. 2 qrs. 4 lbs., or a daily gain of 1.88 lb. Lord Rosebery's black steer weighed 18½ cwt., Mr. Irving's blue-grey 19 cwt. 2 qrs. 18 lbs., the daily average gain being 1.64 lb.; while heaviest of all was Sir J. Swinburne's huge steer, exceeding a ton in weight by 11 lbs. The cross-bred heifers were equally good, Lord Rosebery's "White Locks" at two years nine months eighteen days weighing 16 cwt. 1 qr 8 lbs., or daily average of 1.79 lb.

Among the pure breeds Shorthorns had in the aged steer class four out of five weighing over a ton apiece, the winner, Mr. Sale's "Snowflake," weighing, at three years eight months, 20 cwt. 3 qrs. 14 lbs., a daily average of 1.75 lb. It was amongst this breed that the champion was found in "Frederica,"

a heifer bred by the Queen, weighing 16 cwt. 23 lbs. at two years ten months two weeks and three days, with a daily average increase of 1.73 lb. Shorthorn yearlings came out well, the very symmetrical "Little Hero" having a daily average increase in weight of 2.40 lbs. Among the two-year-old steers Mr. W. E. Learner's "Snowball" at two years seven months weighed 18 cwt. within 3 lbs., with a daily average of 2.12 lbs.

Of others, a yearling Hereford steer had a daily record of 2.24 lbs. This was beaten by a yearling Aberdeen-Angus with a daily average of 2.27 lbs., and a total weight of 12 cwt. 12 lbs. So it went throughout the show, the heaviest daily gain always being by yearlings that had been kept going from calldom. Not only had the calf flesh been kept on, but it had been so briskly added to, that early maturity was certainly one of the most remarkable features of the show. We may have something more to say about the show later on, but our theme is Christmas beef, and we must turn to the great market.

Though this market was said to be the smallest for fifty years only 3170 beasts being on offer, there was some compensation in the superior quality of very many of the beasts, the top price being 8d. per stone more than last year, or 5s. 2d. per stone, which was exactly the top price in that year of years 1863, when there were 10,478 beasts at the market. This year, as usual, Scotch beasts predominated, of the home supply there being 940 Scotch, 160 Irish, 280 Devons, and 350 from East Anglia. A poor record truly, showing the urgent need of a more general effort to breed well, feed well, and aim at high quality with early maturity. Depend on it, there's money in it, as the foreign producer knows at any rate, for he is constantly feeding and feeling our markets. We may safely say that there never is a stock market without a predominance of inferior beasts. Take the latest quotations of the Metropolitan Central Meat Market, and we have a range of 2s. 6d. up to 5s. 2d. for beef, which just marks the difference in quality.

Coarse, half-finished beasts never do sell at a profit, and the inferior meat of the lower quotation was most probably sold at a loss in the first instance. Plenty of room for improvement is there, and we may usefully commend the matter to the thoughtful attention of every stock breeder, in view of striving for greater success in the coming year.

WORK ON THE HOME FARM.

On the light land the folding of hoggets on Turnips clamped in small heaps all over the field is satisfactory. The land is so porous that there is very little mud in the folds, there are no foot troubles, and the sheep are thriving. Sorry were we to see on a neighbouring farm some heavy ewes out in Turnip folds; as we have so frequently pointed out, the practice involves a risk of much suffering, of abortion, of the loss of both sheep and lambs. If only the ewes were kept on sound pasture till after the lambing, then the roots in moderation are useful; later on ewes and lambs both do well in folds. The matter is really very simple, the reason for seasonable folding so clear, that the exercise of a little forethought should prevent mistakes.

Winter work is all well forward, but there is still plenty of work in hand for the men. We have had a lot of planting—new boundary hedges, timber trees in and by hedgerows, Larch and Ash in belts and plantations. The weather has, on the whole, been favourable for this work, which is now being followed by hedge plashing and clipping, ditch scouring, and draining. There is an unwritten law on the estate that tenants are to keep up fences and gates, and to scour ditches, but we have had to take the matter in hand as much on the landlord's behalf as on that of the tenants. Some ditches recently scoured had not been done for many years, the ends of all the land's drains emptying into them being buried in mud, so that the drains could not act. Yet when the mud was removed the water soon burst out, washed the drains clear, and is now flowing freely enough.

Under downright good practice on farms where autumn tillage is done thoroughly and winter crops sown early, there is much that is instructive and attractive. To-day, December 19th, we have been over several farms, and saw much to praise, something, also, to blame. A large field had been ploughed, the headlands well finished, the water furrows well made in the ploughing with remarkable precision, but they had not been continued by hand through the headlands, and there was evidently a serious accumulation of water on the land near the end of each water furrow after heavy rain.

